

A Comparative SEO Techniques Analysis on core WebPages and its Effectiveness in Context of Google Search Engine

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Abstract: In digital era, internet is one of the most important source of information in almost all spheres of our life. In the world of Information technology, internet is the primary source to search desired information. Among various browsers, Google Chrome is one of the most popular web browser used in India. When user searches for particular information on browser then Google search engine displays billions of related web pages available to that particular information (i.e. SERP). So to appear website on first page of SERP (Search Engine Result Pages), every page of developed website should follow SEO techniques. This research paper explains a comparison of web pages of two different websites to check whether these web pages developed are as per SEO techniques properly and its Effectiveness in Context of Google Search Engine. To appear on 1st page of SERP, which essential SEO techniques/parameters they should follow, which updations they need to do, which things they need to improve, how they should ranked up as compare to others and in future new website developer what need to do so their clients website should appear on 1st page of SERP and keep ranked up.

Keywords: Google Search Engine, SEO Techniques, SERP, Ranking, webpages, analysis

I. INTRODUCTION

Websites are used to advertise any product or services. Every business, university, multinational companies, institutes, colleges, schools, social medias have their own websites. In order to make growth in every field, it is necessary to reach at maximum customers /viewers which is possible only because of launching websites on internet. The main objective of any website is to list at the top of all the links i.e. to appear on the 1st page of SERP of Google search engine. Search Engines which are used to find any information across internet [1]. So to appear on 1st page of SERP's, Google SEO techniques need to be used very carefully.

In order to make comparative analysis and to check whether SEO techniques are used properly or not, two international school websites are taken into consideration. From these websites, those web pages which are common in both websites and mostly viewed by visitors are analyzed.

Paper Statement: This Research Paper provides the comparative analysis of core web pages of two different websites which uses Search Engine Optimization techniques. If SEO techniques are properly used that can help to improve the ranking of a website otherwise to get more number of viewers or to increase visibility of a website, websites need to improve themselves.

Purpose and Motivation:

Lots of websites are available on internet. Some are ranked up on SERP and some are not. To appear website on 1st page of SERP, analyze which essential SEO techniques/parameters they should follow, which updations they need to do, which things they need to improve, how they should ranked up as compare to others and in future new website developer what need to do so their clients website should appear on 1st page of SERP and keep ranked up

II. SEARCH ENGINE OPTIMIZATION(SEO)TECHNIQUES/METHODS

SEO techniques can be classified into two categories.

These techniques are more effective to improve the ranking of a website in the context of Google search engine if Implemented in the right way:

1. On Page Optimization
2. Off Page Optimization [2].

Table 1. On page optimization

Techniques	Description	Techniques	Description
Page Title	Atitletagis the HTML element used to specify the title of a webpage. Its primary job is to tell visitors and search engines what they can expect from the web page. Make sure all title tags are unique and exist on all pages. It should accurately describe what the page is about. Your finished title tag should not exceed 50–60 characters otherwise Google starts cutting off title tags in the SERPs after around 50–60 characters so Keep it short and sweet. Include your primary keyword in the title tag.[3]	Heading Tags	Heading tags are tags used to identify headings and subheadings within your content from other types of text (e.g., paragraph text). HTML has six different heading tags h1 To h6 . <i>The h1 is an HTML tag that indicates a heading on a website.</i> The h1 is considered the most important tag, and the h6 is the least important. H2-H6 are optional tags to organize the content in a way that's easy to navigate.[6][7]
Meta Description	The meta description is the short paragraph of text placed in the HTML of a webpage that describes its content. The meta description will then appear under your page's URL in the search results. This is also known as a snippet. Meta description should be a normal, human-written sentence along with most important keywords.A meta description should be no longer than 135 – 160 characters long. The meta descriptions must be written differently for every page. You can add elements to the snippets to increase their appeal. For instance: star ratings, customer ratings, product information, calorie counts etc.[4]	Image Alt Attribute	Image alt attributes are used within an HTML code to describe the appearance and function of an image on a page. Image Alt Tag provides a text alternative for search engines to describe the image more specifically as possible. Keep your alt text fewer than 125 characters.Don't start alt text with "picture of..." or "Image of..."[8][9]
Meta Keywords	Meta keywords are types of meta tags in the HTML source code of a webpage. They describe the content of a website shortly and concisely, and are therefore important indicators of a website's content to search engines. The keywords are generally written in lower case, and separated with a comma.[5]		

Table 2. Off page optimization

Techniques	Description	Techniques	Description
Site Map Page	A sitemap is a blueprint of your website that help search engines find, crawl and index all of your website's content. Sitemaps also tell search engines which pages on your site are most important. Search engines like Google, Yahoo and Bing use your sitemap to find different pages on your site. From SEO standpoint, Every website should have a sitemap. Sitemaps are not only useful for search engines but also for all those users	Link Building	Link building is a process of building or creating the linkin order to improve the ranking of your website. You can build external links a well as internal links. By using external links you able to links other social media websites and by using internal links you able to traverse through your webpages of your own website. Your link free or by paid some amount also. Like- Google Adwords, where you need to pay some amount to advertise your website.[2]

	looking for a particular page on your website.[10][11]		
Social Networking Sites	Social Networking sites are one of the effective ways to improve the ranking of a website. Social Networking sites like Facebook, Twitter, Instagram, YouTube are very popular to advertise your website by sharing your content on these sites where lots of people will visit/link to it, and links are a very important SEO ranking factor.	Blogging	A blog is a discussion or informational website. It is managed by individuals who share their views, experiences, guidelines etc. Google also providing the blog facility. You can create a blog and upload the link of your website for any queries to the user. They will contact your website and may help to improve the searching of your website. Posts are typically displayed in reverse chronological order, so that the most recent post appears first, at the top of the web page

III. WORKING AND COMPARATIVE ANALYSIS

Two international school websites are taken here for comparative analysis.

- A) American School of Bombay
Website URL- <https://www.asbindia.org>
- B) Podar international school Mumbai
Website URL- <https://podarinternationalschool.com>





Both these schools have their own websites, so compare these websites according to Google SEO techniques. From these websites, those webpages which are common in both websites and mostly viewed by visitors are analyzed.



Web Pages taken for comparison are

- 1) Home page 2) Admission page 3) Co-curricular page 4) Contact Us page

Table 3. Comparative Analysis using SEO Techniques of ON page optimization

Web page	SEO Technique Used	A) American School of Bombay	B) Podar international school Mumbai
Home Page (ON Page Optimization)	Page Title	<title>American School of Bombay – Mumbai’s Best International School</title>	<title>Best International Board School in Santacruz - Mumbai Podar International School</title>
		Total Characters- 62	Total Characters-46
	Recommended characters are 50 to 60		
	Meta description	<metaname="description" content="American School of Bombay is the best international school in Mumbai, India. It offers international IB Primary Years and Diploma Programs and American High School Diploma accredited by the Middle States Association of Colleges and Schools (USA).">	<metaname="description" content="Podar International School is one of the Top international board schools in Santacruz - Mumbai. We provide a stimulating, safe and supportive environment along with the opportunities for all our students to reach the best levels of achievement. For more information call us 022- 26001311.">
		Total Characters :- 246	Total Characters-288
	Recommended characters are 135 to 155		
Meta keyword	<meta name="keywords" content="International college preparatory school Mumbai, International high school Mumbai, International middle school Mumbai, International elementary school Mumbai, Expat school mumbai">	Keywords not used	
	Total keywords- 5	Total keywords- 0	

	Heading Tag	<pre><h2class="fsElementTitle">Dream Learn Serve</h2> <h4>COMMUNITY</h4> <h6>Elementary Campus</h6></pre>	<pre><h2style="font-size:28px;color:#cc9966;"> Accreditations</h2> <h3>Podar International School students qualify for MakeX National Championship.</h3></pre>
	Use of h1 tag recommended.h1 tag not used on both webpages of websites.		
Image Alt Attribute		<pre><imgalt="AmericanSchoolofBombay"width="267"src="/uploaded/themes/default/images/logo.png"></pre>	<pre><imgwidth="150" height="100" src="https://podarinternationalschool.com/wpcontent/uploads/2019/10/MakeX-new-150x100.png" class="attachment-rdtheme-size5 size-rdtheme-size5 wp-post-image" alt="BasseimSiddiqui and Aarav Parikh" /></pre>
			
