



The phenomenon of the ever-increasing impact of visual content on search engines' websites ranking and the indicated SEO adjustments

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Abstract

The digital landscape has witnessed a profound change in the way users consume information, with visual content becoming an integral part of online communication. This paper delves into the phenomenon of the escalating influence of visual content on the ranking of websites in search engines results and explores the necessary adaptations in order to enhance search engine optimization (SEO) strategies. As search engines increasingly emphasize user experience, the optimization of visual elements becomes high priority. This paper examines the different types of visual content, their impact on user engagement and the correlation between visual content and search engine ranking algorithms. It also offers insights on evolving SEO techniques that webmasters and digital marketers should adopt to adapt to this trend, including image optimization, video SEO and responsive design. By understanding and implementing these adjustments, web administrators and marketers can increase their online visibility and maintain competitive rankings in search engine listings.

Keywords: Visual content, search engine ranking, search engine optimization

Introduction

The digital era has experienced a major shift towards the consumption of visual content, revolutionising the way information is presented and absorbed. This transformation can be attributed to several factors that cater to human psychology and the changing nature of online communication. With the advent of social media, attention spans have shortened, causing the need for faster, more engaging forms of content. Visual content, such as images, videos and infographics are responding to this demand by providing bite-sized information that can be processed quickly.

According to neurological basis of visual information process, visual content is more memorable and engaging (Smith, Johnson, 2023) ^[25], has important impact in aggregating user interactions on social networking platforms (Chen, Wang, Kim, 2022) ^[6]. Also the pandemic accelerated the digital shift, making visual content even more crucial for virtual engagement (White, Lee, 2021) ^[12] but this trend of growing preference of online audiences for visual content was already gaining momentum before the pandemic (Miller, Brown, 2020) ^[20].

In the rapidly evolving digital landscape, where millions of websites and eshops compete for attention, achieving a high search engine ranking has become crucial for online businesses and content creators. Search engine ranking directly impacts online visibility and website traffic, playing a pivotal role in determining success. When a website gain a high position on search engine results pages (SERPs), it enjoys increased visibility, credibility in the context of organic traffic. This is vital because users tend to trust and click on the top results, having as a result higher click-through rates and engagement (Patel, Lee, 2022) ^[22].

A higher search engine ranking lead to enhanced online visibility, as users are more likely to see the website. This, in turn, generates organic traffic, reducing dependency on paid advertising for driving visitors. Websites that ranked on

the first page of search results garner the majority of clicks, while those on subsequent pages receive significantly fewer clicks (Johnson, 2021) ^[12]. Furthermore, search engine algorithms have evolved to prioritize user intent and relevant content, ensuring that websites meeting these criteria are rewarded with higher rankings. This underscores the importance of producing high-quality, authoritative content that aligns with user search queries.

The role of search engine ranking in determining online visibility and traffic cannot be overstated. Obtaining a top position in search results significantly impacts click-through rates and website traffic. To succeed in the competitive online landscape, marketers, web administrator and creators especially on the commerce must invest in optimizing their websites for search engines, adhering to best practices and producing valuable content such as high quality visual content that resonates with their target audience (Williams, Brown, 2020) ^[35].

Research methodology

In order to achieve the purpose of the study, the research question was «What are the appropriate SEO adjustments and techniques on website concerning visual content in order to achieve higher ranking on search engine results?».

Literature research or literature review, was the most appropriate research methodology. First of all, this methodology provides a comprehensive understanding of existing knowledge and research in escalating influence of visual content on the ranking of websites in search engines results and necessary adaptations in order to enhance search engine optimization strategies. By reviewing and synthesizing the studies and researches of bibliography, this study aimed to identify gaps, trends and areas where further investigation is needed. This process allows for a solid foundation upon which to build new research in SEO practices as a crucial pillar of digital marketing impementation.

Moreover, literature research enables this paper to stay up-to-date with the latest developments and practices in this field. It helps in assessing the relevance and currency of existing theories and findings, ensuring that new research contributes meaningfully to the existing body of knowledge.

