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by

Submitted in Partial Fulfillment of the Requirements for the Degree of Master of

at

Lindenwood University

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A BEST PRACTICES GUIDE FOR THE WEB DESIGNER UTILIZING SEARCH ENGINE OPTIMIZATION AND SOCIAL MEDIA OPTIMIZATION

A Thesis Submitted to the Faculty of the Art and Design Department in Partial Fulfillment of the Requirements for the Degree of Master of Arts at Lindenwood University

By

Kimberlie Ann Nash

Saint Charles, Missouri

December 2020

ABSTRACT

Title of Thesis: A Best Practices Guide for the Web Designer Utilizing Search Engine Optimization and Social Media Optimization

Kimberlie Nash, Master of Arts/Digital and Web Design, 2020

Thesis Directed by: Dr. Jason Dude Lively, PhD, Dean of the School of Arts, Media, & Communications

Today, searching on the Internet is a common everyday occurrence, and behind the scenes, search engines go to work finding websites based on keywords. This project focuses on the different methods applied within Search Engine Optimization (SEO) and Social Media Optimization (SMO) and how they can benefit a web designer. The purpose of this study is to identify the best practices for a web designer utilizing SEO and SMO. This research is a blend of qualitative and quantitative methods, with the primary focus as a customized survey questionnaire designed to extract a list of best practices from the various SEO and SMO fundamentals. The survey was distributed to a random sampling of 103 technology-related respondents through Amazon Turk (MTurk). The analyzed results are discussed in this study. This directed project aims to produce two main components: a best practices guide for the web designer, and an accompanying website. Therefore, this project report compiles the SEO and SMO survey results to be pragmatic for a web designer. The implications for the theory and practice are provided, especially the best practices for the web designer utilizing search engine optimization and social media optimization. The list consists of nine fundamental best practices obtained from the customized survey. If web designers learn these best practices in search engine optimization and social media optimization, they are more marketable and better equipped to succeed in an extremely competitive industry.

Keywords: search engine optimization, social media optimization, web designer, websites

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Introduction

Search engines perform one of the most important functions in the tech sector today — searching. They find people, places, and things. Search engines achieve this by finding websites that fit the search criteria based on the keywords entered. Search Engine Optimization (SEO) is a particular field that has been recently gaining momentum and provides the tools for websites to be found at the top of the Search Engine Results Page (SERP) (Pohjanen, 2019; Wahba & Barhoom, 2019; Zhang & Cabage, 2017). Search engines manage 93% of Internet traffic, and this number is continuing to grow each year (Lemos & Joshi, 2017). Searching on the Internet continues to gain strength as social media becomes one of the more popular forms of communication (Hill, 2017), creating a need for Social Media Optimization (SMO).

Additionally, Wahba and Barhoom (2019) confirm that an increasing number of websites, along with an incredible volume of webpages, are waiting to be found by search engines.

Therefore, this is an opportunity for the web designer to join in on the growth SEO and SMO are currently experiencing to learn the skills that can place them in a more marketable and better-equipped position to succeed in an extremely competitive industry. The growth and reality of "searching" are worthy of investigating. The goal of this project is to investigate various SEO and SMO fundamentals. This study is a blend of quantitative and qualitative research, which utilizes a custom-designed survey on SEO and SMO. This empirical research's main contribution is to find what top fundamentals from SEO and SMO are best suited to benefit the web designer. The result is a comprehensive list of best practices from the customized survey questionnaire to aid a web designer.

With the web page's performance interwoven with the search engine, the researcher proposes establishing a connection between web designers, SEO, and SMO. SEO is a field

gaining momentum utilizing industry-specific tools and analytics to position websites at the top of the SERPs (Pohjanen, 2019; Wahba & Barhoom, 2019; Zhang & Cabage, 2017). Therefore, the challenge is to create a bridge for the web designer that leads to SEO and SMO. The research included in this project report produces the framework necessary to develop an innovative best practices guide for web designers utilizing SEO and SMO to help start building this bridge. This project is also available on a live website that includes the findings of this study to help inform the web design community and others interested in learning more about SEO and SMO.

Implementing SEO and SMO into a website is vital as the world becomes more digitized (Giomelakis & Veglis, 2019). As optimization gains popularity among clients, increased knowledge in SEO and SMO becomes more significant, thus encouraging web designers to expand into these areas. This research led to discovering many peer-reviewed SEO and SMO strategies, which would benefit a designer's skill set. Many of these strategies have proven to enhance web designs throughout various studies, giving credence for web designers to learn SEO and SMO. An opportunity for cross-training serves the web design profession as well as the SEO and SMO experts to create an overall better workflow and end product for clients. If web designers learn these best practices in search engine optimization and social media optimization, they are more marketable and better equipped to succeed in an extremely competitive industry.

Background

Historically, the approach to finding information pre-Internet was to "let ones fingers do the walking" through the Yellow Pages or dig through thick encyclopedias. This process was not always successful or the most efficient use of time, and it also meant spending extra time on the phone to find out additional information or ask questions. Fast forward to the time when the Internet finally made it into the consumer's hands, and searching by letting "ones fingers do the

walking" became a thing of the distant past. An individual can practically live in a global world with no boundaries separating them through their virtual-filled existence. In the digital realm, changes are occurring quicker than any other method ever known before..

Back in 1990, Alan Emtage, a student at McGill University, was credited for turning his simple idea into a "tool for searching the Internet" (Abuein et al., 2018, p. 17559). Emtage created this application named Archie to have a "searchable database of file names from the Internet" (Abuein et al., 2018, p. 17559). Emtage's idea took off from there, and others were inspired to improve on his design. Fast forward to 1998, when two of the most significant individual contributors to the world of search engines, according to Mor et al. (2018), Larry Page and Sergey Brin introduced Google as a "prototype of a large-scale" search engine, while attending Stanford University for their graduate studies (p. 187). Brin and Page foresaw that the existing search engines would not be prepared to handle the increasing number of web pages, so they reached their goal to "produce much more satisfying search results than [the] existing system by crawling the web efficiently" (Mor et al., 2018, p. 187).

Today, a user can select from various search engines while on the World Wide Web 2.0 (Giomelakis & Veglis, 2019) with Google continuing to reign as the most popular (Patil & Pawar, 2018). Websites are designed to communicate to others on the World Wide Web, and along with the web's development and growth of search engines, especially over the last decade, there have been significant modifications in web content (Giomelakis & Veglis, 2019). According to Giomelakis and Veglis (2019), after Google took away users' ability to see PageRank due to continually changing its algorithm, it became a guessing game to know how a web page will rank. Therefore, SEO has evolved to become one of the leading players to produce

other methods in place of PageRank to reduce the guesswork when analyzing a website's ranking.

Furthermore, social media optimization is a method that is gaining more exposure as Facebook, Twitter, Instagram, LinkedIn, Pinterest, YouTube, blogging, and other forms of social media grow in popularity (Smith & Anderson, 2018). The research literature illustrates how SMO has important fundamentals available to enhance the web design field. For example, Hill (2017) found that social sharing is the main source where people get their news and where people can author their unique content, sometimes receiving immediate feedback, which equates to "if it is sharable then it is valuable" (p. 353). A few key considerations that Hill (2017) highlights are how the landscape has changed significantly towards digital technology and also how shifting demographics impact the way end-users view websites and utilize social media.

Literature Review

The research for this directed project includes peer-reviewed materials covering subjects on SEO and SMO from within the past three years to support the significance of optimization in the technological field. Peer-reviewed sources on web design and web designers are also included; however, they are few compared to those addressing SEO and SMO. Many studies draw on varied methods to increase website presence and ranking on the search engine results page or SERP (Pohjanen, 2019; Zhang & Cabage, 2017). The literature included in this study supports why SEO and SMO are essential to the areas of technology surrounding them, including the web design profession. The literature review is divided into three main sections to cover the supporting research on SEO and SMO. The first one consists of the research found on search engine optimization. The second part covers social media optimization and the data necessary to

gain perspective on this newer phenomenon. The third part encompasses web design and web designers and how they fit into this research.

Search Engine Optimization

In reviewing the peer-reviewed research that is published on SEO, one of the common threads that can be found is the visibility of the website. Of course, it makes sense that visibility is of the utmost importance because search engines need to be able to find websites on the Internet for them to show up in the search engine results. As mentioned previously, SEO may sound simple, but it is anything but. It is essential, though, to begin by understanding what SEO means. Scholars and researchers define it in many different ways; however, the researchers Lemos and Joshi (2017) define SEO as "typically a set of best practices that [are] adopted by webmasters, web developers and web content producers to achieve a better ranking in search engine scenario" (p. 398). They report that "93% of internet traffic is handled by search engines" (Lemos & Joshi, 2017, p. 398). The researchers include the web team who work behind the scenes and are critical to the process.

Consequentially, the high percentage of internet traffic "handled by search engines" is what inspired Lemos and Joshi (2017) to validate the importance of where a website ranked in the search results (p.398). Lemos and Joshi (2017) argue that SEO improves the ranking of a web page and increases users' opportunity to "view the popular page" found on the SERP (p. 398). Their research examines the SEO process and defines the many different techniques which include keyword analysis, competitive analysis, site traffic analysis, content building, webpage optimization, and social and link building (Lemos & Joshi, 2017). This article supports the argument that web designers should learn SEO fundamentals to enhance communication within development teams. Thus, it speaks to web development teams of webmasters, web developers,

and web content producers who are essential in producing a website. A web designer would add their professionalism and perspective to these industry experts.

Expanding on the different techniques outlined by Lemos and Joshi (2017) as mentioned previously, additional research that correlates by having a solid SEO program in place is also done by Umenhofer (2019) who emphasizes the value of doing a competitive analysis for a small-scale publishing company to determine if SEO has any impact on the business. The researcher argues that businesses that engage in SEO as a company approach can profit from an increase in website traffic. The researcher compares what factors can be attributed to a "successful SEO campaign" (Umenhofer, 2019, p. 258). Through the competitive analysis, three significant factors contribute to a successful SEO campaign: "title tags, metatag descriptions, and keyword usage" (Umenhofer, 2019, p. 258). This research concludes there is a correlation between the increase in web traffic and the increase in sales.

An intriguing phenomenon applicable to search engines is analyzed in the book titled *Invisible Search and Online Search Engines: The Ubiquity of Search in Everyday Life.* The authors, Haider and Sundin (2019), research how search engines are so commonly used that they have become almost invisible. The researchers argue that "with digital tools now permeating most aspects of society, the use of search engines has become integral to everyday life on many levels" (Haider & Sundin, 2019, p.1). Haider and Sundin (2019) used focus groups to conduct their studies and obtain some of the information for their research on online search engines. They dive extensively into the world of search and search engines, as well as the users that conduct searches. They also confirm Google as the dominant search tool used today. Haider and Sundin (2019) conclude that search engines and search are integrated into all levels of life. The

researchers reiterate throughout the book the force that search engines have become and the impact they have on everyday life.

Lastly, some may argue that because technology is developing so quickly, this research may not be relevant. This research is pertinent and is substantiated by the peer-reviewed studies along with the SEO/SMO survey conducted to generate the nine best practices. As previously mentioned by Haider and Sundin (2019), search engines have become interwoven within everyday life and have almost become invisible. Individuals move through their day not consciously thinking about all the searches that they will do that day. They just search without giving it any thought. The mobile phone is the most commonly used vehicle for searches as published by Margea et al. (2017). With the existing structure of the Internet and the way that search engines function, there is a continual need to have processes in place to manage and analyze websites, therefore, ensuring the stability of SEO for now.

Social Media Optimization

In the subsequent peer-reviewed literature, there is a growing trend showing a significant interest in using social media, opening up a new avenue for marketers. Social media optimization has become a strong player on the Internet, especially for websites when vying for the top position on the SERPs page. Rohit Bhargova (2014) is attributed with coming up with the term social media optimization back in 2006, defining it as "a process of optimizing your site/blog to be more visible in social media searches and sites, more easily linked by other sites, and more frequently discussed online in blog posts and other social media" (p. 3). As a result, implementing social media optimization may increase traffic, gaining more exposure to an individual's or business's website.

Additionally, one can see that "Social media and social signals (such as Facebook shares/likes) have increasingly become one of the many factors search engines take seriously into account" (Giomelakis & Veglis, 2019, p. 1794). Thus, this reinforces how social media play an integral part in the fabric of society. In many current scholarly and online sources, there have been a surge in popularity for the use of social media, causing many advertisers to take notice. According to a study by *We Are Social* (2017), the numbers for social media have risen to 2.8 billion worldwide and continue to grow (as cited in Ersoy, 2019, p. 12). It will help to find out who uses social media to understand how it has grown so quickly.

To understand the audience who communicates on social media, a vast collection of research exists (Smith & Anderson, 2018; Perrin & Anderson, 2019). The Pew Research Center, which is renowned for studying social media trends, recently published a Social Media Fact Sheet summarizing qualitative data tracked from 2005 through 2018. This fact sheet tracks real historical data and substantiates how important social media has become in American culture. The study reveals that back in 2005, only 5% of American adults used at least one social media platform compared to the 2019 total that grew to an astonishing 72% of adults (Pew Research Center, 2019). The Social Media Fact Sheet relays that most users visit social media as part of their daily routine, with many visiting more than once and also that "today, around seven-in-ten Americans use social media to connect with one another, engage with news content, share information, and entertain themselves" (Pew Research Center, 2019, p. 1). Consequentially, the numbers show there is a real interest in social media as well as a robust use, emphasizing the importance of SMO.

In addition to the rising numbers shown in recent studies of the majority of Americans using social media, it is fascinating to discover which platforms are the most popular. In the

research published by Smith and Anderson (2018), most Americans use Facebook and YouTube, with mostly the younger adults using Snapchat and Instagram. Facebook was reported as one of the most widely used social media sites among American adults across a wide range of demographic groups. Those surveyed also say they use multiple social platforms (Smith & Anderson, 2018). This data reports the relevant historical and current quantitative data supporting the popularity of social media use, deeming it necessary to find out what attracts and grows viewership to social media and keeps the majority of individuals enthralled.

Hence, the research shows that for attracting and growing viewership, finding meaningful, relevant, and compelling content to share is critical for social media optimization to be successful. There are five principles outlined by Rossmann and Young (2017) which they employ in building community through social media networks that work for any website. The first principle is to Create Sharable Content by creating compelling digital content that online users will access, use, and then share with others. Make Sharing Easy is the second principle and is done by producing great content that is exceptionally easy for people to share and promote others to keep sharing. The third principle is to Reward Engagement by individuals or companies recognizing or responding to users by commenting or liking a post. This action counts the most when using social media to build the community while also establishing trust. The fourth principle is to Proactively Share content by sharing in different ways, including posting videos and embedding content through social networks. Finally, the fifth principle is to Measure Use and Encourage Reuse by allowing others to take the published content and to recreate their version to share (Rossmann & Young, 2017). A few examples would be viral content and memes which are currently trending.

Web Design/Web Designer

Regarding the topics of web design and the web designer, peer-reviewed research on this topic is lacking. Frazier (2018) also found this to be the case and focused an entire dissertation on this topic. A web designer is defined by Frazier (2018) as "one who engages in the aesthetic design of websites through knowing-in-action, has specialized knowledge, and utilizes the activity as web design as their primary mode of interaction with market contexts" (p. 10). Web designers continue to face increasing challenges as the magnitude of searching the Internet and social media is felt throughout digital technology. The following literature supports the web designer and web design field while interlacing some SEO and SMO fundamentals. Current challenges web designers face are the new emerging technologies competing for the next top spot of innovation.

One such innovation holding the top spot in technology is the mobile phone. Research published by Margea et al. (2017) focuses on how this technology impacts web designs and how mobile phones are the primary vehicle for accessing the Internet. As the mobile segment gains more attention due to its rapid growth, Riley Graham Longo (2012) claims that more and more companies "have begun to design websites primarily for mobile access" (as cited in Margea et al., 2017, p. 166). "Mobile First" started gaining popularity as the current trend making the desktop second, and Google already started optimizing for "Mobile First" (Margea et al., 2017, p. 164). The mobile phone is here to stay, and mobile-friendliness is the buzzword in technology guiding the web designer to build responsive websites, assuming they will rank well within the Google search engines.

Another challenge web designers face as websites become more significant due to competition, is keeping visual aesthetics in mind while combining usability during the design

process. Affandy et al. (2018) study this challenge along with many other obstacles designers face when creating a website in today's environment. Affandy et al. (2018) held interviews with web designers, learning that a website acts as a university's "virtual presence," and is the first visual impression (p. 020014-1). The researchers discover if the user's experience is enjoyable while using the website, the "usability" increases. This demonstrates that if a website is easy and logical to navigate through, users are more likely to return (Affandy et al., 2018, p. 020014-1). Thus, this study affirms the importance of website visibility along with emphasizing the web designer's vital role within the web development team.

Similar to Affandy et al. (2018), Palanisamy and Liu (2018) confirm, "website design is always a big challenge" (p.119). However, they propose "structure should be as simple as possible to increase visual effect with some necessities, navigational search, page title, description text and non-text elements such as image are crucial for an effective website" (Palanisamy & Liu, 2018, p. 119). In addition to the SEO fundamentals shared previously by Palanisamy and Liu, researchers Zhang and Cabage, (2017) provide more strategies web designers can begin to incorporate into their knowledge base starting with the "three primary SEO strategies, content, link building, and social sharing" (p. 148). The researchers compare a variety of SEO strategies to test three websites to identify which approaches are the most effective. They argue that websites are missing out on the benefits of a reliable SEO program. Zhang and Cabage (2017) conclude that companies with a good SEO program in place can benefit from increased traffic to their websites. These three essential SEO fundamentals are available methods for web designers to learn and incorporate into their daily operations.

Other research with a common focus such as Affandy et al. (2018) is proposed by Song (2017), who also agrees with the visibility challenges encountered in web design, although takes

an approach from the visual communications aspect. This research discovers how information in the digital format is increasing in popularity, therefore, replacing paper media. Song (2017) examines how the quality of web design impacts the user visiting the website. The author also writes about the reasons it is essential to study visual communication in web design. Song (2017) also discusses the rise in popularity of the Internet, driving the need to create and use high-quality image information. Furthermore, emphasis is placed on the critical nature of the images' aesthetics, including the colors used in website design (Song, 2017). This research reinforces why it is necessary to have quality image representation in web design when creating websites.

Lastly, an essential aspect to manage when designing websites is to accommodate user expectations to enhance their experiences. Heinz et al. (2017) explain how vital it is to know user expectations regarding web navigation. The researchers use three interface elements to determine the impact on the users and then compare the results against a previously conducted study to evaluate if there are any changes in user expectations over time. These three elements are the logo, main content, and navigation area. Heinz et al. (2017) determine when users can find main interface elements on a page where they expect them to be, they are more content with the website. Because this research proves the importance of exceeding users' expectations, users are more likely to return to the website as well as share with others.

Research Methodology

The directed project research was approached by gathering peer-reviewed literature dated within the last three years on search engine optimization and social media optimization to understand the state of the field. The methodology is a blend of qualitative and quantitative data collected from a customized survey questionnaire consisting of open and closed-ended questions. There is a combined total of 11, consisting of nine questions and two sub-questions relating to

SEO and SMO (See Table 1). A populated sampling of several questions from a random survey participant is shown in Figure 1. The selected methods best meet the research goals to obtain the vital data for compiling the directed project's best practices guide and website.

The custom-built survey questionnaire was exclusively designed in Google Forms and was implemented through Amazon Mechanical Turk (MTurk), a platform providing access to a random sampling of survey participants. Amazon's platform allows a link to the Google Forms custom-built survey accessible by the survey respondents. Additionally, MTurk allows the reissuing of questionnaires for those with errors or with incomplete answers. MTurk keeps a live report on the survey's active status, showing the total number of questionnaires issued and, upon completion, when they are ready for review and approval. After completion of the surveys by the participants, Google Forms provides the data for compilation and analysis. The data received were downloaded into an Excel spreadsheet through Google Forms then sorted, tallied, and summarized to produce the results.

The survey's distribution occurred in the 3rd quarter of 2019 and was completed by a random sampling of 103 respondents with diverse technical and business-related backgrounds. The survey distributed to the respondents included a short explanation of the purpose of the study. MTurk reported the average time it took for a survey respondent to complete the survey as 19 minutes and five seconds. The survey participants' job titles included 59% technological field, 26% management (unspecified), and 18% miscellaneous (finance, sales, and marketing). MTurk could not provide an exclusive sampling of SEOs and SMOs to take the survey; therefore, feedback also includes some disciplines outside of technology, offering other perspectives.

There are two main components of the directed project. The first component is a best practices guide orchestrated from extensive research along with a customized survey titled, A

Best Practices Guide for the Web Designer Utilizing Search Engine Optimization and Social Media Optimization. The best practices guide identifies nine SEO and SMO fundamentals created from the survey data. The nine best practices are then augmented with peer-reviewed research. The second component of the directed project is a website showcasing the best practices guide in an electronic format that can be periodically updated to keep up with the ever-changing technological environment. This website focuses on nine essential best practices to abet the web designer utilizing SEO and SMO.

The research for this report references peer-reviewed materials; however, with the necessity of search engines and the fact they are essential in Internet searches, there is much more information found online covering SEO and SMO topics, thus reflecting the state of the field and current trends faster. Keeping this in mind and based on the present study's findings, even though the 11 questions generated were from material dated within the last three years when compared against current trends, they are still relevant today. For example, the data found in peer-reviewed journals from 2017 for question seven (Table 1) showing the top five online social networks (OSNs) and platforms are the same OSNs published in a study by the Pew Research Center conducted in early 2019, and they are still shown in online sources as being the most widely used OSNs.

Production/Discussion of Results

The results of the custom-designed survey questionnaire provide valuable data and information on SEO and SMO. In Table 1 below, the survey questionnaire responses are listed in the order they were given.

Table 1

Search Engine & Social Media Optimization Survey Questionnaire

Question Number	Question Type	Question	Answer		
1	SEO	Rate these 5 SEO Factors (From the most important to least using a scale 1 to 5) Content, Keywords, Backlinks, Multimedia, Page Speed (Khan & Mahmood, 2018)	Backlinks & Page Speed 2. Multimedia Keywords 4. Content		
1a	SEO	Are there any other SEO factors you would add?	Mobile-friendliness 2. Secure & Accessible websites 3. Technical SEO 4. Domain Age		
2	SEO	What are your 3 favorite SEO Tools? (Google LLC., 2019c) And why?	Google Keyword Planner 2. Ahrefs Google Search Console		
3	SEO	What free methods do you or your organization utilize and recommend to improve Google search rank? (Khan & Mahmood, 2018)	Publish relevant content 2. Improve user experience 3. Page Speed		
4	SEO	When should SEO be incorporated into the website design? Choose from Beginning of Design Process, Midde, or End.	1. Beginning 2. Middle 3. End		
5	SEO	What is the best way to monitor SEO performance? (Google LLC., 2019c)	1. Google Analytics		
6	SEO	What is the typical timeframe for SEO to impact a website?	1. Four-to-six months		
7	SMO	Rate these 5 Online Social Networks (OSNs) below (From the most important to least using a scale 1 to 5) Twitter, Instagram, YouTube, Facebook, Linkedin (Smith & Anderson, 2018)	Facebook & Linkedin 2. Instagram 3. Twitter 4. YouTube		
7a	SMO	Are there any other Online Social Networks (OSNs) you would add?	1. Whatsapp 2. Pinterest 3. Tumblr		
8	SMO	List 3 ways to increase site traffic utilizing SMO. (Zhang & Cabage, 2017)	Focus on Keywords 2. Grow your follower base 3. Encourage external inbound links		
9	SEO/SMO	Are there any additional SEO or SMO strategies not previously identified that should be considered for inclusion in a best practices guide?	Custom-design 404 page 2. blogging Add a hook 4. Use hashtags in posts		

It is important to note that there are several overlaps in the survey responses which illustrate that some of the same tools serve more than one purpose. For this research, the survey was based on a limited set of questions gathered from the peer-reviewed literature. However, the survey successfully captures valuable information for developing the best practices guide titled *A Best Practices Guide for the Web Designer Utilizing Search Engine Optimization and Social Media Optimization*. This survey was a method to gauge the state of the field and to obtain valuable feedback from the participants relating to the SEO and SMO field. As discovered in this research, the survey data correlates with the industry standards. A pilot study of the best practices was scheduled to be completed by a local SEO/SMO firm; however, due to the COVID-19 virus, the study could not be initiated. Based on the research and the customized survey, the following best practices for web designers utilizing SEO and SMO are summarized from the survey participants' responses:

Best Practices for the Web Designer Utilizing SEO & SMO

1. **Start SEO ASAP**: The majority of participants responded that the beginning of the design process is the ideal time to start SEO. This fact reveals SEO should be started

- earlier rather than later, as shown in Figure 2. According to Khan and Mahmood (2018), "SEO is used as a tool to attain higher search rank during online searches for the targeted websites" (p. 1). Therefore, it is advantageous to incorporate SEO as early as possible to allow for more time to impact the results.
- 2. Keywords are key: Not only are the specific keywords selected critical, but also their placement. Luh, Yang, and Huang (2016) claim, "important keywords on the website should be incorporated into the URL, the page title and the snippet" (as cited in Kritzinger & Weideman, 2017, p. 2). Palanisamy and Liu (2018) states that keyword analysis and design could be the "most important part in optimizing the webpage, which represents the user's expectation" (p. 91). Google Keyword Planner is also the number one tool mentioned by respondents. As the survey shows, keywords are the number one choice when it comes to the most important fundamentals of the SEO profession.

 Google's Keyword Planner is a tool that capitalizes on this fundamental and helps streamline the process for SEO.
- 3. Content is still king: One of Google's top requests and one that is repeatedly emphasized in the SEO industry is to publish relevant content as confirmed by the survey participants. Bai (2013) states "all content on a website needs to be written with a high proportion of relevant keywords that visitors may use to look for the site..." (as cited in Palanisamy & Liu, 2018, p. 92). Another study by Ziakis et al. (2019) found that search engines also "prefer websites with unique, authentic, and quality content" (p. 6).
- 4. **Mobile-First for mobile-friendliness**: Mobile-friendliness as another favorite SEO factor listed by the survey participants should come as no surprise as mobile devices continue to grow at a fast pace. In response, Google launched its mobile-friendly

- algorithm nicknamed Mobilegeddon back in 2015, "through which mobile search engine results pages (SERPs) are influenced by the website's 'mobile-friendliness'" (Margea & Margea, 2017, p. 17). By the user's behavior continuing the trend of conducting more mobile searches than on the desktop, Google has already started optimizing for mobile-first (Margea & Margea, 2017).
- 5. **Backlinks and Page Speed rule**: Survey respondents were asked to rate five SEO factors (Figure 3), including content, keywords, backlinks, multimedia, and page speed (Khan & Mahmood, 2018). There was a fight for first place between backlinks and page speed.

 Based on recent peer-reviewed research, backlinks and page speed are vital components in the search engine process. Concerning the research on backlinks, Google and the other search engines look at several things relating to this SEO factor, including the quantity of links to a page from another website and the quality of these external links. These can be added factors to help a website achieve higher rankings (Palanisamy & Liu, 2018; Ziakis et al., 2019). For page speed, research shows an essential "on-page factor for the optimization of a webpage is the loading time" (Ziakis et al., 2019, p.5).
- 6. All you can E-A-T: The participants agree creating a custom design 404 page is essential and this should not be a surprise since it is also substantiated by the research published by Ziakis et al. (2019), who state by customizing the 404 page, the user is more likely to stay on the web page and this may "even enhance their search experience" (p. 7). A customized 404 page helps the user stay on the website directing them to the home page or other pages of the site (Ziakis et al., 2019). As the largest search engine, Google has set the industry standard, and SEO professionals adhere to these standards to produce the results clients expect. In Google's Search Quality Guidelines, Google highlights the

importance of expertise, authoritativeness, and trustworthiness (E-A-T). E-A-T is one of Google's essential factors when rating websites (Ray, 2019). These factors are essential because Google expects the industry to abide by these standards when designing a website to have the best chance to be seen by visitors.

- 7. **Monitor with Google Analytics**: Google Analytics won the vote as the top tool recommended to monitor SEO performance by the survey participants. Kaushik (2009) defined Google Analytics as a "free service offered by Google that generates detailed statistics about the visits to a website telling the web manager how visitors found the site and how they interact with its content allowing them to gain insight into how to improve the site's content and design" (as cited in Krstic, 2018, p. 157). Krstic (2018) explains "web analytics provide simple statistics concerning the website, such as the number of visitors or sessions, the average number of page views per visitor, average page duration, most popular pages, bounce rates and referrers" (p. 157). Google Analytics is a great method to use when monitoring website performance.
- 8. Allow time for SEO to work: The answers from survey participants were across the board, ranging from immediately to going out as far as a year or more. The answer that won by almost half of the respondents was four-to-six months on average for SEO to impact a website. Kakkar et al. (2015) "compare and explain various algorithms of Google and focuses on SEO strategies and how they lead to better rankings, concluding that SEO is a long term and dynamic procedure" (as cited in Ziakis et al., 2019, p. 4).
- 9. **Use Facebook and LinkedIn for social**: It should be no surprise the use of online social networks or OSNs continue to rise and are extremely popular (Figure 4). OSNs are more commonly called social media. Back in 2005, only 5% of American adults used at least

one social media platform, and the total today has risen to an astonishing 72% of adults. Today, most users visit social media as part of their daily routine, sometimes more than once (Pew Research Center, 2019). Smith and Anderson (2018) find out "Facebook is used by the majority of Americans across a wide range of demographic groups" (p. 4). LinkedIn is "especially popular among college graduates and those in high-income households" (Smith & Anderson, 2018, p. 4).

Conclusion

The results of this project demonstrate while SEO and SMO may not be a primary focus for the web design professional, web designers should learn the fundamentals of SEO and SMO. The survey's results parallel many of the SEO and SMO essentials found in the peer-reviewed literature. The strength of this research lies in the discovery of nine unique best practices established from the customized survey for the web designer's reference. These results show the compilation of the best practices for web designers to learn and gain knowledge. Many published studies show that social media optimization is attracting search engines' attention and gaining recognition within the industry. Future predictions show SMO to be an even more significant player in the future of optimization.

With the future of SEO and SMO being auspicious, and given today's vastly digitized world, it is becoming essential to implement SEO and SMO into websites (Giomelakis & Veglis, 2019). The study's objectives were met for establishing a pathway for the web designer to follow to keep up with the ever-changing technology. It is encouraging to see the abundance of information on SEO fundamentals readily available to the professional web designer. The study's limitations were the lack of scholarly research on the web design profession and web designers; however, this research is just the beginning of studies that combine web designers,

web design, SEO, and SMO, with much opportunity for additional research on this topic. Many researchers are hopeful future scholars will conduct studies to discover new methods for these rapidly growing topics of SEO and SMO. The web designer will benefit from understanding and managing the information found on the World Wide Web, utilizing SEO and SMO.

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Glossary

Ahrefs - A popular web analyzer that is one of the more powerful SEO tools (Wasan & Chakravarty, 2018).

Algorithms - "Rules that are set in place to rank pages within results differently in an attempt to give users the best experience for their intended search" (Abuein et al., 2018, p. 17559).

Backlinks - External citations of a website or page to determine the relevancy of a website or page, also called "inbound" links (Zhang & Cabage, 2017, p. 149). "Attaching some social media to the webpage and increasing the popularity of the webpage" (Palanisamy & Liu, 2018, p. 86).

Bing - The second most popular search engine (Zhang & Cabage, 2017).

Blog/blogging - One of the more popular ways to engage in social media and build an online follower base (Kritzinger & Weideman, 2017).

Content - The words or characters used in creating a website page. "Creating high-quality content and awareness can inspire viral sharing and natural linking" (Zhang & Cabage, 2017, p. 149).

Crawler - Systematically crawls the Internet looking at every URL while collecting keywords and phrases on each page to include in a massive database (as cited in Giomelakis & Veglis, 2019).

Domain Age - "Refers to the length of time that a website has been registered and active" (Chakrabortty, 2018, p.43).

E-A-T - Google's acronym for Expertise, Authoritativeness, and Trustworthiness (Ray, 2019, p. 129).

Facebook - Social networking/media platform (Zhang & Cabage, 2017) and "one of the most widely used social media sites among adults in the U.S." (Perrin & Anderson, 2019).

Featured Snippets - "A block of text copy at the top of Google's search results" (Ray, 2019, p. 129).

Google - The world's most popular search engine having "the vast majority of the global search engine market..." (as cited in Giomelakis & Veglis, 2019, p. 1791).

Google Analytics - Defined by Kaushik (2009) as a "free service offered by Google that generates detailed statistics about the visits to a website telling the web manager how visitors found the site and how they interact with its content allowing them to gain insight into how to improve the site's content and design" (as cited in Krstic, 2018, p. 157).

Google Search Console - (formerly Google Webmaster Tools) Enables webmasters to "monitor and maintain their presence in search results" (Giomelakis & Veglis, 2019, p. 1795).

Hashtag - "Strings of characters starting with the hash (#) character and representing the main semantic content of a tweet" (as cited in Stella et al., 2018, p. 12440).

Hook - Examples of hooks include images, videos, or other methods social media platforms use to differentiate themselves from others to increase popularity. Mainstream media "can create headlines that act as 'hooks' that encourage disseminating" (Villi & Noguera-Vivo, 2017).

HTTP 404 Page - "Web servers return a 404 webpage when the requested webpage cannot be found" (Ziakis et al., 2019, p.7).

Index - A complex database that stores the information gleaned by crawlers from websites (Kritzinger & Weideman, 2017).

Keywords - Google "considers clear, concise, and effectively descriptive keywords as the basis for its ranking algorithms" (Umenhofer, 2019, p. 263).

Keyword Planner - Google website geared toward "discovering what content is performing well, what is topical at the moment and how to improve" search standings (Dolezal, 2018, p. 352).

Link Building - Adding quality links from other sites into the website or page (Zhang & Cabage, 2017). "Search engines like Google rely on incoming and outgoing links in a page" (Patil & Pawar, 2018, p. 313).

Metatag - Description of the website summed up in one or two sentences and preferably located on every webpage with keywords (Umenhofer, 2019).

Mobile-First - To design websites primarily for mobile devices due to the behavioral shift in the "new generations of users" (Margea et al., 2017, p. 164).

Mobile-Friendliness - To build websites for Mobile-First so that they can be viewed just as easily for the mobile device user (Margea et al., 2017).

Multimedia - Includes both podcasting (audio) and digital video. Search engines often include various media formats in the SERPs making it easier for viewers to use (Kritzinger & Weideman, 2017).

Online Social Networks (OSNs) - Social networking platforms such as Facebook, Instagram, Twitter, YouTube, and LinkedIn. More commonly called social media (Smith & Anderson, 2018).

Organic SEO - "The method of optimizing a website to make it rank well in the in the organic search results" (Zhang & Cabage, 2017, p. 148).

PageRank - One of Google's oldest algorithms and is one, out of the many metrics, "that measures the importance of web pages by counting the number and quality of links to a page" (as cited in Giomelakis & Veglis, 2019, p. 1791).

Pay-Per-Click - (PPC). Paid advertising on search engines and other websites and it depends on users who click on the advertisement (Kritzinger & