Digital Marketing

(MCA-128)

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Search Engine Optimization

- Search Engine Optimization (SEO) is the process of enhancing the visibility of the website by improving the ranking in the Search Engine Results Page (SERP).

- It is a process of making the website much more search engine friendly, thus getting higher positions in organic or natural or unpaid search results.

Search Engine

- A search engine is a program designed to retrieve or search information on the web.

- The search results are usually displayed on pages known as search engine results page.

- When a user enters search query, search engines display both organic and paid search results.

- Organic results are natural and unpaid, whereas paid results are sponsored for which advertisers must pay to display their webpage link when users do a search.

How Search Engines Work

- The process starts with web crawling, which refers to looking for the content available on the web.

- Websites are crawled by automated bots or spiders or crawlers that are software programs that visit each webpage.

- How will crawlers know which domains to visit?

  - Crawlers get information about registered domain names and their IP addresses from Internet Corporation for Assigned Names and Numbers (ICANN) which is a non-profit organization responsible for assigning unique identifiers such as domain names and IP addresses for the entire Internet.

- Crawling is done periodically depending on the frequency that webmaster requests as websites keep updating their content.

- Search engines then take all the data that has been crawled and place it in massive data centres with thousands of petabytes worth of drives.

- Thereafter, search engines indexes the data, which is a classification of pages into categories, by identifying the keywords that best describe the page and assigning the page to keywords.

- When a search request comes, the search engine processes it i.e., compares the search query with the indexed pages in the database.

- Since more than one page will contain the search query, so the search engine starts calculating the relevance of each of the pages in its index to the query.

- The last step in the processes is retrieving the pages with highest relevance score on top of the search results and displaying them in the browser.

Phases of Search Engine Optimization
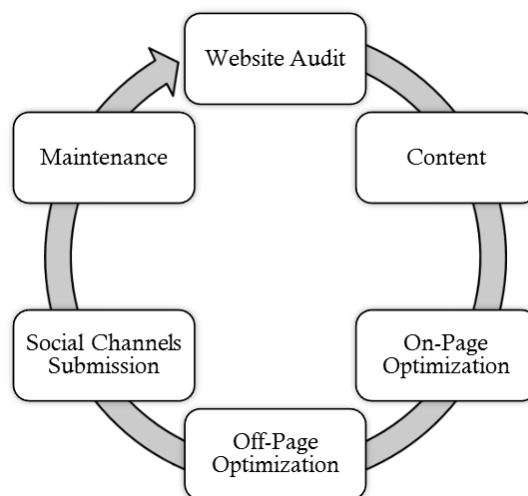
Website Audit

- The SEO process begins by conducting an audit for a reality check of the website.

- There are many free resources available on the Internet for doing an overall audit such as www.seositecheckup.com, www.smallseotools.com, www.majesticsco.com.

- They give a score out of 100, which gives a quick and easily understandable assessment of site performance on SEO.

- The target should be to get a score above 80. Some of the **main elements** of SEO audit are:

  - Keyword Position - For important keywords, what is the position of a website in SERP? www.smallseotools.com/keyword-position is a free resource for finding out the keyword position.

- Sitemap - Sitemap shows the architecture of the site to search engines such as category and deeper pages and hence facilitates crawling and indexing by search engines. A free tool www.seositecheckup.com/tools/sitemap-test helps to know whether sitemap exists for a site or not.

- Browser, Operating Systems, Devices Compatibility - It is important to check if the website is compatible with different browsers, operating systems, and screen sizes. It is possible that a website may function well on Chrome but not on Internet Explorer or vice versa; or works on desktop but not on mobile devices. There are hundreds of screen sizes available in market and websites should be checked for their responsiveness.

- Backlink Checker - Search engines use backlinks as an indicator of the authority of the site. They check out how many backlinks are coming from which domains and what is the authority of those domains?

- Domain Authority - Many free tools give domain authority of the site based on backlinks which indicate the likelihood of a website coming high in SERP.

- Keyword Cloud - Which keywords appear more often and have greater density on the website? Are they the right keywords?

- Speed Audit - Website loading speed is one of the important aspects of user experience. A good benchmark is two seconds. Many users close the site if it takes more than three seconds to load. Two popular tools for measuring site speed are Google Page Insights and Pingdom. They give the score out of 100; a score of 85 and above indicates good performance.

- The audit helps in identifying strengths and weaknesses of the website, and hence gives actionable insights.

Content

- Content refers to all the information contained in any webpage.

- The page content can be displayed in the form of text, hyperlinks, images, audio, animation, or videos.

- Text has advantages of speed, accessibility, and mobile responsiveness.

- It also has faster download capabilities from the server than images. This is because, texts takes less space on the server than images.

- Although, the search engines have a limited ability to understand images, animation, audio and video, these forms attract users. In these cases, to determine page content, it is important to use file names or **alt** (alternate).

- Content should be unique, fresh, original, and should add value to the target audience.

- Offering quality content not only attracts visitors but also attracts other websites link to the brand's site thus enhancing their authority.

- Several tools are available to check for plagiarism, www.duplichecker.com provides a plagiarism checker and conducts quality check of web contents including proofreading and editing.

- www.smallseotools.com/plagiarism checker is another plagiarism checker tool to make sure that content is original and unique.

- Robots.txt:

  - The robots.txt file, also known as the robots exclusion protocol or standard, is a text file that tells web robots (most often search engines) which pages on site to crawl.

  - It also tells web robots which pages not to crawl.

  - When a search engine is about to visit a site, before it visits the target page, it will check the robots.txt for instructions.

  - Basic Skeleton of a Robots.txt file:

  ```
  User-agent: *
  Disallow: /
  ```

  - The asterisk after "user-agent" means that the robots.txt file applies to all web robots that visit the site.

  - The slash after "Disallow" tells the robot to not visit any pages on the site.

- Sitemap:

  - A sitemap is an archive of every page in your website.

  - A website can be visualized as a tree with home page as the trunk and category pages as branches and product pages as sub-branches, as shown in the following Figure.
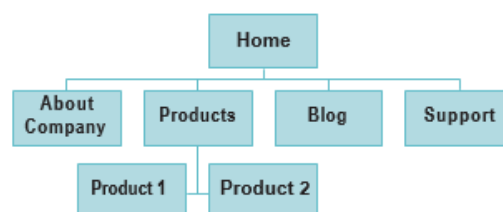
  - Crawlers may come and crawl only the home page (trunk) and few category pages (branches) and go away as they may not know that deeper pages (branches and sub branches) exist.

  - To avoid this situation, it is best to create a sitemap so that search engines know all the URLs of the site.

- The sitemaps can be generated from tools in either XML or HTML (Hypertext Markup Language) format.

On-Page Optimization

There are several on-page factors that affect search engine rankings. These are discussed as follows:

- Technical Elements

  - A good SEO roadmap is built on a strong technical foundation.

  - Unless the core technical components of the website are in place, all other SEO efforts will go in vain.

  - **Important elements are:**

    - ✓ **Site Performance**
      - o Site performance is about the page speed, which is described by the time it takes to load.

      - o It is tough to hold a visitor on a website when the webpage does not load within few seconds.

      - o The benchmark should be 2 seconds.

      - o **There are many tactics to improve site performance, such as:**

        - ✓ **Enable Compressions** - by minifying HTML, CSS, JavaScript (minifying refers to the removal of all unnecessary characters from the source code without changing its actual functionality).

        - ✓ **Compress Images**

        - ✓ **Reduce Redirects** - When visitor experiences redirections over the website, there is a waiting time for HTTP Request-Response cycle to finish. Reducing these redirects can help to improve site performance.

      - o **Domains:** There are few points that one needs to keep in mind while registering any domain.

        - ✓ **Domain Name Memorability** - A domain name should be short, catchy, and easy to remember, spell, and type.

        - ✓ **Keyword-Rich Domains** - Having one's keywords in their domain name can increase the Click through Rates.

        - ✓ **No or minimum sub-domains** - It is recommended to place link-worthy content in subfolders instead of sub-domains.

o **Error (404/500):** It is important to setup the 404/500 error pages to give visitors navigational options to let them stay on to the website.

✓ **HTML Tags**

o A website is created using different HTML tags:

✓ **Meta Tags** - Meta tags (**title, keywords, description**) are written to describe a page's content and does not appear on the front end to users.

✓ **Heading Tags** - Heading tags helps to define page structure and allow users to scan a page quickly to find what they are looking for.
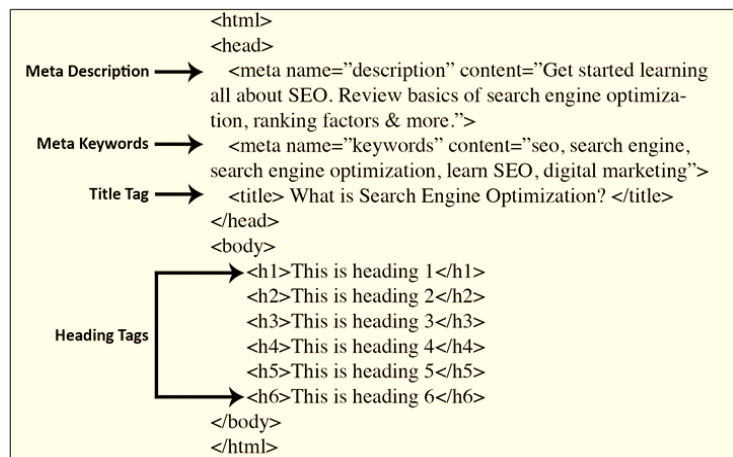
✓ **Anchor Tags** - For search engines, link relevancy is one of the factors that determine the webpage rank. Anchor text is the highlighted hypertext link that can be either internal website link or external source.

Appropriate anchor text helps the reader to learn content associations. Best practice is to use rich keywords in anchor text, which is related to the content of the landing page so that user can anticipate the nature of the landing page.

If a webpage has content about football, and has the anchor text-football ground and the landing page is an article about football ground, then it is an appropriate use of anchor text.
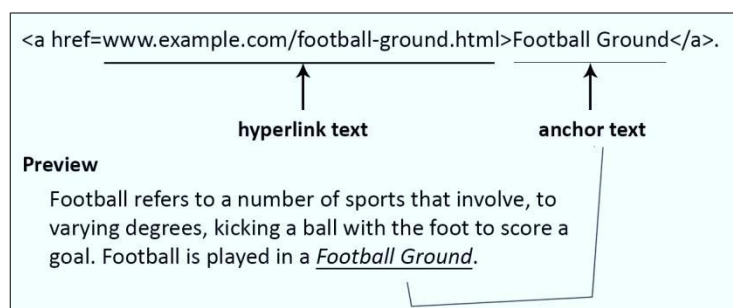
✓ **Image/Video Optimization** - In a webpage, the **alt** attribute provides image-related information. The **alt** basically stands for alternate, **where we describe an image in a textual form**.

Every image should have a distinct file name and associated text of image in the alt attribute that would allow specifying which image is for what.

It also helps visitors who cannot access image.

Syntax: <img src = "www.example.com/img.jpg" alt = "Sports Ground">

Search engines have capabilities to search images, based upon the query that is entered in the search bar, with these alt attributes.

✓ **Schema**

    o   Schema markup is code (semantic vocabulary) that is placed on website pages to help the search engines return more informative results.

    o   Example: The use of schema in the webpage enables the SERP to display a schedule of upcoming hotel events.
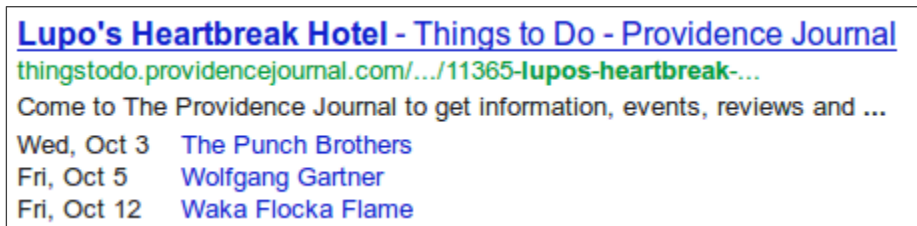
    o   **Google's Structured Data Markup Helper tool helps in configuring the scheme for the websites.**
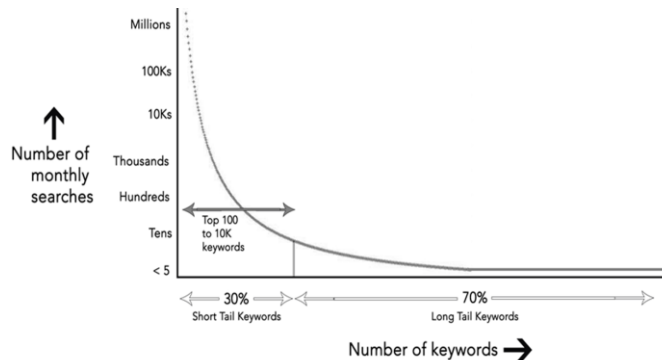
✓ **Keywords**

    o   Keywords are words and phrases that make it possible for users to find any website by using search engines.

    o   Use of synonyms and related keywords help search engines to learn better about the webpage.

    o   Suppose one decides to write a webpage about the President House, then the related keywords will be related keywords such as 'President', 'New Delhi', 'Government', and the secondary keywords may be 'Pranab Mukherjee', 'Abdul Kalam', etc.

    o   **Long Tail and Short Tail Keywords**

        ✓   The web is made up of short tail and long tail keyword searches.

        ✓   Short tail keywords are very few and each one has millions of monthly search volume. They are typically generic or category keywords.

        ✓   Most keywords are the long tail ones, which have longer phrases, and each of them has only a few hundreds of monthly search volume. Long tail keywords are specific brand or product related queries.

        ✓   Long tail keywords lead to more conversion, but less traffic as few people would search for them.

        ✓   Short tail will result in high traffic, but conversions will be low as user queries are generic.

- ✓ **Market leaders will target short tail keywords whereas new entrants or smaller players may start with long tail keywords.**

- ✓ As the company grows, SEO strategy should evolve from long tail keywords to short tail keywords.


- o **Keyword Density**

  - ✓ Keyword density is the frequency of a keyword that appears on a webpage.

  - ✓ Keyword density is calculated in terms of percentage compared to the total number of words on that page.

  - ✓ Keyword density of the word is 2% if it is repeated two times in a 100 word of a webpage.

  - ✓ Abnormally high keyword density can be considered as a search engine spam where the website will be devalued and then appear lower down in organic search results.

  - ✓ **Keyword density ideally should be between 0.5 to 2.5%.**

- o **Page Segmentation**

  - ✓ Keywords appearing in main body section have greater weight in SEO than appearing in header or footer or sidebars of the webpage, as shown in Figure.
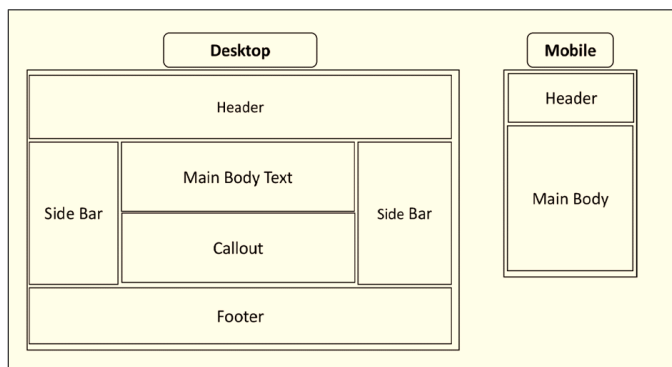
- o **Synonyms**

  - ✓ It is a better strategy is to use natural variants and synonyms instead of using only one keyword, so that search engines can understand what the page is all about.

- ✓ For example, 'plant' can be a 'factory' as well as 'vegetation'. By using a natural variant shrub, search engines know a page is about vegetation and not factory.

✓ **RSS Feeds**
- o An RSS (Really Simple Syndication) feed is an online file that contains details about every piece of content a site has published.

- o Each time a site publishes a new piece of content, details about that content—including the full-text of the content or a summary, publication date, author, link, etc.—are automatically generated in the file and displayed in reverse chronological order.

- o **Search engines prefer websites that consistently update their content and RSS feeds as it helps search engines find updated content faster.**

✓ **Microsites**
- o Microsites are auxiliary websites, which are usually about a product or a service that provide a separate entity for a brand.

- o They typically have their domain, but some exist as a sub-domain.

- o Building microsites is a good idea when one is launching a specific campaign that somehow does not fit into the main website or they have enough resources to do SEO over a long period of time for the microsite.

- o Sometimes, marketers create a microsite with the objective of dominating the SERP.

- o However, search engines do not prefer to show multiple results from the same domain in SERP.

- o **Hence, it is better to add additional content on the main website and build one awesome site which has high domain authority instead of building many mediocre sites.**

- o The company Panasonic can be an apt example for understanding microsites. They have dedicated website for mobile phones, air conditioner, cameras, and recipes.

✓ **Site Structure**
- o A site structure helps us in understanding how the website is set up and how individual subpages are hyperlinked

- o Crawlers should be able to find them quickly. A landing page should refer to all important subpages.

- o **Breadcrumbs**

- ✓ A breadcrumb is a list of internal links in a hierarchical form that allows users to quickly navigate back to a previous node or section in any website.

- ✓ Text in breadcrumb is clickable in nature in order to improve the user's experience while they are viewing information on any website.


- ✓ **It is always suggested to use breadcrumbs as it allows visitors to understand the structure of the website and directly navigate from one page to another without having to follow a linear path.**

o **Optimize URLs**

- ✓ URLs create the first impression in users mind about the webpage before they visit the page.

- ✓ Familiar and descriptive words in URL motivate users to click.

- ✓ **It is recommended to use hyphens (-) to separate words.**

- ✓ Example: www.example.com/on-page-Optimisation.html

- ✓ (-) is preferred over underscore (_) as search engines take the hyphen (-) as two words but underscore (_) as one word.

- ✓ It is recommended to use of words in URLs instead of numbers to make the website easier to navigate.

- ✓ Creating descriptive categories and filenames for webpages also leads better crawling by search engines.

o **Internal Linking**

- ✓ Internal links are those links that point to another page on the same domain, and are used for internal navigation purposes.

- ✓ Internal linking is mostly useful for establishing website architecture and spreading ranking power (often termed as link juice).

- ✓ Example: Consider a website that has many products as shown in Figure:
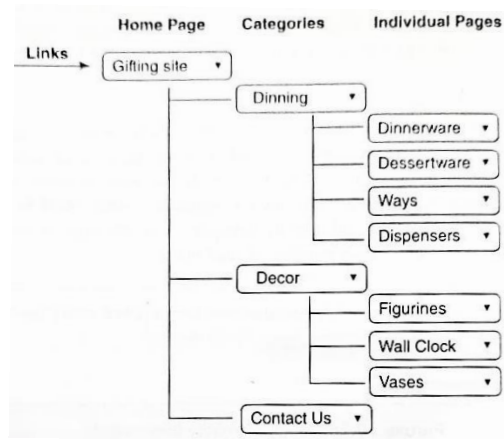
- ✓ The home page is linked with the main category, and main categories have individual product pages.

- ✓ It shows a clear structure that search engines and users both can understand. Let us say 'wall clock' generates 50 per cent of profits. The website has a logical structure, but it is not going to be good for the business. The reason is that the "wall clock" page that generates 50 per cent of revenue is buried deep into the site.

- ✓ A home page is the most powerful page with maximum link juice.

- ✓ The website navigation will pass link power from the home page through the category pages onto the product pages. For example, let us assume that the website has 36 link powers from other sites pointing to the home page. The home page has three links to category pages. Each link transmits one-third of the link juice from the homepage such that each category page has 12 units of link juice, shown in Figure. So, each of our product pages has respective units of link juice.
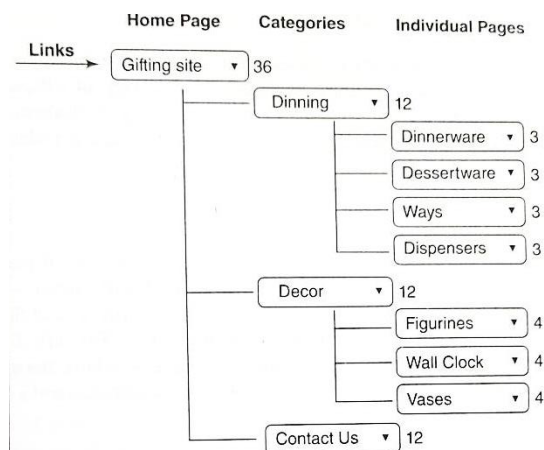
- ✓ Since the wall clock' page accounts for substantial profit, we would like to improve its ranking. Site navigation links are passing four units of link juice, but can we increase the link juice? To do so, most important pages are linked directly from the home page. So, it would have internal links from the home page as before, but we would also add a link direct to the wall clock' page, as shown in Figure. The home page still has 36 inbound links; but, now each of the category pages receives one-fourth of the link power nine units as the 'wall clock' page also receives nine units of link power. Each of the category pages continue page receives 12 units in total,

which means it is likely to rank higher in SERP. Now that is beneficial because that is the page where most conversions happen.
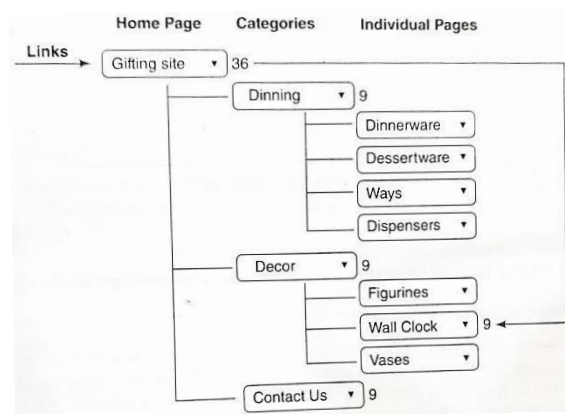
Off-Page Optimization

- Initially, SEO was mainly on-page.

- Since it was under control of webmasters, some started abusing it by stuffing keywords.

- Hence, search engines introduced the concept of off-page optimization which includes activities done outside of the webpage that help in its ranking.

- Publishers do not directly control those platforms where the activities are done.

- **Authority**

  - The most important objective of off-page activities is to build the authority of the website.

  - The more the number of sites hyperlinking and the higher the quality of these sites, the higher would be the authority of the website under consideration.

  - *In sociology, Authority is decided by the number of referrals an individual has as well as the quality of his referees.*

- **Backlink**

  - Backlinks is a process of getting hyperlinks from external pages that link to a webpages of website.

  - Backlinks helps in building the authority of the website.

  - Each link to a webpage is counted as a vote for that page and page with most votes win.

  - Building backlinks is the most important and challenging activity in SEO.

  - Not all the hacklinks would help one to improve their search engine rank: only quality backlink will.

  - High-quality backlink comes from high-quality websites that are trustworthy. Some examples are Wikipedia, BBC, The Hindi, Information Week, etc.

  - Source Diversity - Source Diversity is to have backlinks from different trustworthy websites instead of having backlinks from just a few websites. For example, if 100 backlinks are coming to a site it is better to have 100 backlinks from 100 different domains rather than all 100 backlinks from a single domain.

  - Source Independence - If all the backlinks are coming from one's microsites or blogs, then they will not get any SEO advantage as the source is not independent or unbiased, as they are owned by the brand only.

- **Blog Posts/Commenting**

  - Blogs are informational websites displayed in a reverse chronological order.

  - A blog can positively boost one's search engine ranking. Customers can also comment in blogs of others and leave their link that can serve as a backlink.

- **Press Release**

  - A press release is a way to spread organizational news and information to the news media.

  - The news and information may be related to recent updates, new product announcements, etc.

  - Press releases fructify when journalists pick these stories from wires and publish them on newspaper sites.

  - There may be a backlink from these sites to the company's site which will boost their SEO.

- **Directories/Classifieds**

  - Directories are like a database that has a list of websites in defined categories.

  - Directory submissions were very popular earlier, and the webmasters used to submit website URL with other details such as type of business, etc., to directories such as Dmoz and Yahoo.

  - It was used to improve your authority, but with the algorithmic updates of search engines, it does not affect SEO much nowadays unless directories are very reputed.

  - *Classified sites and listing sites such as Just Dial, IndiaMART, Alibaba also give a backlink if they do not do 'no follow'.*

- **Forums**

  - Forums are member communities who share the same interest and are willing to discuss problems or topics that help fellow members.

  - Posting relevant and interesting comments on forums can help to get organic traffic as well as give a backlink if one puts their link.

  - The objective of participating in the forums should be to add value to the community and hyperlink should be inserted only when it will increase the value as some users may wish to visit the landing page for more details.

  - Some forums or question answer sites such as Quora are becoming increasingly important in India and come high in SERP. It is advisable to participate in forums and give relevant and credible responses and comments.

- **Article Promotion and Syndication**

  - Many article databases which are focused on niche areas also exist.

  - One must identify them, submit their articles and place an Author Bio at the end with a link back to their website.

  - It will help in getting backlink as well as increase in website traffic.

  - Syndication is when the same content is posted on more than two websites.

- This content is either the whole or part of it.

- **Unnatural Links**

  - Search engines categorize some links as unnatural links and hence do not give any SEO advantage for them.

  - These links are:

    - ✓ Paid links

    - ✓ Giving Free product to blogger in exchange for them writing about it

    - ✓ Reciprocal linking (two sites decide for quid pro quo and link to each other)

    - ✓ Large number of guest posting backlinks

    - ✓ Advertisements on other sites with backlinks

    - ✓ Low-quality directory or bookmark sites backlinks

    - ✓ etc.

  - **The spiders would not crawl links in following situations:**

    - ✓ Links in hard-to-parse JavaScript

    - ✓ Links in flash, java, or other plug-ins

    - ✓ Links in power point and PDF files

    - ✓ Links on pages with hundreds of links

    - ✓ Links pointing to pages blocked by the meta robots tag, rel = 'No follow', or robots.txt

SEO Tactics

- **Black Hat SEO**

  - Black hat SEO refers to a set of practices that are used to increases a site or page's rank in search engines through means that violate the search engines' terms of service.

  - It's crucial to realize that implementing Black Hat SEO tactics and strategies can get your site banned from search engines.

- Keyword Stuffing - Some SEO practitioners increase keyword density to get a higher ranking, which is considered a black hat SEO technique. High keyword density (more than 4) will irritate your readers and affect your ranking.

- Cloaking - It refers to coding webpages in such a way that search engines see one set of content, and visitors see another set of content, i.e., a user searching for "gold price" clicks on a search result "current gold price" and is greeted with a travel and tourism site.

- Hidden Text - The text which search engines can view but readers can't is known as hidden text. This technique is used to incorporate irrelevant keywords and hide text or links to increase keyword density or improve internal link structure. **Some of the ways to hide text are to set the font size to zero, use CSS to set text off-screen, create white text on a white background, etc**.

- Doorway Pages - The poorly written pages which are rich in keywords but don't contain relevant information and focus on the links to redirect users to an unrelated page are called doorway pages. These pages are used by black hat SEO professionals to pass on user traffic to unrelated sites.

- Article Spinning - It involves rewriting a single article to produce its different copies in such a way that each copy looks like a new article. The content of such articles is repetitive, poorly written, and has low value for the visitors. In this technique, such articles are regularly uploaded to create the illusion of fresh articles.

- Duplicate Content - The content copied from a website to publish it on another website as the original content is known as a duplicate content. This black hat technique is known as plagiarism.

- Page Swapping (Bait-and-Switch) - In this technique, first, the webpage indexed and ranked on Search Engine listings, and then the contents of the page are changed entirely. In this case, the user is diverted to a different page when they click on a result in the SERP.

- Link Farms - A link farm is a website or collection of websites intended to increase the link popularity of a site by increasing the number of incoming links. It is considered black hat SEO as links farms' sites have low quality and irrelevant content.

- Improper Use of Snippets - The snippets which are not relevant to site or page are used to drive traffic to a website. For example - using a review snippet even when the web page does have a single review.

- **White Hat SEO**
  - An SEO technique is considered white hat if it conforms to the search engines' guidelines and involves no deception.

White Hat SEO Techniques

☞ Good Content
☞ Proper Title & Keywords
☞ Ease of Navigation
☞ Site Performance
☞ Quality Inbound Links

Web Analytics

- Web analytics is the process of tracking, collection, analysis, and reporting of web data.

- It provides a number of key metrics which, when analyzed, can provide actionable insights.

- It is performed to optimize marketing activities over the Internet.

Data Collection for Web Analytics

- Web Logs

  o Web logs or server logs are one of the oldest data collection techniques that were built for collecting information about server activity.

  o It is automatically created and maintained by the website's server.

  o The logs consist of details such as visitor's IP address, date and time, HTTP code, bytes served, referrer, user agent, etc.

  o These web log details are not publicly available and require admin's access to the server where the website is hosted.
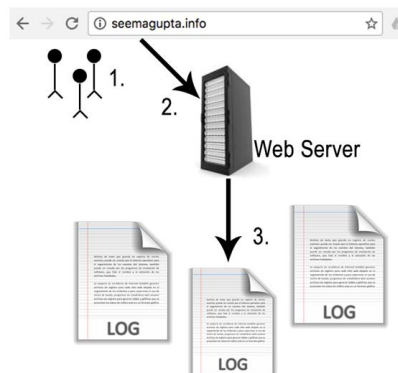
  o Every web server has an inbuilt capability to create log files whether we want or not.

  o If any other tool for web analytics such as Google Analytics has not been activated, one can use weblogs to analyze user behaviour on their website.

  o The advantage of weblogs is that they belong to the business and is their own data.

  o **Weblogs is a useful source for tracking the behaviour of search engine robots.**

- Robots do not execute JavaScript tags, and thus they leave no trail in other JavaScript based data capture methods such as Google Analytics.

- From weblogs, one can know the frequency with which robots are crawling and indexing your site.

- Challenges with Weblogs:

    - Page caching by ISP - ISPs keep a temporary copy locally of the page served for a defined period that when the next time requests comes on the same page, the request is met locally instead of being sent to the server.

        This helps in cutting down the time taken in serving the page, and the page to the user to load faster thus enhancing the user experience. **Since the request is not going to the server, the log file will not be created and hence metrics such as page views, visits will be under reported.**

    - Dynamic IP Addresses - With increasing number of users being assigned with dynamic IP addresses using Dynamic Host Configuration Protocol (DHCP), it becomes difficult to identify unique users. Many times, users with an ISP get allocated a new IP address each time they connect to the web. This results in the opposite effect of inflating the number of unique users and visits in the weblogs because their IP keeps changing.

    - Proxy Server - Proxy server is a network server that acts as an intermediate between the user's computer and server on which the website is hosted. They help in improving the server's performance and its security. When anyone uses proxy servers to access websites, the request will not be sent to the main server.

- JavaScript Tags

    - The JavaScript tag is used to define a client-side script (JavaScript).

    - The <script> element contains scripting statements, or it may even point to an external script file through the **src** (source) attribute.

    - It is commonly used in image operations, form validation, and dynamic changes of the content on the webpage.

    - Working of JavaScript tagging for Data Collection:

        - The user types an URL in a browser.

        - The request comes to the web server.

        - The web server sends back the webpage along with a snippet of JavaScript code attached to the webpage.

        - As the webpage loads, it executes the JavaScript code, which captures the analytics such as page views, details about the visitor session and cookies, and sends it back to the data collection server as shown in the Figure.

Web Server
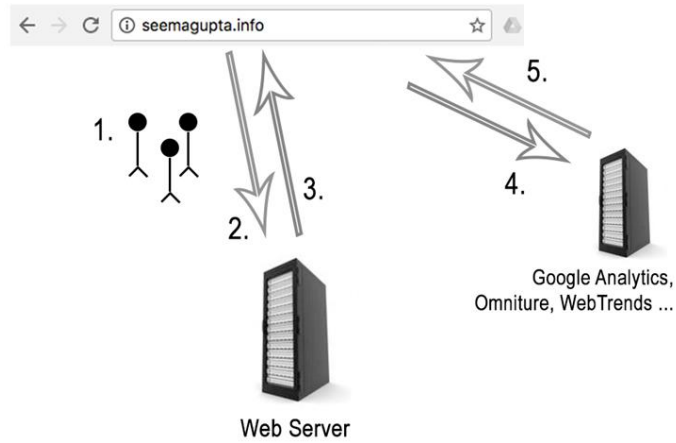
- Web analytics tools such as Google Analytics and Adobe uses the JavaScript codes.

- Google Analytics sets first-party cookies.

- First-party cookies are set by the domain itself because the Google Analytics code is enabled on the website. By default, first-party cookies are allowed in every web browser.

Metrices for Web Analytics

- There are three metrices in Web Analytics –

  o Behaviour Analysis

  o Outcome Analysis

  o Experience Analysis

- **Behaviour Analysis**

  o It is the process of collecting, analyzing and reporting aggregate data about which pages a website visitor visits and in what order.

  o **Visits/Sessions** - When someone visits your webpage, it is called a visit or session.

    - Clicks and Visits

    - Unique Visitors - Unique visitors are the number of different users requesting webpages of a website during a given period, regardless of how often they visit those webpages. There are primarily two methods of calculating unique visitors: cookie-based method and IP-based method.

  o **Time on Site** - Time on site metric indicates engagement of the visitor.

    - Tabbed Browsing – There are two ways to calculate time when multiple tabs are open:
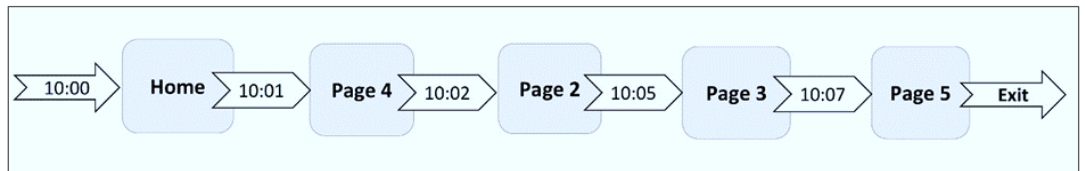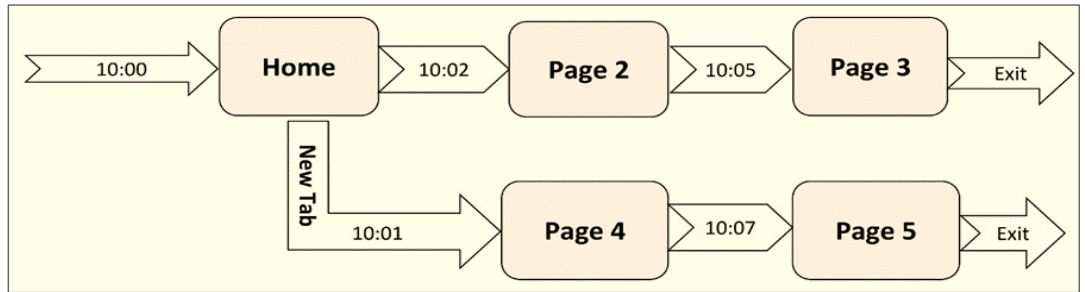
- The second method is called the **linearization** method of calculating time spent.

- Google Analytics uses the second method called "linearization" method.

o **Page Views** - Page views are the number of pages viewed or requested by a user. It is also referred as *depth of visit*.

   - Every unique URL is a page.

   - One can calculate an average number of page views per visitor.

o **Bounce Rate** - Bounce Rate is the percentage of single-page visits.

   - They are visits in which user leaves from the landing page without interacting with the page.

   - **If the user interacts by playing a video or answering a poll then it will not be counted as a bounce.**

   - **One can also modify the way bounce rate is calculated based on the nature of their website.**

o **Exit Pages** - Pages from where visitors are dropping off in the process of buying a product are called Exit Pages.

   - It is important to know from which pages users are exiting the most.

   - Businesses must critically analyze what leads the user to exit.

o **Traffic Sources** - This is one of the most important metrics and a very good segmentation variable. There are three kinds of traffic source:

   - Direct Visitors - Users that visit a website by directly typing your URL in their browser address bar.

   - Search Visitors - Users that visit a website based on a search query in the search engine.

   - Referral Visitors - Users that visit a website because it was mentioned on another blog or website.

- If one gets many visitors directly, it indicates that the brand has a high brand image.

- If a business's dominant traffic source is a search engine, then it means their SEO is good.

- **Outcome Analysis**

  o Businesses are interested in knowing how much revenue was generated, how many conversions happened, etc.

  o **Conversion Rate** – The conversion rate is the percentage of users who perform an action that is desired by the website owner.

  o **Average Order Value (AOV)** – It can be formulated as the sum of revenue generated divided by a number of orders.

    ▪ One can segment visitors and marketing campaigns into high, medium, and low AOV groups and identify where the best (e.g., high AOV) customers are coming from.

  o **Multi-Channel Funnel** - Multi-channel funnel reports enable understanding of the different channels users interact with on the path to conversion.

  o **Visitor Frequency and Recency** - Visitor frequency means, during the reporting time period, how often users visit a website. Visitor recency is how long has it been since a visitor last visited a website.

  o **New versus Return Visitor Conversion** – It represents how many new visitors there are in comparison to returning visitors.

    ▪ If a website has very less returning visitors, then it means it lacks user loyalty.

  o **Value per Visit** – There is a certain value that one must assign to every single visit to the website. These values can be categorized into two conversions:

    ▪ Micro Conversion – Micro conversions are basically **Assist Conversions** which include some intermediate step, which might lead to macro conversion. They are not ultimate sales, but the consumer is moving towards it by downloading an e-paper or registering.

    ▪ Macro Conversion – It is the ultimate sale or conversion. One must calculate economic value per visit from different channels such as paid search, organic, direct, Facebook, Linkedin for both micro and macro conversions. It will give insights into which channels generate more revenues for the business and the relative value of visits from different channels.

  o **Percent of Visitors who View Product Pages** – The ultimate objective of the website is to get sales or conversions, and that will happen only when the users visit the product pages.

    ▪ If the per cent of visitors who view the product pages is less, then it is important for businesses to examine what are the reasons.

- **Experience Analysis**

- It is vital to do research on a continuous basis to know if visitors can find the information they are looking for and if the webpage served its purpose.

- There are many ways to know the experience of customers on a website: **Research Data** and **Website Experimentation and Testing**

- **Research Data** – Research can be carried out using three methods:

  - Site Survey **-** Survey questions can be asked for understanding the value of the webpage. Three important survey questions are:

    - What is the purpose of your visit to our website today!

    - Were you able to complete your task today?

    - If you were not able to complete your task today, why not?

  - Usability Testing - This is to ask real users to test the functioning of the site to know how easy it is to navigate and also how intuitive it is.

  - Site Visits (or follow-me-homes) - It is done by going to the customers' premises and observing how they accomplish tasks on websites amidst all distractions.

    - One is not relying on feedback alone but observing real behaviour.

    - Sometimes users are generous and may give a good rating despite poor site experience.

    - The user conditions will be in real-life, including their device, Wi-Fi, operating system and hence can throw light on any practical challenges they may be facing.

- **Website Experimentation and Testing** – One must regularly experiment and test different things on the website to know what can be improved.

  - Businesses must assign one day of the week for experimentation and testing.

  - A/B Testing - A/B testing is sometimes also called split testing where one compares two versions of their webpage to see which performs better.

Multi-Channel Attribution

- Users are exposed to multiple channels before they purchase a product from any website.

- Suppose one is selling a product; user saw the product advertisement on Facebook but did not buy it at that instance.

- Now the user sees the same advertisement again on search network (AdWords) but does not buy this time as well.

- The user finally buys typing URL (direct).

- **This is called 'multi-channel attribution.**

- The question then arises is how much contribution will FB or AdWords have in that purchase?

- Historically, all credit went to the direct channel.

- But, this is not fair as the channels that assisted are as important as channels that led to final buy.

- There are different models that can be deployed to measure the contribution of different channels:

  o Last Interaction/Last Click Attribution Model

  o First Interaction/First Click Attribution Model

  o Linear Attribution Model (every channel gets equal credit)

  o Time Decay Attribution Model (media touch point that is closest to the conversation will get most of the credit and the touch point prior to that will get less credit based on some algorithm)

  o Position Based Attribution Model (the first and the last position gets the most credit)

Tracking Code

- A tracking code is a small snippet of code that is usually implemented as JavaScript in the HTML source code of a website.

- **Google Analytics Code**
  o This code is for tracking web analytics such as unique users, page views, bounce rate, etc.

  o Google provides a free web analytics service that offers tracking and reporting of users for the website.

  o The code gets applied to all the pages of the website.

- **Google AdWords Conversion Code**
  o This code is used for tracking conversions from campaigns run through Google AdWords.

  o One can take the code from 'Tools' section in Google AdWords and put on the '**Thank You**' or the '**Action Confirmation**' page.

- **Remarketing Code**
  o If one wishes to remarket and show ads to users who visited their site, they must use the remarketing code.

  o If one wishes to do remarketing using AdWords then they must generate AdWords remarketing code and put on all pages of the website.

- If businesses wish to do remarketing on Facebook, then they must put the Facebook remarketing code on their website.

Universal Analytics

- Universal Analytics is a version of Google Analytics that set a new standard for how user data is collected and organized.

- Universal Analytics is the most current data collection technology for web-based Analytics.

- Universal Analytics offers new tracking codes for websites and features that can more accurately measure user behavior (**enables a shift from tracking visits to tracking customers**).

- Both Google Analytics (GA) and Universal Analytics (UA) are available to users.

- However, Universal Analytics is the only officially supported version today.

- Google is encouraging all users to migrate their properties to Universal.