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SEO mix 6 O's model and categorization of search engine marketing factors for websites ranking on search engine result pages

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Abstract

This research paper presenting a comprehensive review of search engine optimization and synthesis of academic contributions. Focused on theoretical framework and conducting a meta-analysis of SEO ranking factors, the study consolidate existing knowledge and identify patterns that define effective strategies for optimizing website on search engines. Methodology was based on literature review and meta-analysis. This research categorize and create a model of SEO factors, contributing to a deeper understanding of the interconnected nature of SEO elements. The synthesis of academic researches identifies commonalities, disparities and gaps in existing theory. The aim is to gather all SEO factors that have been used to date from research and affect ranking of websites on search engine results pages in a solid new theory framework the 6 O's SEO mix. Main findings is that SEO factors for website ranking are dozens which belong on categories of on-page, off-page, on-site technical, optimized user experience, online content and organic local SEO factors. Moreover find out that within new 6 O's SEO mix there are factors that are known and adopted by the majority of researchers, others less known or of lesser or neutral effectiveness. In addition there are not only positive SEO factors but also negatives that rank lower websites on search engine result pages.

Keywords: SEO mix, search engine marketing, Digital marketing SEO

1. Introduction

Search engine optimization (SEO) stands as a steadfast pillar of digital marketing, affecting the visibility and success of online business website and e-shops. As the primary conduit between businesses and their target group, search engines wield unparalleled power in directing online traffic. Utilizing the potential of SEO has become imperative for organizations aiming to establish a robust online presence on search engine result pages (SEPR) and understanding the intricacies of SEO website ranking factors has become a strategic necessity. Consumers increasingly turn to search engines for information, products and services and ranking of a website on SERPs directly impacts on its success. High position on search engine rankings leads to increased visibility, credibility and ultimately, higher conversion rates. As digital marketing continues to dominate the business landscape, SEO emerges as a pivotal tactic for brands to remain competitive in the online sphere. The complexity of SEO lies in its multifaceted nature, affected by dozens of factors that collectively determine a website's ranking. Content quality, website loading speed and mobile-friendliness are few of these factors revealing that the spectrum of onsite and offsite SEO factors is vast and continually evolving. In this context, there is a scientific and practical need to identify, record, clarify and analyse in detail all these important factors. Understanding the nuances of each element becomes important for digital marketers and website owners striving to optimize their ranking on search engine result pages and networks. The imperative for the scientific community to identify and aggregate SEO factors is not only crucial for the dynamic digital marketing sector but also holds significant implications for academic research on the field. SEO factors constitute a complex landscape encompassing algorithms, user behavior and evolving technology, demanding a collaborative effort to comprehend and decode these intricacies. By uniting knowledge of researchers, data scientists and industry professionals the scientific community can systematically gather and analyze SEO factors. This collaborative approach not only contributes to the enhancement of digital marketing strategies but also provides a fertile ground for university scientific

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research. Elucidating the theoretical underpinnings, the objective is to construct a robust theoretical framework that not only clarifies the existing SEO fields and but also categorize them and serves as a guiding map for digital marketers and developers.

2. Methodology

Review methodology and Meta-analysis are used in order to provide systematic approach for synthesizing and analyzing existing studies. In this context data collection made by systematically identifying, selecting and extracting relevant data from multiple studies. This ensures a comprehensive yet focused approach, involving the extraction of relevant results of SEO theory. Data collection of all SEO factors gathered and then organized into a standardized format suitable for analysis. In Meta-analysis, convert diverse search engine optimization factors provenance into common categories. The goal is to create a solid categories of damn factors for meaningful mix synthesis.

3. Research Review

3.1 Definitions

SEO is the process of optimizing websites and refers to all actions that make them «friendly» to search engines in order to optimize ranking on organic results for specific keywords or keyphrases (Zhang, Cabage, 2017) ^[53]. Wordstream, a well-known digital marketing international organization, emphasizes that search engines hardly rank a webpage in the first positions of organic results while following a strict series of specific algorithmic criteria and factors in order to present the best possible result to any «search query» for any keyword. Page rank algorithm of Google is used to recognize the significance of websites in levels of 1-10 of which 10 represents full score and value between 7-10 indicate an important website (Srivastava, Kshatriya, Rathore, 2017) ^[48]. Search engine result pages (SERP), refers to the page displayed by search engines in response to a user's query. It showcases a list of organic and paid results relevant to the search terms. SEO plays a crucial role in determining a website's ranking on the SERP. Websites implement effective SEO techniques aiming to secure higher positions on results page. Organic results are non-paid listings, while paid results involve sponsored advertisements. Search Engine Position (SEP), is the numerical ranking assigned to a webpage by search engines in response to a specific query and indicates the page's placement within SERP. A higher SEP indicates a higher position on SERP, typically leading to increased visibility and click-through rates. Webmasters and digital marketers closely monitor SEP to gauge the effectiveness of their SEO efforts. Achieving a higher SEP involves optimizing various factors which are crucial for driving organic traffic.

According to Search Engine Land (2017) ^[43], optimizing a website is a necessary function of digital marketing and consists of onsite and offsite optimization process. This process concerns of factors and techniques applied within webpages and other that take place on thirds webpages and more precisely on other websites and affect the final ranking on search engine result pages. This process is a laborious and time-consuming and consists of a series of techniques. Search engines use dozens of criteria and factors for final ranking of websites (Ahrefs, 2018) ^[1]. A solid SEO mix of categories is a holistic approach of SEO optimization, allowing marketers to align their efforts strategically,

adapting to evolving search engine algorithms and maximizing the potential for organic growth.

3.2 Search engine optimization factors

Brand domain name

Well-known brand names in the market choose to match the brand name with domain name because it is bound to be the keyword that users will search for the business. This factor enhances brand recognition, fostering trust and credibility among users. A brand-aligned domain reinforces the website's relevance, positively affect search engine algorithms and also a consistent brand presence across the domain and other platforms establishes a cohesive online identity (Moro-Visconti, 2022) ^[29]. Additionally, a brand-specific domain contributes to improved click-through rates, direct navigation, and strengthens the overall digital footprint, aligning with the multifaceted goals of effective search engine optimization strategies.

Keyword domain name

In cases where there is no brand name a SEO friendly solution is a domain name that matches to the activity of business. Choosing a domain name that matches a relevant keyword immediately communicates the website's subject matter to both users and search engines, boosting visibility in relevant searches. It enhances click-through rates as users are more likely to click on a domain that aligns with their search query.

Domain name length

Short, concise domain names are memorable, user-friendly and easier to type, gaining better recall and direct hits. Search engines often favor shorter domain names and the ideal size for a domain name is no more than 15 characters. Additionally, concise domains are more shareable on social media, contributing to overall visibility (Makrydakakis *et al.*, 2022) ^[25].

Hyphens in domain name

Historically, search engines like Google have stated that hyphens are treated as space, meaning that a domain name with hyphens would be parsed as separate words. For example, a domain like "example-domain.com" would be read as "example domain com." While this can potentially make it easier for search engines to recognize individual keywords within the domain, there are several factors to consider. Domain names with hyphens can sometimes be harder to remember and prone to mistyping. For instance, users might forget to include hyphens or type them incorrectly, leading to potential traffic loss. Domains with hyphens can be associated with spammy or low-quality websites and generally is harder to become brand.