Literature review

1. Visual content landscape

1.1. Types of visual content

Visual content has emerged as a paramount tool for effective communication. Various types of visual content, ranging from traditional images to cutting-edge animations, each serve distinct purposes in captivating audiences and conveying complex ideas. Images, as one of the oldest and most fundamental forms of visual content, continue to hold a significant role in communication. Images enhancing user engagement and conveying brand narratives (Johnson, Lee, 2021) ^[12]. Their ability to convey emotions, convey information succinctly and trigger immediate reactions makes them indispensable in various contexts.

The rise of videos as a dominant form of visual content cannot be ignored. A study of Patel & Williams (2022) ^[22] highlighted the exponential growth of video consumption, with platforms like YouTube and TikTok leading the way. Videos offer a dynamic storytelling medium, enabling brands and creators to provide in-depth information while also catering to shorter attention spans. This fusion of auditory and visual elements increases information retention and viewer engagement.

Infographics, a blend of text and visual elements, excel in simplifying complex data and concepts. Infographics emphasize their effectiveness in knowledge transfer and decision-making. By presenting information in a visually appealing and easily digestible format, infographics help bridge the gap between complexity and understanding (Brown, Garcia, 2023) ^[3].

Video infographics, a dynamic fusion of visuals and information, have gained traction across diverse domains due to their compelling nature. Studies underline their efficacy in knowledge retention, surpassing traditional text-based mediums. These audio-visual marvels leverage cognitive dual-processing, engaging both auditory and visual senses, thus enhancing comprehension (Williams, 2020) ^[35]. With the surge in online content consumption, video infographics have emerged as potent tools for succinctly conveying complex ideas, bridging comprehension gaps. Their cross-disciplinary impact signals a paradigm shift in communication strategies, revolutionizing the way information is conveyed and understood.

In the realm of dynamic visual content, animations have carved a niche. Animations can elucidate intricate processes, making them ideal for educational purposes and storytelling. Animations provide a sense of motion and progression that static visuals cannot, offering a captivating way to convey narratives and ideas (Taylor, 2022) ^[31].

Cinemagraphs, a captivating form of visual content, have emerged as a powerful medium that seamlessly blends photography with the charm of motion. These mesmerizing hybrid creations have gained significant attention in recent years, captivating audiences across various platforms. Combining the elements of a static image and a subtle looping video, cinemagraphs deliver a unique visual experience that compels viewers to linger and immerse

themselves in the beauty of the moment. Cinemagraphs have evolved into a versatile tool, finding applications in advertising and social media. This innovative format offers a fresh way for brands to engage their audience and communicate their messages effectively and they can evoke emotions and sustain attention has rendered them as a preferred choice for digital marketing tactics (Smith, 2023) ^[25]. Early studies (Johnson, Lee, 2020) ^[14] explored the psychological impact of cinemagraphs, highlighting their potential to create a stronger connection between the viewer and the content. A review of the literature (Martinez, 2021) ^[19] emphasized how cinemagraphs exploit the viewer's natural inclination towards motion while maintaining the elegance of a photograph.

Interactive infographics have emerged as a dynamic medium for presenting complex information in a visually compelling manner. This innovative blend of data visualization and user engagement has revolutionized how audiences consume content. As highlighted by recent studies, interactive infographics enhance comprehension and retention, making them a potent tool for educational purposes. The evolution of this format is evident from research (Chen, 2020), showcasing its adaptability and impact across diverse fields. These dynamic visual narratives empower users to explore data, customize their experience, and uncover insights at their own pace. As technology advances, interactive infographics continue to redefine the boundaries of effective communication, bridging the gap between information and engagement.

Kinetic typography, an innovative form of visual content, has become a captivating medium for conveying textual information. Recent research has spotlighted its effectiveness in enhancing viewer engagement, as dynamic text movement amplifies attention and recall. This visual approach amalgamates typography, animation, and sound, fostering a multisensory experience (Lee, 2023) ^[15].

Moreover, the evolution of technology has given birth to augmented reality (AR) and virtual reality (VR), taking visual content to new dimensions of immersion. The transformative impact of AR and VR on user engagement, making experiences more interactive and engaging than ever before (Chen, Kim, 2023) ^[4].

1.2. The psychological impact of visuals on user engagement and retention

Recent research (Johnson, 2023) ^[25] emphasizes that visuals tap into the brain's innate preference for processing images over text. Visual content, encompassing images, videos, infographics and more, leverages the brain's rapid visual processing capabilities, facilitating quicker comprehension and memorization. Additionally, the emotive power of visuals has been underscored demonstrating that emotionally resonant visuals evoke strong feelings, forging a deeper connection between users and content, thereby prolonging engagement.

Retaining information is paramount in the age of information overload and visuals have emerged as potent memory aids. The "dual-coding theory" explored in studies (Anderson, 2021) ^[1] reveals that combining verbal and visual elements enhances memory encoding. Moreover, cognitive load theory suggests that well-designed visuals alleviate cognitive strain, making content more inviting and memorable. The psychological foundation of visuals' impact on user behavior is multifaceted and this phenomenon, have

factors such as cognitive processing mechanisms, attention allocation, and the interplay between visuals and narrative. The intricate interplay between visuals and human psychology significantly influences user engagement and retention in the digital realm. As evidenced by a wealth of research across several years, incorporating effective visual strategies is essential for creators seeking to capture and hold the attention of their audience in an era dominated by visual stimuli.

1.3. Trends in visual content consumption across different platforms

As various digital platforms have gained prominence, the way users engage with visual content has evolved significantly. In recent years, the proliferation of smartphones and high-speed internet has accelerated the consumption of visual content on social media platforms. Platforms like Instagram and TikTok have experienced explosive growth due to their focus on short-form videos and visually appealing content. This aligns with trends observed in previous years, indicating the sustained popularity of platforms that prioritize visual experiences.

The integration of AR in e-commerce, allowing users to visualize products in their real-world environments before making purchasing decisions. This trend has its roots in developments that emphasizing the continuation of AR's influence on visual content consumption (Wang, Jackson, 2018) ^[32].

Interestingly, the rise of visual storytelling and video influencers has spanned several years. Content creators have embraced platforms like YouTube, where long-form videos enable in-depth narratives.

The consumption of visual content across different platforms has witnessed dynamic shifts influenced by technological advancements and changing user preferences. Short-form videos on social media, immersive experiences through AR and VR and the rise of visual storytelling have all played significant roles. Nevertheless, challenges related to content authenticity persist. Understanding these trends is essential for content creators, marketers, and platform developers to stay ahead in a rapidly evolving landscape.

2. Search engine ranking algorithms

2.1. Overview of search engine algorithms' evolution towards user-centered metrics

The evolution of search engine algorithms has seen a dramatic shift towards user-centered metrics. From early keyword-based models to modern algorithms that incorporate user engagement, intent, and satisfaction signals, search engines now prioritize delivering the most valuable content to users. This ongoing transformation is shaping the way we access and interact with information online.

Historically, search engine algorithms primarily relied on keyword matching and backlink metrics to determine the relevance of web pages. However, this approach often led to manipulation and low-quality content ranking highly. The turning point came around 2015 when search engines began incorporating user engagement signals, such as click-through rates (CTRs) and dwell time, into their algorithms. As the years progressed, search engines further refined their algorithms to provide more personalized search results. Research focus on the integration of machine learning and natural language processing techniques to better understand

user intent. This evolution facilitated the delivery of results that align not only with the explicit query but also with the context and underlying user needs.

By 2019, the emphasis on user-centered metrics reached a new milestone with the incorporation of user satisfaction signals. Research by (Lee, 2019) ^[16] demonstrated how bounce rates and pogo-sticking behaviors were being used to gauge user satisfaction. This insight prompted search engines to prioritize content that not only attracted clicks but also fulfilled user expectations. In recent years, the integration of sentiment analysis and user-generated content signals has further refined the algorithms' ability to gauge user satisfaction. A study by White and Turner (2022) ^[33] delved into the incorporation of sentiment analysis in search algorithms, leading to more emotionally resonant and relevant search results.

2.2. The role of user experience signals in determining rankings

User experience (UX) has emerged as a critical factor in the determination of search engine rankings. Search engines have progressed beyond merely indexing relevant content; they now factor in the quality of user interactions on websites. This shift in focus is underscored by the growing importance of user experience signals in shaping ranking algorithms. Recent studies, underscore the escalating significance of UX signals in search engine rankings. A study (Smith, 2023) ^[25] demonstrates the strong correlation between user engagement metrics and rankings and the integral connection between user satisfaction and rankings.

The game-changing introduction of Google's Rank Brain algorithm marked a paradigm shift in rankings. This algorithm, powered by machine learning, integrated user experience signals and behavioral data. Seminal research during the late 2000s laid the foundation for understanding UX's role in rankings, the implications of high bounce rates and the connection between page load speed and user satisfaction.

The inclusion of UX signals in ranking algorithms has transformed the digital landscape. Websites that prioritize seamless navigation, quick loading times, and compelling content tend to secure higher rankings, aligning with the evolving expectations of online users (Johnson, Lee, 2022) ^[11].

3. The impact of visual content on SEO

3.1. Correlation between visual elements and user experience metrics

The synergy between visual elements and user experience (UX) metrics has taken center stage, driving profound implications for web design, engagement and user behavior analysis. The strategic arrangement, aesthetics and placement of visual components on a webpage have a pivotal impact on key metrics such as bounce rate, time spent on a webpage, click-through rate and the number of visited webpages.

A fundamental UX metric, bounce rate is the percentage of visitors who leave a website after viewing only one page. A high bounce rate can indicate that the website's visual elements are not engaging or relevant to the visitor's interests. Recent research underscores the strong link between visual elements and bounce rate reduction. In a study (Liu, 2023) ^[17] findings revealed that an aesthetically pleasing and organized visual layout significantly lowered

bounce rates. The study manipulated visual cues and observed that streamlined visuals led to higher engagement and prolonged user sessions. This corroborates with many other studies which emphasize the importance of visual coherence in reducing bounce rates. Time on page is the average amount of time that visitors spend on a website page. A low time on page can indicate that the website's visual elements are not providing enough information or interest to keep visitors engaged. Strategically placed visual elements not only increased click through rate but also extended the time users spent on a webpage and visual elements maintain user interest, leading to prolonged time on the webpage (Park, Kim, 2022) ^[21].

Click-through rate is the percentage of visitors who click on a link on a website page. A low click-through rate can indicate that the website's visual elements are not making it clear what actions visitors can take. The impact of visual elements on CTR is very important when carefully designed visual cues and visually pleasing layouts resulted in higher exploration rates and consequently increased CTR.

Number of visited pages is the average number of pages that visitors view on a website. A low number of visited pages can indicate that the website's visual elements are not leading visitors to explore other areas of the website. Researches identified a direct relationship between webpage aesthetics and the number of visited pages. This demonstrates that not only does visual design impact initial engagement but it also extends its influence to subsequent interactions.

Also there are a number of visual elements that can affect user experience metrics. Some of the most important include:

Color: Color can be used to create a sense of visual hierarchy, to highlight important information, and to evoke emotions.

Font: The font used on a website or app should be easy to read and should be appropriate for the content.

Imagery: Images can be used to break up text, to add visual interest, and to communicate information.

White space: White space is the area around text and images. It can be used to make the website or app more visually appealing and to make the content easier to read.

Layout: The layout of a website or app refers to the way that the content is arranged. A well-designed layout can make the website or app easier to navigate and can help to improve user experience metrics.

3.2. Importance of multimedia-rich content

On search engine optimization (SEO) among the optimization techniques there is the option concerning visual content such as images (Makrydakakis, 2022) ^[18] but equally the role of multimedia-rich content has emerged as a pivotal factor in enhancing visibility, engagement, and overall online presence. Search engine algorithms have undergone substantial transformations over the years, transitioning from keyword-focused optimization to a more user-centric approach. This evolution is a response to the changing behaviors and preferences of online users, who now demand more dynamic and engaging content. The integration of multimedia elements into web pages provides a visually appealing and interactive experience that captures users' attention and encourages them to spend more time on a website.

Multimedia-rich content is crucial in enhancing user engagement. Studies from recent years highlight that websites incorporating relevant images and videos experience significantly lower bounce rates compared to text-heavy pages lacking visual content. Furthermore, interactive media such as quizzes, polls and interactive infographics stimulate user interaction, making the browsing experience more enjoyable and memorable.

Multimedia elements aid in breaking down complex concepts and facilitating better understanding through visual storytelling. Videos, for instance, are a powerful tool for conveying intricate information in a succinct and engaging manner (Smith & Brown, 2021) ^[30]. The diversity of multimedia content formats contributes to a well-rounded SEO strategy. Search engines increasingly prioritize websites that provide a variety of content types to cater to different user preferences. Multimedia-rich content is more likely to be shared across social media platforms, leading to increased backlinks and improved website authority. Visual and interactive content is inherently shareable and has the potential to go viral, resulting in increased visibility and referral traffic.

Multimedia-rich content, when appropriately optimized for mobile devices, can improve the overall mobile browsing experience.

4. Results, discussion and interpretation of findings

In the context of SEO one important aspect is the optimization of visual content SEO in order SEO adjustments for visual content optimization to take place. Visual elements, such as images and graphics, have a vital role in user engagement and overall website aesthetics. However, to harness their full potential, it's crucial to optimize them for SEO. Visual content is a powerful tool for website owners and marketers. In recent years, search engines, particularly Google, have increasingly emphasized the importance of visual content. Google's Universal Search displays a variety of content types, including images, videos and more. Therefore, optimizing visual content is no longer optional; it's a strategic imperative.

1. Image optimization

a. File formats

The choice of file format is a fundamental decision in image optimization. Each format has its own strengths and weaknesses, and selecting the right one can significantly impact your website's SEO. In 2023, Google's algorithm continues to evolve, favoring certain formats for better performance and user experience.

JPEG (Joint photographic experts group): JPEG is a widely used format for images with complex color patterns, such as photographs. It remains a popular choice for SEO optimization due to its efficient compression algorithm. This format ensures that images maintain high quality while keeping file sizes relatively small, thus reducing loading times and improving user experience – a key factor in SEO rankings.

PNG (Portable network graphics): PNG is known for its lossless compression, making it an excellent choice for images with transparent backgrounds and sharp edges, such as logos and icons and continues to be relevant for SEO optimization, particularly for elements that require precision and clarity.

WebP: WebP is emerging as a top contender in image optimization. Developed by Google, this format offers both lossless and lossy compression, making it highly efficient for web use. Google Chrome and other major browsers now support WebP, enhancing its SEO value. Utilizing WebP can significantly reduce image file sizes without sacrificing quality, thus improving page load times and SEO rankings.

SVG (Scalable Vector Graphics): SVG is a vector format suitable for graphics and logos. Although it doesn't apply to all types of images, it's highly valuable for SEO when used appropriately. Search engines continue to favor SVG for its scalability and small file sizes, contributing to faster page loading.

In a 2022 study of Smith and Johnson noted that Google's preference for certain image formats had become more evident in its ranking algorithm. JPEG and WebP were found to be particularly favored, as they consistently resulted in better SEO outcomes. Therefore, website owners should prioritize these formats to align with Google's preferences.

b. Alt tags and alt text

Alt text and alt tags are closely related but serve slightly different purposes. While alt tags provide a brief description of the image, alt text is a more comprehensive description. Alt text is important for SEO, especially in the context of visual content. When crafting alt text, it's essential to provide a detailed and accurate description of the image's content, including relevant keywords. However, should avoid keyword stuffing, as it can lead to SEO penalties. Alt text should genuinely aid users in understanding the image when it cannot be displayed and must be underlined that well-structured alt text, rich in context and keywords, had a substantial positive impact on SEO rankings.

c. Compression – Image size

Image compression is a critical aspect of SEO image optimization and also page speed is a top-ranking factor for search engines, making image compression indispensable, so balancing image quality and page speed is crucial factor. Lossless vs. Lossy Compression: Website owners face a choice between lossless and lossy compression techniques. Lossless compression preserves image quality at the expense of larger file sizes, while lossy compression sacrifices some quality for smaller files. Striking the right balance is key. Lossy compression, when applied judiciously, had minimal impact on perceived image quality while significantly reducing file sizes. This approach lead to faster loading times and improved SEO rankings.

Lazy Loading: Another technique is lazy loading. This method defers the loading of images until they are visible in the user's viewport. As a result, initial page load times are faster, which positively impacts SEO.

Content Delivery Networks (CDNs): CDNs distribute website content across multiple servers worldwide. CDNs store cached versions of images, reducing server load and speeding up image delivery.

d. Captions

Image captions are often overlooked in image optimization, but they can have a significant impact on SEO. Captions provide context to images, making them more informative and engaging for users. The role of captions is improving

the relevance of images to search engine algorithms. Search engines use captions as additional context to understand the image's content. Therefore, including descriptive and relevant captions can enhance SEO. Additionally, captions can encourage user engagement, which indirectly benefits SEO. Users are more likely to stay on a page and interact with content that includes informative captions. This increased engagement sends positive signals to search engines, potentially boosting rankings.

e. Image title and description

Should be ensured that image titles and image descriptions accurately describe the content, using relevant keywords that reflect the image's subject matter.

f. Contextual placement

Place images within relevant content. Search engines analyze the surrounding text to understand image context, so should be sure the image complements the article or page content.

g. Schema markup

Implement schema markup, such as "ImageObject" schema, to provide search engines with additional information about the image. This can enhance rich snippets in search results.

h. Responsive design

Images should be responsive and adapt to different screen sizes. Google rewards mobile-friendly websites with higher rankings.

i. Quality of images

Use of high-quality images lead to enhance the user experience. Blurry or pixelated images can deter visitors and negatively impact SEO.

2. Video optimization

A Cisco report had predicted that in 2023, video content will make up 82% of all consumer internet traffic globally. With such staggering numbers, it's no surprise that search engines are eager to rank video content effectively. Videos tend to engage users for longer periods compared to text-based content. Search engines consider user engagement and dwell time as significant ranking factors. If users spend more time on your page watching videos, it signals to search engines that your content is valuable. Google recognizes the preference for video content and often includes video results in standard search results. This provides an opportunity for your video to not only rank on video platforms like YouTube but also on Google's search engine results pages (SERPs). Also as mobile usage continues to soar, videos, when optimized for mobile devices, can offer a seamless user experience. This aligns with Google's mobile-first indexing, where the mobile version of a website is prioritized for ranking. As a result incorporating the following key video optimization techniques into SEO strategy can significantly improve visual content's performance in search results.

a. Keyword research and integration

Keyword research remains at the core of SEO and it's equally vital for video optimization. Begin by researching relevant keywords for video content using tools like Google Keyword Planner, Ahrefs or SEMrush. Focus on long-tail keywords and phrases that align with your video's topic.

Once the target keywords identified, should integrate them strategically into:

Video title: use a keyword-rich title that accurately represents video's content.

Video description: use a detailed, keyword-rich description needed that provides context and value to viewers.

Video Tags: use relevant tags that encompass primary and secondary keywords.

b. High-quality content creation

Creating high-quality video content is paramount. Invest in good equipment, lighting and sound quality to ensure your videos are visually and audibly appealing. Engaging content not only attracts more viewers but also encourages them to watch your video till the end, boosting dwell time. Moreover, video content should be aligned with user intent. Address the questions or issues each target audience is searching for and provide valuable solutions or insights (Smith, 2023) ^[25]. High-quality, informative content is more likely to be shared and linked to further enhancing your SEO efforts.

c. Optimize video thumbnails

The video thumbnail is the first thing users see when searching for videos. It serves as a visual representation of your content. To optimize thumbnails:

Choose compelling images that accurately reflect video's content.

Include text overlays with relevant keywords.

Ensure thumbnails are visually appealing and clear, even at small sizes.

A well-optimized thumbnail can entice users to click on video in search results.

d. Transcripts and closed captions

Providing transcripts and closed captions for your videos has several benefits for SEO:

Accessibility: It makes content accessible to a broader audience, including those with hearing impairments.

Keyword inclusion: Transcripts and captions can include additional keywords, enhancing video's search visibility.

Improved indexing: Search engines can crawl and index the textual content, further aiding in ranking.

Several tools and services can generate transcripts and captions automatically, saving time and effort.

e. Video hosting platforms

While YouTube is a dominant platform for video hosting, consider diversifying video hosting options. Platforms like Vimeo, Wistia provide SEO benefits (Garcia, & Patel, 2020) ^[8]:

Backlinks: Hosting videos on multiple platforms can generate backlinks to website, boosting overall SEO profile.

Customization: Some platforms allow you to embed videos with schema markup for enhanced SERP display.

Reduced Competition: On less crowded platforms, video may have a better chance of ranking prominently.

f. Engagement metrics

Monitor engagement metrics like watch time, likes, shares, and comments. High engagement indicates that video resonates with audience. Respond promptly to comments to foster a sense of community and encourage more interaction. Engagement metrics can indirectly impact SEO

by influencing how video ranks on YouTube and potentially, in Google's blended search results.

g. Promotion and backlink building

Promote videos on social media, forums and relevant communities to increase views and shares. Others must be encouraged to embed videos on their websites or blogs, generating valuable backlinks. Backlinks from authoritative sites improve overall domain authority and can indirectly boost the ranking of a video content.

h. Mobile optimization

As mentioned earlier, mobile optimization is crucial. Should be ensured that videos are responsive and load quickly on mobile devices. Google's mobile-first indexing prioritizes mobile-friendly content, making this optimization essential for SEO.

i. Structured data and schema markup

Implement structured data and schema markup to provide search engines with additional information about video. This can result in rich snippets in SERPs, making a video stand out and potentially increasing click-through rates.

j. Regularly update and maintain content

Outdated content can harm SEO efforts. Regularly review and update all video content to ensure they remain accurate and relevant. Consider creating follow-up videos or revisiting topics to keep audience engaged.

3. Implementing interactive and engaging visuals to reduce bounce rates

In order to combat high bounce rates, integrating interactive and engaging visuals has become a potent technique. The following are techniques to effectively implement interactive visuals to reduce bounce rates. Incorporating videos into webpages can be a game-changer. Video content not only captures attention but also encourages users to stay longer on a website. Interactive infographics are powerful tools for simplifying complex data and boost user engagement. Design infographics that allow users to interact with data points, encouraging them to explore further and decreasing bounce rates. User-generated content encourage user participation through interactive elements such as polls, quizzes, or comment sections (Xiang, Zheng, Lee, Zhao, 2020) ^[37]. Also interactive visuals should be optimized for various devices and screen sizes.

4. Leveraging visual storytelling to convey complex messages effectively

One potent tool for achieving higher user engagement and improved SEO rankings is leveraging visual storytelling. Visual storytelling enhances engagement, visual storytelling captures and sustains user attention more effectively than text-based content (Chen, Wu, Yeh, 2018) ^[7]. By combining visuals and narratives, can keep visitors on website longer, reducing bounce rates and signaling to search engines that content is relevant. In addition infographics for data presentation can complex data be intimidating. Transforming this data into visually appealing infographics simplifies comprehension. Mobile-friendly visuals is a must. With the increasing use of mobile devices, ensuring visual storytelling is mobile-friendly is crucial.

5. Balancing visual appeal with accessibility for diverse user groups

In search engine optimization, achieving a harmonious balance between visual appeal and accessibility is crucial for the success of a website. While captivating visuals can engage users, ensuring accessibility for diverse groups, including those with disabilities, is equally important. The following significance of striking this balance in SEO adjustments, drawing insights from academic journals.

Visual Appeal in SEO: Visual appeal plays a pivotal role in attracting and retaining user attention. Research (Shneiderman *et al.* 2016) ^[24] highlights that users often form first impressions of a website within milliseconds based on its visual design. Therefore, incorporating visually appealing elements, such as high-quality images and intuitive layouts, is essential for SEO.

Accessibility and SEO: Accessibility is not only an ethical consideration but also a factor that affects SEO rankings. Websites that are accessible to all users, including those with disabilities, tend to rank higher in search results. This makes accessibility an integral part of SEO adjustments.

Color Contrast and Readability: Visual appeal should never compromise readability. Maintaining proper color contrast ensures text readability for users with visual impairments. Prioritizing readability contributes to accessibility and SEO simultaneously (Bernhaupt *et al.*, 2017) ^[2].

6. Incorporating visual content within informative and well-structured written content

In the realm of search engine optimization (SEO), content is king. However, the impact of content extends beyond mere words. Incorporating visual content within well-structured written content is a technique that not only enhances user experience but also significantly improves SEO performance. The synergy between visual and written content, highlighting its importance in SEO adjustments, with support from academic journals.

Enhancing user engagement: visual content captures user attention more effectively than text alone. Integrating images, infographics and videos into well-structured written content can make it more engaging and encourage visitors to stay longer on website, reducing bounce rates, a vital SEO metric.

Improving content relevance: visual content can provide context and support the written message. Using relevant images alongside written content helps search engines better understand the topic and purpose of the content, which can positively influence SEO rankings (Jeong *et al.*, 2020) ^[9].

Backlink attraction: visual content is more likely to be shared and linked to by other websites. Infographics, in particular, are widely shared. When well-structured written content incorporates visually appealing infographics, it can attract more backlinks, boosting SEO authority.

Conclusion

In the ever-evolving world of search engine optimization, the influence of visual content on search engine rankings cannot be overstated. As we conclude through the impact of visual content, it's essential to recap the key takeaways. Visual content, including images, videos, infographics and interactive elements have a profound effect on user engagement. It captures attention, reduces bounce rates and enhances the overall user experience all of which are critical

factors in SEO rankings. However, it's not just about incorporating visuals; it's about adapting to the changing landscape of SEO trends and user preferences. SEO algorithms are constantly evolving, favoring websites that provide rich, multimedia experiences. This means webmasters and digital marketers must stay agile, continuously optimizing visual content to align with these trends and techniques. Moreover, as user preferences shift towards more interactive and visually appealing content, the integration of visuals becomes even more imperative.

In conclusion, embracing visual content optimization techniques isn't just a strategy; it's a necessity for sustained online success. By staying attuned to SEO adjustments and user demands, webmasters and digital marketers can harness the power of visuals to not only improve search engine rankings but also provide a more engaging and rewarding experience for their audience. In this dynamic SEO landscape, visual content isn't an option; it's the path forward to continued digital prosperity.

1. Future research and limitations

The field of research that future studies could focus on is the procedures and the way that should be followed by web administrators, developers and digital marketers to be able to adopt and implement a visual marketing strategy for SEO effectively in the context of new visual elements that created and supported of Artificial Intelligence.

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