		Alt text characters=25 provides a text alternative for search engines to Describe the image more specifically. Image is used for logo and text specifies alternative text for image	Alt text characters=37provides a text alternative for search engines to Describe the image more specifically. Exam name given as Image name and text specifies alternative text for student’s image who clears exam.
Admission Page(ON Page Optimization)	Page Title	<pre><title>Admissions at American School of Bombay</title></pre>	<pre><title>Best IB Board School in Santacruz - Mumbai Podar International School</title></pre>
		Total Characters- 39	Total Characters- 71
		Recommendedcharacters are 50 to 60	
	Meta description	<pre><meta name="description" content="The American School of Bombay has a “rolling admission” process which means students may enroll at any time during the school year. Read on for detailed information."></pre>	<pre><meta name="description" content="Podar International School is one of the top International Baccalaureate (IB) Schools in Santacruz – Mumbai which is known for its perfection in teaching. For more information call us on 022- 26001311."></pre>
		Total Characters :- 165	Total Characters- 201
		Recommended characters are 135 to 155	
	Meta keyword	<pre><meta name="keywords" content="Admissions, American School of Bombay"></pre>	Meta keyword Not used
		Total keywords- 2	Total keywords- 0
	Heading Tag	<pre><h2 class="fsElementTitle">Horizontal Tier Navigation</h2> <h2 class="fsElementTitle">Landing Hero Slider</h2> <h4>ABOUT</h4>,h4>LEARNING</h4>,</pre> </pre>	<pre><h2>Details Required for Admissions:</h2></pre>
	Use of h1 tag recommended.h1 tag not used on both webpages of websites.		
Image Alt Attribute		<pre><imgalt="American School of Bombay" width="267"src="/upload/themes/default/ima ges/logo.png"></pre>	<pre><imgsrc="https://podarinternationalschool.com/wpcontent/uploads/2019/11/Podar-International-School-Logo.png" alt="Podar International School"></pre>
			
		Alt text characters=25 provides a text alternative for search engines to Describe the image more specifically. Image is used for logo and text specifies alternative text for image	Alt text characters=26provides a text alternative for search engines to Describe the image more specifically. Image is used for logo and text specifies alternative text for image

Co-Curricular Page (ON Page Optimization)	Page Title	<title>Co-Curricular - American School of Bombay</title>	<title>Co-Curricular - Podar International School</title>
		Total Characters- 41	Total Characters- 42
		Recommended characters are 50 to 60	
	Meta description	<meta name="description" content="Co-Curricular - American School of Bombay">	not given
		Total Characters :- 41	Total Characters-0
		Recommended characters are 135 to 155	
	Meta keyword	<meta name="keywords" content="Co-Curricular, American School of Bombay">	not used
		Total keywords- 2	Total keywords- 0
	Heading Tag	<h1 class="fsPageTitle">Co-Curricular</h1> <h2 class="fsElementTitle">Elementary Student Life</h2> <h2 class="fsElementTitle">MS and HS Athletics & Activities</h2> <h4>LEARNING</h4>	<h1 class="entry-title">Co-Curricular</h1> <h2>Co-Curricular Activities</h2> <h2 style="color:#003399;">Connect With Podar</h2> <h3 class="rtin-content mt-3rem">ROBOTICS</h3> <h3 class="rtin-content mt-3rem">STEM EDUCATION</h3>
		h1,h2,h4 tags are used	h1,h2,h3 tags used
Image Alt Attribute			
			
	Alt text characters=25 provides a text alternative for search engines to Describe the image more specifically. Image is used for logo and text specifies alternative text for image	Alt attribute is not used	
Contact Us Page (ON Page Optimization)	Page Title	<title>International School in Mumbai</title>	<title>Contact Us - Podar International School</title>
		Total Characters- 30	Total Characters- 39
		Recommended characters are 50 to 60	
	Meta description	<meta name="description" content="American School of Bombay is a top international school in Mumbai that offers Pre-K through Grade 12. Students from than 50 countries study American and IB Curriculum at ASB.">	not given
		Total Characters :- 174	Total Characters :- 0
		Recommended characters are 135 to 155	
	Meta keyword	<meta name="keywords" content="Our Campuses, American School of Bombay">	not used
		Total keywords-2	Total keywords-0
	Heading Tag	<h1 class="fsPageTitle">Our Campuses</h1> <h2 class="fsElementTitle">	<h1 class="entry-title">Contact Us</h1> <h2>Leave a Message</h2> <h2 style="color:#003399;">Connect With Podar</h2>



	<pre>href="#fs-panel-8990">Early Childhood Campus</h2> <h2 class="fsElementTitle">Elementary Campus</h2> <h3>Addresses</h3> <h4>ABOUT</h4></pre>	<pre><h3 class="widdgetitle">Our School Philosophy</h3> <h5 class="modal-title" id="exampleModalLabel">Virtual Tour</h5></pre>
	h1,h2,h3,h4 tags are used	h1,h2,h3,h5 tags used
Image Alt Attribute	<pre><imgalt="American School of Bombay" width="267" src="/uploaded/themes/default/images/logo.png"></pre>	<pre><imgsrc="https://podarinternationalschool.com/wpcontent/uploads/2019/11/Podar-International-School-Logo.png" alt="Podar International School"></pre>
		
	Alt text characters=25 provides a text alternative for search engines to Describe the image more specifically. Image is used for logo and text specifies alternative text for image	Alt text characters=26provides a text alternative for search engines to Describe the image more specifically. Image is used for logo and text specifies alternative text for image

Table 4.Comparative Analysis using SEO Techniques of OFF page optimization

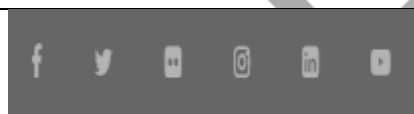






Web page	SEO Technique Used	A) American School of Bombay	B)Podar international school Mumbai
OFF Page Optimization	Social media networking	<pre>FacebookTwitterFlickrInstagramLinkedIn</pre>	<pre> <iframeclass="podaryoutubeVideo" src="https://www.youtube.com/embed/5azt3hmU1yY?autoplay=0&showinfo=0&loop=0&rel=0" frameborder="0" allow="accelerometer; autoplay; encrypted-media; gyroscope; picture-in-picture" allowfullscreen></iframe> </pre>
			
		Social media used are Facebook, Twitter, Flickr, Instagram, LinkedIn, YouTube	Social media used are facebook,YouTube, Instagram
	Site Map page	<pre>Site Map</pre> 	Site map not given
Blogging	Blog not given	<pre>Blog</pre>	
Link Building	Internal links-30 External links-6 Backlinks-3607	Internal links-46 External links-3 Backlinks-217	
			

Table 5.Website Reviews

	A) American School of Bombay	B)Podar international school Mumbai
Website Reviews		

IV. AFTER COMPARATIVE ANALYSIS RESULTS AND DISCUSSION

On Page Optimization:

A) Home page :

- 1) **Page Title**– The title tag have Recommended characters between 50 to 60.so both websites need to follow these range. So search engine robotics algorithm can get right signals from webpages as well as visitors easily found page which they desired.
- 2) **Meta Description**-The Meta Description tag have Recommended characters are 135 to 160.Both website's homepage have description above range. The meta description will then appear under your page's URL in the search results.so only those characters below 160 will be displayed on SERP and remaining will not be displayed.Home page of American School of Bombay use some important keywords. Home page of Podar International School Mumbai not used some important keywords.
- 3) **Meta Keywords**- keywords are important indicators of a website's content to search engines.so search engine can easily able to find your webpage in crawling.Home page of American School of Bombay use 5 important keywords. Home page of Podar International School Mumbai not used some important keywords.
- 4) **Heading Tags**-Use of h1 tag recommended.h1 tag not used on both webpages of websites.The h1 is an HTML tag that indicates a heading on a website. The h1 is considered the most important tag.
- 5) **Image Alt Attribute**- Image Alternative text will not exceed more than 125 characters.home page of both websites have characters less than 125.Home page of American School of Bombay use Img alt attribute for logo image and it's text only.whereas Home page of Podar International School Mumbai used image of students who cleared exam and alternative text is given student's name who cleared exam.

B) Admission Page :

- 1) **Page Title**– The title tag have Recommended characters between 50 to 60.so both websites need to follow these range. So search engine robotics algorithm can get right signals from webpages as well as visitors easily found page which they desired.
- 2) **Meta Description** -The Meta Description tag have Recommended characters are 135 to 160.Both website's Admission page have description not within range. The meta description will then appear under your page's URL in the search results.so only those characters below 160 will be displayed on SERP and remaining will not be displayed. Admission page of American School of Bombay use some important keywords. Admission page of Podar International School Mumbai not used some important keywords.
- 3) **Meta Keywords**- keywords are important indicators of a website's content to search engines.so search engine can easily able to find your webpage in crawling.Admission page of American School of Bombay use 2 important keywords. Admission page of Podar International School Mumbai not used some important keywords.
- 4) **Heading Tags**-Use of h1 tag recommended.h1 tag not used on both webpages of websites.The h1 is an HTML tag that indicates a heading on a website. The h1 is considered the most important tag.
- 5) **Image Alt Attribute**- Image Alternative text will not exceed more than 125 characters.home page of both websites have characters less than 125.Admission Page of American School of Bombay use Img alt attribute for logo image and it's text only.whereas Admission Page of Podar International School Mumbai used use Img alt attribute for logo image and it's text only.For other images alternative text is not used.

C) Co-Curricular Page :

- 1) **Page Title** – The title tag have Recommended characters between 50 to 60.so both websites need to follow these range. So search engine as well as visitors easily found page which they desired.
- 2) **Meta Description** -The Meta Description tag have Recommended characters are 135 to 160.Co-Curricular page of American School of Bombay have description not within range. Co-Curricular page of Podar International School can't have meta description tag. The Meta description will then appear under your page's URL in the search results.so only those characters below 160 will be displayed on SERP and remaining will not be displayed. Co-Curricular page of American School of Bombay use some important keywords.
- 3) **Meta Keywords**- keywords are important indicators of a website's content to search engines.so search engine can easily able to find your webpage in crawling.Co-Curricularpage of American School of Bombay use 2 important keywords. Co-Curricularpage of Podar International School Mumbai not used some important keywords.
- 4) **Heading Tags**-Use of h1 tag recommended.h1 tag is used on both webpages of websites.The h1 is an HTML tag that indicates a heading on a website. The h1 is considered the most important tag.
- 5) **Image Alt Attribute**- Image Alternative text will not exceed more than 125 characters.Co-Curricularpage of American School of Bombay website have characters less than 125.Co-CurricularPage of American School of Bombay use Image for logo and text specifies alternative text for image.whereas Co-CurricularPage of Podar International School Mumbai used use Img for representing Co-Curricularactivities but alt text is not used.

D) Contact Us page :

- 1) **Page Title** – The title tag have Recommended characters between 50 to 60.so both websites need to follow these range. So search engine as well as visitors easily found page which they desired.
- 2) **Meta Description** -The Meta Description tag have Recommended characters are 135 to 160.Contact Us page of American School of Bombay have description not within range. Contact Us page of Podar International school can't have meta description tag. The meta description will then appear under your page's URL in the search results.so only those characters below 160 will be displayed on SERP and remaining will not be displayed. Contact Us page of American School of Bombay use some important keywords.
- 3) **Meta Keywords**- keywords are important indicators of a website's content to search engines.so search engine can easily able to find your webpage in crawling.Contact Us page of American School of Bombay use 2 important keywords. Contact Us page of Podar International School Mumbai not used some important keywords.
- 4) **Heading Tags**- Use of h1 tag recommended.h1 tag is used on both webpages of websites. The h1 is an HTML tag that indicates a heading on a website. The h1 is considered the most important tag.
- 5) **Image Alt Attribute**- Image Alternative text will not exceed more than 125 characters.Contact Us page of American School of Bombay website have characters less than 125.Contact Us Page of American School of Bombay use Image for logo and text specifies alternative text for image.whereas Contact UsPage of Podar International School Mumbai used for logo and text specifies alternative text for image. For other images alternative text is not used.

Off Page Optimization :

- 1) **Social media networking**- American school of Bombay website used Social media networking sites like Facebook, Twitter, Flickr, Instagram, LinkedIn, YouTube etc. Podar International school of Mumbai used Social media networking sites like Facebook, Instagram, YouTube etc. On Social media networking sites make advertise of your website by sharing your content on these sites where lots of people will visit/link to it, and links are a very important SEO ranking factor.so comparatively American school of Bombay ranked up as compare to Podar International school of Mumbai
- 2) **Site Map**- American school of Bombay website used site map page. ButPodar International school of Mumbai website not used site map page
- 3) **Blogging**- American school of Bombay website not used blog .but Podar International school of Mumbai website used blog. so any new, fresh updates are uploaded on blog, it's a great way to build links and increase the ranking of a site on Google. If you publish the contents to blog, Google start to recognize you as a great source of information.
- 4) **Link building**- Links are also so much important. Google love links, especially from other relevant websites. Join any with back link to your website and submit your site to any relevant directory to improve your ranking. [12]

V. CONCLUSION

In the end, I would like to conclude that Search Engine Optimization is a very important for websites optimization.Because the optimized website appears at the better rank of the search engine result. This research paper compare and analyzed two educational websites as per ON page as well as OFF page optimization. Both of them follow some Google SEO techniques up to some extent. These techniques can help to improve the ranking of a website if used in a proper manner.so to achieve best results and to appear on first page of SERP; both websites need to be updated as per SEO techniques time to time. Anynew website developer develops his/her client's website as per Google SEOTEchniques properly then client's website should appear on 1st page of SERP and ranked up.

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