Top level domain

Top-Level Domain (TLD) of a website is the last part of the domain name (e.g., .com, .org, .net). There are several ways in which the TLD can impact SEO from an indirect perspective. Localization: Country-code TLDs (like .gr for Greece, .uk for the United Kingdom) can help search engines understand the geographical target audience of a website. Trust and Credibility: Certain TLDs, such as .com (commercial), .net (internet) and .org (organization), are associated with specific types of entities. Spam Considerations: Some TLDs are associated with spammy or

low-quality websites. If a website have a TLD like .cc or .ws, may affect website's ranking.

Domain & social handles match

A consistent brand name across all platforms conveys professionalism and trustworthiness (Van Looy, 2022) ^[49]. Having domain name and social media handles match, enhance brand recognition and is important from SEO perspective. Consistency across domain name and social media handles makes it easier for people to remember a brand. When users can easily recall a domain name, they are more likely to directly type it into their browsers or search for it, leading to direct traffic which is often considered a positive signal by search engines and can influence ranking. When a brand is consistently visible across the web, it establishes authority in target group. Search engines recognize authoritative brands and often rank their content higher in search results.

Domain age

Search engine algorithms value domain age in SEO because older domains often indicate stability, credibility and trustworthiness. A well-established domain suggests long-term commitment and quality content, factors that search engines prioritize in delivering reliable results to users. Newer domains might be seen as less reliable.

Keywords used

Users of search engines whether looking for information, products or services type specific terms relevant to their query. These terms, are called keywords and act as bridges connecting users to the content they desire. Keywords research is a foundational and critical aspect of a successful search engine optimization strategy. To identify the most relevant and impactful keywords, digital marketers leverage a variety of tools like Ahrefs, SEMrush, or Moz Keyword Explorer which provide insights into search volumes, competition levels and related keywords, enabling administrators to tailor content and SEO strategies for maximum effectiveness.

Title tag

One of highly concerns is the improvement of the title of any webpage by placing keywords on them (Moz, 2017) ^[30]. The title is useful for both users and search engines and usually appears above or below the url address of each webpage, while also including some keywords. Is the first information about the content of each website and must be comprehensive, descriptive, clear, unique and spelling correct. Ideally, the most effective page titles are about 10-70 characters long, including spaces. Writing the right title is a process that should be done for each webpage, not just the home page. Each webpage has different content, usually a different product and is more effective to use unique keywords on title tag (O'Neill, Curran, 2011) ^[32]. Also, the language in which the title must be written is the language of the target group.

Description Metatag

Meta tags are part of html code that contain Meta data for each webpage. Each Meta tag is defined with the command NAME where the name of the information is written and with the command CONTENT where the content of the webpage is noted. Their content is not displayed on the front

end of the webpages, it is not displayed to visitors, but is indexed by search engines (Sharma, Panda, Verma, 2022) ^[45]. According to Yoast (2019) ^[52], is stated that while a short sentence is used in the title, two to three sentences or even a short paragraph are placed in the description which contains keywords and states the content of the webpage. A successful description is one that conveys the content of webpage in a few sentences, without using keywords in quotations or copying from other similar webpages. According to Moz (2017) ^[30] the suggested size by Google is 160-180 characters and the maximum as 300 characters.

Keywords Metatag

Meta keyword tag indicates the keywords that are representative for each webpage. Five to seven keywords should added, without language restrictions, even misspellings since the content of the tag is not displayed on the front end to the visitors of website. The number of keyword searches and the relevance of each keyword to the content are important elements for search engines ranking (Garcia, Lima, da Fonseca, 2022) ^[13].

In recent years, guidelines have been published by search engines such as Google, which emphasize that the Meta tag keyword will not be taken into account in the calculations of the algorithm for ranking the webpages because the abuse of the keywords by the administrators has been observed, the so-called keyword stuffing which is considered misleading or even spam. However, careful tag completion enhances the quality even if keywords not counted for ranking as much as in previous years. Another factor that support the above decision for the completion of specific Meta keywords is the existence of several search engines. Web developers and digital marketers often follow Google's rules, but in the context of an integrated SEO, other search engines should also been taken into account such as Bing and Yahoo.

Robots tag

A robots.txt file is used to communicate with web crawlers and instruct them on how to interact with website. Robots tags are parameters that define if the content to be indexed, no indexed, followed or no followed. The index determines whether the contents of webpages can be used by search engines for detection and indexing and the follow determines whether search engines are allowed to follow the content and links on the webpages.

Language Metatag

It is important to use the appropriate language tag in the HTML code of a webpage. Helps readers and search engines to recognize the language of the content of the web page. At language tag in HTML code <html lang = "language_code"> "language_code" is replaced with the code of the specific language, such as "en" for English, "el" for Greek, "es" for Spanish, etc.

Refresh Metatag

The <Meta http-equiv="refresh"> is an http-equiv HTML element used to automatically redirect visitors from one page to another (Edgar, 2023) ^[10]. It is correct that it is used when a site have o a new domain and needs to temporarily redirect visitors. However, if used for a long period of time, it can be considered unethical practice because can create problems with the user experience. When visitors are

automatically redirected from one page to another without their consent, this can cause confusion and an undesirable browsing experience. As a consequence have a negative impact on the website ranking, as search engines may consider redirects as an unethical practice.

Heading tags

There are six hierarchically structured headings h1 to h6 with h1 being the most important for SEO. Heading tags, such as <h1>, <h2>, <h3>, etc., are crucial elements for SEO. They provide a clear structure to content, making it easier for search engines to understand the hierarchy and relevance of the information on webpage. Search engines take into account headings, especially <h1>, as they indicate the main topic of the page. Heading tags should be used in hierarchical order, starting with <h1> for the main title or topic of the page, followed by <h2> for subsections, <h3> for sub-subsections and so on.

Heading tag Keywords

Apart from the correct "syntax" of <Heading> tags, it is equally important to fill them with keywords. Is an important factor in SEO the correct selection and filling of <Heading> tags with representative Keywords and incorporating relevant keywords in headings provide search engines with additional context about webpage content.

Url structure

Each webpage has its own url address which is usually an extension of the home page. Webpage addresses with descriptive content and user-friendly are those that search engines evaluate more favorably than others that contain symbols and letters. Url structure is crucial for search engine optimization because a well-optimized Url has a powerful impact on website visibility and ranking in search engine results pages. Descriptive Urls are more user-friendly, visitors can easily understand what the page is about just by looking at the Url. This improves ranking, user experience and click-through rates. Search engine bots use Urls to navigate and understand the structure of a website. A logical Url structure makes it easier for search engines to crawl and index the pages on a site, ensuring that all relevant content is included in search results. A well-structured Url can indicate the hierarchical relationship between pages on a website. For example, a Url like "website.com/category/page" clearly shows that "page" is a part of "category," providing valuable information to both users and search engines (Barbar, Ismail, 2019) ^[3].

Url Keywords

Including relevant keywords in the Url path helps search engines spiders to understand the content of the page. Keywords can improve the webpage's chances of ranking higher for those specific terms, however keyword stuffing in Url should be avoided.

Url path hyphens

Hyphens (-) between words on url path is useful for search engines algorithms. Using hyphens (-) instead of underscores (_) in Url is a positive practice in SEO. Search engines, like Google, consider hyphens as space, which means that words separated by hyphens are seen as distinct words. This enhances the readability and SEO-friendliness of the Url (Moz, 2017) ^[30].

Url path length

The optimal length for a URL path is a topic that has been researched on the field of SEO. While there isn't a strict rule on the maximum length of a URL, it's generally recommended to keep URLs concise and focused on providing clear information about the content they represent. Length of the url doesn't have much impact on SEO ratings, but a very long url seems to be spam. The length of the url should be < 10 words and satisfactory is a length of up to 6 or 7 keywords.

Session url

Avoiding the use of Session IDs in Urls and replacing them with Cookies. Session IDs usually used to record the path of a sale and looks like Session ID G567H343F9967B74545F78383. Use of session id's in Url is a negative factor that weaken website ranking. If session IDs are necessary, configure your website to handle them properly to prevent indexing issues.

Url language

Search engines appreciate uniformity in language as in structure, making it easier to index and rank pages. According to the Search Engine Journal (2017) ^[42] the language of the keywords that make up the url, is recommended that they should be in English or in the respective language written with latin characters because browsers do not «read» some languages with non-latin characters. Moreover is SEO recommended to use lowercase letters in Url to avoid confusion and additionally capital letters are considered spam.

Dynamic Url

A dynamic URL is a web address that is generated by a web server to respond to user inputs or contextual parameters, often through the use of scripting languages like PHP, ASP, or JavaScript. Unlike static URLs that remain constant, dynamic URLs contain variables and may change based on user interactions or specific conditions. Dynamic URLs are common in websites with content management systems (CMS). Dynamic URLs are versatile and efficient for handling large amounts of content or providing personalized experiences. However, they can pose challenges for search engine optimization because search engines traditionally prefer static, keyword-rich URLs.

Image optimization

An important technique of SEO is image optimization as images appear more on organic search results. A large percentage of traffic from search engines to websites comes from image results and there is also a ranking process. Image optimization process includes many applications which support search engines bots to rank images (Patil, 2018) ^[36].

Image title: Michiel Heijmans (2019) ^[15] notes that the title should be written with keywords from the webpage containing the image.

Image file name: Image file names should contain descriptive keywords.

Image alt tags: Alt text or alternative text tag, is a textual description of an image, enabling visually users to

understand its content through websites. This inclusivity fosters a more equitable online experience and search engines rely on alt text to understand the context and relevance of images.

Caption: Appears below the image and briefly describes it.

Image size: Reducing the file size of the image contributes to the faster "loading" of the webpage, a determining factor for its ranking.

Storage format: Rutherford (2015) ^[41] argues that product and business photos should be saved as JPG files, while graphics should always be saved as PNG files with minimal Kilobytes to avoid slowing down the site.

Content-Webpage word value

Aim for a minimum of 300 words to ensure search engines can index and understand the content. However, excessively long articles more than 800 words might deter readers due to information overload. Therefore, it's vital to focus on quality over quantity, offering valuable insights, clear structure, and engaging language.

Content-Keyword density & stuffing

The ideal density for main keywords on content is 3% - 7% for secondary keywords is 1% - 2% of the total text. Keyword density, the ratio of a keyword's occurrence to the total content words on a webpage, is a crucial SEO factor. Overusing keywords, known as keyword stuffing, harms user experience and SEO rankings. Any artificially or non-inflated keyword density (10% or more of the total text) is considered by search engine spiders as keyword stuffing and the website risks being blocked by search engines.

Content – Keyword place

Placing relevant keywords at the beginning of a webpage's content is an essential SEO technique. When search engines crawl a page, they give priority to the initial content, considering it more significant. When used judiciously, placing keywords in the beginning of text can enhance a page's visibility, making it more likely to rank higher in search results and attract organic traffic.

Content – Keyword proximity

Keyword proximity refers to the closeness of keywords to each other within a webpage's content. If keywords are in sequence immediately after each other, with no other words in between, it boosts SEO.

Content – Secondary Keywords

While primary keywords are vital, secondary keywords provide a competitive edge by allowing websites to cater to a wider array of search queries. Skillful use of secondary keywords can create a nuanced and comprehensive web presence, outshining competitors who may focus solely on primary keywords (Xu, Wang, Shou, *et al.*, 2021) ^[51].

Content – Keyword phrases

Keyword phrases or long tail keywords are specific and detailed search phrases that users enter into search engines and consists of more than three words (Enge, Spencer, Fishkin, & Stricchiola, 2012) ^[11]. Unlike generic terms, long tail keywords are longer, more specific and typically have

lower search volume. However, they are highly valuable in SEO strategies. Long tail keywords cater to niche audiences, addressing specific needs or inquiries. Long tail keywords are less competitive, making it easier for websites to rank higher in search results (Poongkode, Nirosha, 2015) ^[37].

Content – Keyword mistypes

Mistypes can have both positive and negative impacts on website SEO. On one hand, incorporating common mistypes into a website's code like Keyword Metatag can attract additional organic traffic from users making those errors, expanding the site's reach (Riehle, 2020) ^[39]. On the other hand, if a website contains mistypes at the front end, it might appear less professional and reliable, potentially affecting user trust and engagement, leading to negative SEO consequences (Hannak *et al.*, 2013) ^[14].

Keywords font sizes & format

Properly formatting keywords, such as using bold, italics or larger font sizes, helps search engines understand the importance of those words within the content. This enhances the website's SEO by signaling relevancy to search engine algorithms.

Poor web design

Poor user interface (UI) and user experience (UX) design on a website have significant impact on SEO and ranking. UI refers to the visual elements and layout of a website, while UX focuses on the overall experience users have while interacting with a website. If a website has a confusing layout, slow loading times, cluttered design or non-intuitive navigation, it leads to a poor user experience. Visitors are likely to abandon the webpage quickly, resulting in a high bounce rate. High bounce rates signal to search engines that the content might not be relevant or engaging, which can negatively impact SEO rankings. Additionally, search engines, like Google, consider user experience as a ranking factor. Websites with good UX design, such as mobile responsiveness, easy navigation and fast loading times, are favored in search results. On the other hand, poor UX design can lead to lower search rankings.

Duplicate content and canonicalization

Duplicate content means having the same content on several webpages but accessing it from several different url's. Duplicate content poses a significant concern for SEO and ranking because search engines aim to provide unique and valuable content to users. When search engines encounter duplicate content, they struggle to determine which version to rank, leading to confusion and potential penalties for affected pages. It is noted that Google's Panda algorithm, according to its operation, rewards websites with unique high-quality content while reducing the ranking of webpages copying content from other websites. Also duplicate content is useful to be as little as possible within websites or e-shops. It is a frequent phenomenon in e-shops a product to belongs to several subcategories of menu and due to this fact search engines do not know which webpage to display among those with the same content and therefore website must provide search engines the appropriate information (Formanek, 2021) ^[12]. This particular problem is addressed by using master urls or canonical urls which defines a specific webpage as canonical or representative.

Doorways

Doorways are webpages aiming to redirect users to a different, often unrelated, destination. Doorways are designed to manipulate search algorithms, offering a poor user experience by presenting irrelevant content. The impact of doorways on SEO and rankings is unequivocally negative. Search engines penalize websites utilizing these tactics, leading to lower rankings, decreased visibility and potential removal from search results.

Redirects

Redirects are doorways that send user directly to the home page. When the user clicks on a Redirect doorway page it directs him to home page. The content of the web page is completely different from what the user is looking for.

Invisible text

Invisible text is a black hat SEO technique that involves manipulating search engine rankings by inserting text on a webpage that is not visible to the user but is detected by search engine crawlers. Hidden text may be achieved by using the same color for the text as the background, making it effectively invisible to human eyes but still readable by search engine algorithms. The purpose is to stuff the page with keywords or content that search engines consider relevant, thus attempting to boost the site's ranking.

Cloaking

Cloaking in the realm of black hat SEO involves presenting different content or URLs to search engines and users, deceiving search algorithms to achieve higher rankings. The technique often entails delivering content-rich pages to search engine crawlers while displaying different, perhaps less relevant or spammy content to actual users.

Illegal content

Utilizing content protected by copyright without proper authorization poses a serious threat to a website's SEO and ranking. When copyright holders report unauthorized use, search engines can penalize or completely remove the infringing website from their indexes. The importance of respecting copyright laws in SEO cannot be overstated. Authentic, original content contributes positively to a website's credibility, trustworthiness and search engine ranking. Plagiarism or unauthorized use of copyrighted material not only jeopardizes a site's legal standing but also undermines its integrity in search engines.

Content update

Updated content refers to the process of regularly refreshing and revising the material on a website to ensure its relevance, accuracy, and alignment with current trends. In the context of SEO, consistently updating content is crucial for maintaining and improving search engine rankings. Search algorithms favor fresh, valuable and up-to-date information, considering it more relevant to users. Frequent content updates signal to search engines that a website is actively managed, enhancing its credibility and authority.

Multimedia content

Web pages with integration of videos, images and infographics content tended to rank higher in search engine results pages (Moorthy, Murugesan, 2018) ^[28]. Videos contribute to a more engaging and dynamic user experience,

potentially impact on SEO rankings positively. As search engines consider various factors to determine the relevance and quality of a webpage, video and infographics enhances these factors by increasing user session duration. Video can also contribute to improved website backlinks. When websites embed videos, it often leads to increased sharing and linking which are important for SEO. In addition infographics belong to the category of interactive content which encourages user interaction and is a dynamic tool that significantly enhances user engagement.

Content shareability

Content shareability, facilitated by easy sharing buttons on a website, which supports effective SEO. The presence of easily accessible sharing buttons encourages visitors to disseminate content across various platforms, amplifying its reach and potentially increasing backlinks. Moreover, accessibility and prominence of sharing buttons directly impact user experience, aligning with search engines' prioritization of user-friendly interfaces.

Unique content

Content originality and uniqueness are factors for website ranking. Unique content not only sets a website apart but also signals to search engines that the information is valuable and relevant. Search engines, such as Google, use algorithms like Panda to identify and reward websites with high-quality, original content, while penalizing those with duplicated or low-quality material (Cho, 2019) ^[7].

Sitemap XML

Building a sitemap page, creating an XML sitemap file and declaring it to search engines are pivotal components of effective website SEO, significantly influencing rankings and overall online visibility. A sitemap serves as a structured blueprint of a website's architecture, outlining the relationships between different pages and content. This organized structure aids search engine crawlers in comprehensively indexing a site's content, which is crucial for optimal SEO performance. XML sitemap functions as a roadmap for search engine bots, providing information about the priority, frequency of updates and last modification dates of various pages. This helps search engines understand the site's structure and content hierarchy, leading to more efficient crawling and indexing. Declaring the XML sitemap to search engines is a proactive step to ensure that the search engine is aware of the sitemap's existence. This declaration is typically done through the robots.txt file or by submitting the sitemap directly to search engine consoles, such as Google Search Console.

Broken links

The presence of broken links on a website can significantly impact SEO and search engine rankings. Search engine crawlers encounter broken links, it disrupts their ability to navigate and index the website effectively. Broken links lead to a poor user experience, negatively affecting the site's credibility and usability, both of which are critical factors in search engine algorithms. Websites with broken links can be penalized in rankings because they indicate outdated or poorly maintained content.

Footer links

The significance of well-designed footer links in enhancing

overall website visibility (Smith, 2019) ^[47] because these links serve as a navigational aid, guiding users and search engine crawlers to essential pages, thereby positively impacting user satisfaction and retention. Strategic placement of links in footers, showcasing that search engines evaluate link relevance and quality when determining a website's ranking. In this context, judiciously selected footer links leading to key pages, such as the homepage and vital service offerings, can significantly boost a website's search engine performance (Johnson & Brown, 2020) ^[18].

Flash and Java website

Historically, Flash was widely utilized for multimedia and interactive elements, while Java provided dynamic functionality. Research by Patel (2021) ^[34] suggests that search engines, particularly Google, have deprecated support for Flash due to security concerns and compatibility issues with mobile devices. Websites relying on Flash risk diminished visibility in search engine results, as search algorithms prioritize mobile-friendly and secure websites. Similarly, the role of Java in website development has evolved, with search engines like Google favoring faster-loading and more accessible pages and also excessive reliance on Java for website interactivity may hinder page loading speed, negatively impacting SEO performance (Kim & Chang, 2020) ^[22].

Internal linking

According to Chen (2018) ^[6], well-planned interlinking structures contribute to the coherence and relevance of a website's content, aiding search engine crawlers in understanding the hierarchy and thematic relationships between pages. Furthermore, Park and Kim (2019) ^[33] emphasizes that effective interlinking can distribute link equity across a website, ensuring that essential pages receive due attention from search engines and this is positively influences a website's ranking in search results.

Website load speed

Website load speed is a critical determinant influencing search engine optimization. Numerous studies have substantiated the direct correlation between faster load times and improved SEO performance. This relationship is underscored by Dolai, Shenmare, & Gudadhe, (2023) ^[9], emphasizing that search engines, particularly Google, prioritize websites with faster loading speeds in their rankings. The importance of website load speed extends beyond SEO; Internet users wait about 4-7 seconds to "load" a webpage before abandon it and Kim (2022) ^[21] demonstrated that users are more likely to abandon websites with slow load times, leading to higher bounce rates. To enhance website load speed, Patel and Gupta (2020) ^[35] suggest minimizing server response times as a crucial step, ensuring that servers promptly respond to user requests. Optimizing images and other media files is another essential practice, as large file sizes can significantly slow down page loading times. Leveraging browser caching enables previously loaded resources to be stored on a user's device, reducing the need for repeated downloads and enhancing subsequent page loads. Additionally, implementing content delivery networks (CDNs) helps distribute website content across multiple servers globally, minimizing the physical distance between the user and the server, and thereby

improving load times.

Responsive website design

Unlike static designs or separate mobile versions, responsive design dynamically adjusts content layout, images, and other elements to fit the screen size, whether on a desktop, tablet or smartphone. Search engines prioritize mobile-friendly websites in their ranking algorithms (Xinghai, 2023) ^[50]. The most recent change of Google Mobilegeddon algorithm is about webpages being mobile-friendly by rewarding those that use mobile-friendly code. Responsive design aligns with this preference, as it eliminates the need for separate URLs or redirects for mobile users.

Mobile-first design

Mobile-first indexing is a rate of search engines, notably Google, where the mobile version of a website takes precedence over its desktop counterpart in terms of indexing and ranking. With the increasing prevalence of mobile device usage for internet access, Google aims to ensure that its search results are based on the mobile version of a website, as this reflects the experience of the majority of users (Margea *et al.* 2017) ^[26]. Algorithms determine whether a website prioritizes its mobile version through various indicators. One key factor is responsive design, as we have previously stressed, where a website dynamically adjusts its layout and content based on the screen size, ensuring a seamless experience across devices. Additionally, mobile-friendly features such as touch-friendly buttons, legible text without zooming, fast-loading pages, viewport configuration and the absence of mobile-specific errors contribute positively to a website's mobile-first ranking.

Accelerated mobile pages

Accelerated Mobile Pages (AMP) is an open-source initiative aimed at creating faster, more efficient mobile web pages. AMP is an open-source framework developed by Google and uses a specific set of HTML, CSS and JavaScript components to optimize performance. AMP implementation leads to faster loading times on mobile devices, positively impacting search engine rankings.

Secure sockets layer

Search engines positively reward websites and e-shops that have an increased degree of security. The use of secure sockets layer (SSL) protocol enhances the security personal data of users and buyers and get a higher ranking position. SSL certificate is a sign of trust for e-shop customers and ensure secure payment processing which is essential for e-commerce customers to complete a purchase or provide their personal information. Secure sockets layer is an onsite optimization software and a protocol that provides security when transmitting sensitive data over the internet (Roopak, *et al.*, 2019) ^[40]. SSL based on methods of encrypting the data exchanged between two devices, usually computers, establishing a secure connection between them through the internet using TCP/IP (Transfer Control Protocol / Internet Protocol) protocols

Schema markup

Schema markup provide information to browsers and by extension to search engines how to display a piece of

information (Belz, 2022). For example, `<h1>Avatar</h1>` tells the browser to display the text string "Avatar" in a heading one (1) format. But html tag does not give any information about what this text means. "Avatar" could refer to the 3D movie, or it could refer to a type of product and this makes it more difficult for search engines to intelligently display relevant content to a user. Therefore in the context of onsite optimization the use of schema tag in some cases is necessary (Alifi, Hayati, Wonoseto, 2022) ^[2].

Voice search

20% of search queries in the mobile app of search engines are done vocally with the process of voice searches. Creating a voice-friendly website involves optimizing content and design to cater to voice search queries. As voice-activated virtual assistants like Siri and Google Assistant become increasingly popular, the significance of voice-friendly websites for SEO is evident. Voice searches often differ from text searches in structure and content, emphasizing the need for tailored optimization. To make a website voice-friendly, it's essential to focus on natural language. Content should be conversational, addressing common voice search queries. Utilizing long-tail keywords that mimic spoken language patterns enhances the likelihood of matching voice search queries. Structural and technical considerations are equally vital. Implementing schema markup to provide context to search engines and organizing content in a question-and-answer format can enhance voice search compatibility. Additionally, optimizing for local search is crucial, as voice searches often involve location-specific queries (Lambrecht, Peter, 2022) ^[23].

Direct website visits

Direct website visits occur when users navigate directly to a website by typing its URL into the browser or using a bookmark. This type of traffic is essential for website success and can significantly impact SEO. While it might not directly influence search engine rankings, direct traffic is often considered a strong indicator of a website's credibility, popularity and brand recognition.

Average session duration

Average Session Duration (ASD) is a crucial metric in website ranking that measures the average amount of time users spend on a site during a single visit. Research suggests that there is a strong correlation between longer average session durations and higher search engine rankings (Jansen, Salminen, 2022) ^[17]. According digital marketers opinions the best time for ranking is not fixed, as it depends on various factors such as industry, content type and target audience. However, an optimal session duration is 250 seconds or over 4 minutes.

Pages per session

Pages per Session (PPS) measuring the average number of pages a visitor views during a single session. In the context of SEO, PPS is integral as search engines use it to evaluate the quality and relevance of a website's content. There is a strong correlation between increased PPS and higher search engine rankings and according to search engine journals an average optimal performance is at least 3,5 webpages per session. Improving pages per session involves creating a high-quality website, relevant content that meets user intent

for retaining visitors and enticing them to delve deeper into the website.

Bounce rate

Bounce rate measures the percentage of visitors who abandon or navigate away from a website after viewing only one page. In SEO, bounce rate serves as a vital indicator of user engagement and the relevance of a website's content (Sharma, Verma, 2020) ^[46]. A high bounce rate e.g. 70% can adversely impact a website's SEO and ranking on SERP because search engines interpret a high bounce rate as an indication that visitors are not finding the content they expected or that the content is low quality.

Server location

The physical location of a server influences the speed at which a website's content is delivered to users. When a website's server is geographically closer to the user, the content tends to load faster. To optimize server location for SEO administrators can utilize Content Delivery Networks (CDN) to distribute website content across multiple servers in different locations.

Breadcrumbs

Breadcrumb navigation is a website design element that displays the user's path from the homepage to the current page, providing a hierarchical trail. From an SEO perspective, breadcrumbs aiding search engines in understanding the site's structure.

Local search optimization

Local search optimization, also known as Geotargeting, involves tailoring content to a specific geographic location (Keegan, Taylor, 2020) ^[20]. This approach recognizes the significance of local relevance in search engine results and aims to provide users with information that is pertinent to their location. To improve website ranking with geotargeting, there are several tactics like incorporate location-specific keywords naturally into website's content, Meta tags and headings, optimize Google My Business listing with accurate business information, develop content that caters to local interests, events and news, acquire high-quality backlinks from local businesses, organizations, and directories and encourage and manage online reviews on platforms like Google and Yelp.

Social poof

Social proof comes in various forms, such as customer reviews, testimonials, user ratings and social media mentions. Especially customer reviews and testimonials are essential elements in shaping online reputation of a business and their significance extends beyond influencing potential customers. For SEO the impact of reviews is multifaceted. User engagement is a key factor in SEO, and reviews are a tangible representation of this engagement. When users actively contribute by leaving reviews, search engines interpret this as a positive signal, potentially boosting the website's visibility in search results. For local businesses, customer reviews are a critical component of local SEO. Platforms like Google My Business prominently feature customer reviews, influencing local search rankings. Positive reviews can substantially improve a business's visibility in local search results.

Fake reviews & forum profiles

Engaging in the creation of fake reviews and forum profiles can severely harm a website's ranking. While these deceptive practices may provide a short-term boost, the long-term consequences are detrimental. Fake reviews and profiles violate principles of search engines and lead to potential penalties. Authenticity is a key factor in search engine algorithms and when search engines detect fraudulent activities like fake reviews, they may penalize the website by lower rankings. Moreover, creating fake profiles can be considered unethical and may lead to a loss of credibility and reputation.

Search engines use a combination of algorithms and signals to identify potentially fake reviews (Liu, Zhang, 2019) ^[24].

Website accessibility

Accessibility isn't just a moral imperative; it also significantly impacts website ranking. Search engines count that an accessible website is more likely to provide a positive and inclusive experience, contributing to higher search engine rankings. Research supports the integral connection between website accessibility and SEO, emphasize that accessible websites improve usability for everyone and positively affect search engine algorithms, leading to enhanced rankings (Henry, *et al.*, 2019) ^[16].

Cookies stuffing

Cookie stuffing is a deceptive practice where websites surreptitiously place cookies on users' browsers without their knowledge. This unethical black hat SEO method is often employed to generate illegitimate affiliate commissions by attributing false referrals or traffic and websites engaging in deceptive practices risk facing penalties, including lower rankings and reduced visibility.

Artificial intelligence content

In order to achieve better website ranking and to avoid algorithm penalizes equilibrium is key (Reisenbichler, *et al.*, 2022) ^[38]. A harmonious blend of AI efficiency and copywriter creativity, coupled with vigilant oversight to address ethical concerns, can unlock the full potential of generative AI while ensuring the integrity and effectiveness of SEO strategies. Search engines already use sophisticated algorithms to detect content generated by AI on websites. They analyze patterns, coherence and semantic structures within the content. Search engines scrutinize for anomalies, including repetitive phrases, lack of nuanced understanding and the absence of authentic engagement markers. Additionally, search algorithms evolve to identify the unique linguistic fingerprints of generative AI, enabling them to distinguish between machine generated and human written content. Integrating AI as an assistant for content creation can indeed be a powerful strategy for enhancing SEO.

Backlinks

Backlinks are fundamental factor for SEO and website ranking. A backlink is a link from one website to another and search engines use them as indicators of a website's authority, credibility, and relevance. The quality and quantity of backlinks contribute significantly to a website's search engine ranking. Research by Brin and Page (1998) ^[5], the founders of Google, highlighted the concept of PageRank, an algorithm that assesses the importance of

webpages based on the number and quality of backlinks. Backlinks include inbound backlinks and outbound backlinks. Inbound backlinks are links coming from external websites to a website. Search engines consider them as a vote of confidence in the content of the website. The quality and relevance of inbound backlinks are important; having high-quality, relevant websites linking to your content can positively impact your search engine rankings. On the other hand, outbound backlinks are those links from a website to external websites. Outbound links can be used to provide additional resources or references to visitors.

Backlinks quality (Domain authority)

Website's Domain Authority (DA), a metric developed by Moz to assess a website's overall strength in search engine rankings. Domain Authority is a numerical representation of a site's credibility, ranging from 0 to 100, with higher values indicating greater authority (Johnson, & Williams, 2018) ^[19]. The quantity and more importantly the quality of inbound links significantly contribute to a website's DA. A strong positive relationship between the number of high-quality inbound links and increased Domain Authority, leading to enhanced visibility on search engine results pages.

Inbound link anchor text keyword

Anchor text is the visible, clickable text in a hyperlink and when it includes relevant keywords, it provides search engines with valuable context about the linked page's content. The research underscores that anchor text carrying relevant keywords enhances the semantic association between linked pages, aiding search algorithms in accurately indexing and ranking content.

Inbound links from similar sites

Inbound links from similar websites enhancing website ranking. When a website receives links from other sites that share similar content or thematic relevance, search engines perceive it as a validation of the site's credibility and authority within a specific niche.

Backlinks quantity

Research by Moz and Ahrefs has consistently underscored the significance of backlinks in search engine algorithms, revealing a strong correlation between the number and quantity of backlinks and higher search rankings. Search engines like Google consider not only the sheer number of backlinks but also their source diversity and authority. A higher number of quality backlinks often correlates with improved search engine rankings. The ideal combination is high quantity of quality backlinks.

Age of backlinks

Older backlinks are often perceived as more stable and reliable indicators of a website's authority and trustworthiness and they can contribute to higher search engine rankings over time. Historical context of backlinks is considered by search engines and the longevity of a backlink can be indicative of sustained relevance and importance within a particular domain or industry. While older backlinks may provide a foundation for a website's authority, the continuous acquisition of fresh, high-quality backlinks remains crucial for maintaining and improving search rankings.

Do Follow & No follow backlinks?

Do follow links are hyperlinks that permit search engine crawlers to follow them and, consequently, pass on link equity. In contrast, no follow links contain a `rel="no follow"` attribute, signaling to search engines not to endorse the linked content, thereby limiting their impact on SEO. While do follow links contribute positively to a website's SEO, no follow links are not entirely without merit. They are often used to control the flow of link equity, ensuring that search engines don't give undue weight to certain links, such as those in user-generated content or advertisements (Nurkasanah *et al.*, 2022) ^[31].

Links directory

Submitting a website to directory lists has been a traditional practice in SEO, aiming to enhance a site's visibility and search engine ranking. While the impact of directory links on SEO has evolved over time, they can still have a role in improving a website's overall online presence. It's essential to approach directory submissions strategically, focusing on authoritative directories and avoiding those considered spammy.

Cross linking

Cross-linking between different websites can be considered spam when it involves manipulative or excessive linking practices solely aimed at affect search engine rankings. Unethical cross-linking schemes, often referred to as link schemes, violate search engine guidelines and can lead to penalties that negatively impact a website's SEO and ranking. Spammy cross-linking practices may include artificial link exchanges, link farms and other strategies intended to inflate the number of backlinks without providing genuine value to users.

Invisible links

Invisible or small links, often referred to as hidden links, play a controversial role in SEO and can have a significant impact on a website's ranking. These links are typically concealed from the user's view, employing techniques such as font color matching the background, using tiny font sizes, or placing the links off-screen. The intention behind hidden links is often to manipulate search engine algorithms by artificially increasing the number of backlinks to a website.

Social media signals

Social media support offsite SEO and ranking in search engine results. The interconnected nature of social media platforms allows for the creation of a dynamic web of external links, contributing to a website's overall backlink profile.

When users share content from a website on social media, they essentially create valuable external links. These social signals are taken into account by search engines as indicators of content relevance, popularity, and user engagement. Search algorithms consider the quantity and quality of these social signals as factors in determining a website's authority (Sharma, Verma, 2020) ^[46]. Additionally, social media platforms serve as channels for content distribution, potentially amplifying a website's reach and visibility.

Branding

To encourage direct website visits, building a strong brand

presence is crucial. Consistent branding across various channels, including social media, offline advertising and email marketing, fosters brand recall and encourages users to visit the site directly.

Offering a memorable and easy-to-spell domain name contributes to direct traffic as users are more likely to remember and type it directly. The appropriate onsite optimization actions with the selection of an appropriate domain and content are more effective when they are combined with offsite optimization actions such as online and outdoor advertising channels like on car and television that increase the visibility of the domain and therefore website awareness and direct traffic (Semrush, 2017) ^[44].

Blog/Vlog Content

Blogging allows websites to produce high-quality, relevant content that can attract natural backlinks from other websites seeking valuable information. When reputable sites link to a blog post, it signals to search engines that the content is authoritative and contributes to the overall SEO of the linked website. Vlogging, or video blogging, adds a dynamic element to content creation. Video content is increasingly favored by search engines and platforms like YouTube can serve as powerful channels for reaching a broader audience.

Article copywriting

Copywriting for articles should incorporate strategic placement of relevant keywords to optimize content for search engine algorithms. A well-optimized article is more likely to rank higher in search results, increasing its visibility and potential for attracting organic traffic (Moz, 2017) ^[30].

Search engine accounts

Search engine business accounts, such as Google My Business, influencing SEO and website ranking, even more for local businesses. These accounts provide a platform for businesses to manage their online presence, offering information like address, contact details, photos and business hours. Search engines use this information to verify and authenticate the business, impacting local search results and overall SEO performance (Mihaylov, 2019) ^[27]. Having an optimized and accurate business account contributes to SEO by enhancing visibility in local searches and map results. Search engines consider the consistency and accuracy of business information across various online platforms, including business accounts, in their ranking algorithms.

Search engine advertising platforms

Connecting a website with search engine advertising platform, like Google AdSense, does not have a direct impact on its SEO and search engine ranking. Google AdSense is an advertising program that allows website owners to display ads on their site and earn revenue when visitors interact with those ads. While the presence of such a platform doesn't directly affect SEO, certain considerations should be considered. Excessive and intrusive advertising, whether through platforms, can negatively affect user experience, potentially leading to higher bounce rates and lower engagement (Cutroni, 2012) ^[8].

Advertising on search engines

Creating and promoting advertisements in platforms like

Google Ads does not have impact on organic SEO and website ranking. Google Ads operates on a pay-per-click model where advertisers bid on keywords to display ads. The organic search algorithm and the paid advertising system operate independently of each other. However, running successful paid campaigns can drive more traffic to website, increase brand visibility and improve click-through rates. These factors can contribute to lower bounce rates and increased time on site, which are considered positive signals by search engines.

4. Analysis

The necessity Meta-analysis of categorizing and mapping of factors of search engine optimization based on the complex and diverse nature of them and strategies that contribute to a website's ranking in search engine results. A Meta-analysis categorization provides a structured framework for understanding, organizing and prioritizing SEO factors, ultimately facilitating a more comprehensive and strategic SEO implementation. Moreover categorization in SEO is the sheer volume of elements that influence a website's search engine performance. From on-page factors like content quality and keyword optimization to off-page considerations such as backlinks and social signals, there is vast field and interconnected. Not only for scientists but also by categorizing these factors, SEO professionals like digital marketers and web developers can break down the complexity into manageable sections, allowing for more focused and targeted optimization approach. Moreover enables a systematic analysis of a website's strengths and weaknesses across different dimensions. By categorizing these elements, SEO practitioners can conduct a structured audit, identifying specific areas for improvement and tailoring strategies to achieve challenges within each category. The way SEO factors are categorized serves to align efforts with specific aspects of a website's performance and online presence. This categorization is not only about creating lists but is a strategic approach to optimize various facets of a website for search engines. Each category addresses a particular field within the SEO tactics, aiming for a holistic impact on a site's visibility, relevance and user experience. It ensures that diverse elements, such as content quality, technical aspects and external signals, are considered and optimized systematically, ultimately contributing to a website's overall success in search engine rankings and user engagement. Not all factors have equal impact and their significance may vary depending on website's goals, industry and target audience. Crucial aspect of categorization of factors is its role in communication and collaboration within SEO teams or between SEO professionals and other stakeholders and between scientist of marketing and web development. Different teams or specialists may be responsible for distinct categories of SEO factors and also researchers could focus better on a specific category. It enables teams to work collaboratively while maintaining a clear understanding of their specific focus areas. Furthermore, categorization facilitates targeted training and skill development. SEO professionals often specialize in specific areas, such as technical SEO or content optimization. Categorization allows individuals to deepen their expertise in particular segments of SEO, fostering specialization and mastery. This is particularly important in an evolving field where staying updated and becoming an expert in specific categories can significantly impact the success of SEO efforts. Additionally in the context of analytics and reporting, categorization simplifies performance assessment. Metrics

related to each category can be tracked independently, providing a clear report of how specific optimization progress efforts contribute to overall website ranking on search engines results. Based on the above all SEO factors that have been reviewed fall into one of the following categories, namely, SEO are On-page, Off-page, On-site technical, Optimized user experience, Online content and Organic local factors.

- a) On-Page SEO. On-page search engine optimization, refers to the practice of optimizing individual web pages to enhance their visibility in search engine results and improve their overall performance. This optimization is implemented directly on each webpage, involving specific elements (Table 1).
- b) Off-page SEO. External factors affect ranking of websites on search engines and involves techniques and tactics beyond website itself. Effective off-page SEO factors (Table 2) enhances a website credibility based on other reputable websites.
- c) On-Site Technical SEO. Technical SEO which is often referred as On-Site SEO, involves and optimize entire website infrastructure and backend factors (Table 3) to enhance search engine ranking and user experience. Technical SEO aims to create a solid foundation for search engines to understand and rank the site effectively.
- d) Optimized User Experience. User Experience SEO factors focus on optimizing a website to provide a seamless and satisfying experience for visitors (Table 4).
- e) Online Content SEO. Content SEO factors optimizing online content to improve its visibility using keywords and creating high-quality and relevant content (Table 5).
- f) Organic Local SEO. Local search engine optimization, focus on factors that optimizing a business's online presence for local, nearby or visitor customers (Table 6). The goal is to improve visibility in local search results when people are looking for products or services.

Table 1: On-Page SEO factors category

Brand domain name
Keyword domain name
Domain name length
Hyphens in domain name
Keywords used
Title tag
Description Metatag
Keywords Metatag
Heading tags
Heading tag Keywords
Url structure
Url Keywords
Url path hyphens
Url path length
Url language
Dynamic Url
Image optimization
Content-Webpage word value
Content-Keyword density & stuffing
Content – Keyword place
Content – Keyword proximity
Content – Secondary Keywords
Content – Keyword phrases
Content – Keyword mistypes
Keywords font sizes & format

Table 2: Off-Page SEO factors category

Domain & social handles match
Direct website visits
Social poof
Backlinks
Backlinks quality (Domain authority)
Inbound link anchor text keyword
Inbound links from similar sites
Backlinks quantity
Do Follow & No follow backlinks?
Age of backlinks
Links directory
Cross linking
Invisible links
Social media signals
Branding
Search engine accounts
Search engine advertising platforms
Advertising on search engines
Reviews (fake reviews)

Table 3: On-site technical SEO factors category

Top level domain
Domain age
Robots tag
Language Metatag
Refresh Metatag
Session url
Internal linking
Duplicate content and canonicalization
Doorways
Redirects
Invisible text
Cloaking
Content share ability
Sitemap XML
Broken links
Footer links
Secure sockets layer
Accelerated mobile pages
Mobile-first design
Schema markup
Cookies stuffing

Table 4: Optimized user experience SEO factors category

Flash and Java website
Voice search
Average session duration
Pages per session
Bounce rate
Website load speed
Server location
Responsive website design
Breadcrumbs
Website accessibility

Table 5: Online content SEO factors category

Poor web design
Multimedia content
Unique content
Content update
Artificial intelligence content
Blog/Vlog Content
Article copywriting
Illegal content

Table 6: Organic local SEO factors category

Local SEO
a. Google My Business
b. Local Citations
c. Local Reviews

5. Results

From the above finding and gathering of all known SEO factors, a map of the main categories of factors of search engine optimization techniques for better ranking on search engine result pages has been formed; We note that some categories include more factors than others. However all categories have impact on ranking of each website or e-shop and should be implemented.

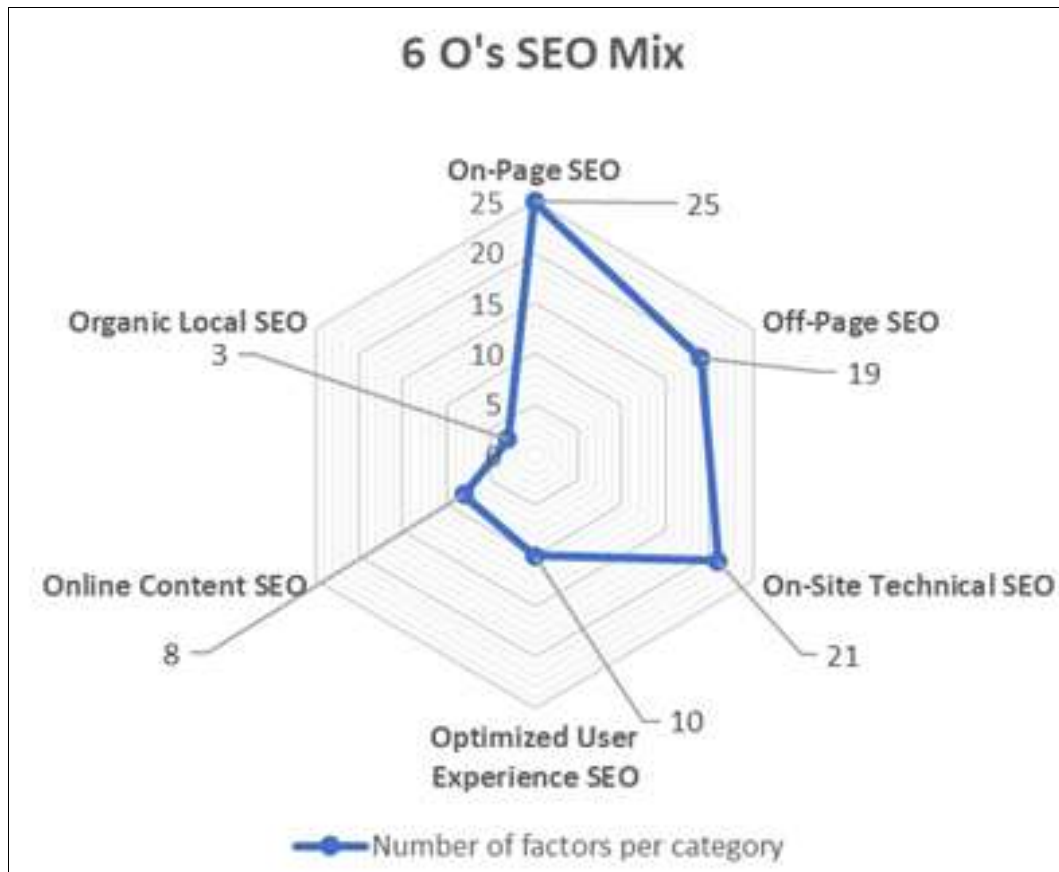
The categories of On-page, Off-page, On-site technical, Optimized user experience, Online content, and Organic local factors consist the components of the SEO mix which creates a comprehensive and effective model, the 6 O’s SEO mix model (Chart 1). Each ‘O’ component includes a SEO category with specific number of factors of website optimization, contributing to a well-rounded strategy.

1. On-page SEO: includes 25 factors, optimizing individual web pages for relevance and user experience.
2. Off-page SEO: includes 19 factors, focus on external signals and influences.
3. On-site Technical SEO: includes 21 factors, encompass the technical aspects of website.
4. Optimized User Experience SEO: includes 10 factors, concentrate on elements that enhance the overall user experience.
5. Online Content SEO: includes 8 factors, involve creating and optimizing content that aligns with user intent, search engine algorithms and industry relevance.
6. Organic Local SEO: includes 3 factors, tailor strategies to improve visibility for local searches.

This 6 O’s SEO mix theory ensures that all critical dimensions of website optimization are addressed. It provides a holistic mapping, balancing technical factors, content quality, external influences and local considerations (Chart 1) and businesses can develop a well-structured SEO strategy that aligns with the nature of search engine algorithms and user expectations.

Chart 1

SEO mix 6 O's model

**6. Discussion for future research**

This research listed and categorized all factors that scientists, marketers and web developers have recorded and found for the implementation of SEO on websites, webpages and e-shops. This research could become an important baseline knowledge for future research for further and deeper expand in order to test the impact and importance of each category or factor on ranking of web pages in search engine result pages.

7. Conclusion

In conclusion, this paper represents an unparalleled advancement in the comprehensive review of SEO factors, categorizing them meticulously and unveiling insights crucial for scientists, digital marketers and web developers, offering a nuanced understanding that surpasses previous analyses and building a new theory framework the 6 'O's SEO mix. Is a comprehensive compendium and complete implementation SEO factors guide and at the same time a comprehensive scientific mapping and categorization of the scattered field of SEO techniques in the context of digital marketing? For marketers, the integration of SEO factors into communication is transformative. The emphasis on on-page SEO factors, such as Meta tags keywords and URL structure, ensures that academic work meets rigorous standards. Off-page SEO factors, including backlinks and social signals, underscore the collaborative nature of academic influence in the digital era. Digital marketers can find a comprehensive guide to crafting strategies that resonate not only for the above categories but also with search engine algorithms and user expectations. Organic local SEO factors, optimized user experience SEO elements

and the crucial role of online content marketing help marketers to tailor campaigns that capture local target groups and provide valuable user experiences. Web developers benefit from the delineation of On-site technical SEO factors, offering precise guidance on site architecture, schema markup and mobile optimization. The user experience SEO insights underscore the interconnectedness of technical efficiency and user satisfaction, guiding developers in creating websites that align seamlessly with both search engine algorithms and user preferences. Nowadays that digital presence is important for business and organizations, this theory not only bridges the gap between scientific rigor, marketing strategy and web development but also categorize SEO factors on a map with precision and innovation.

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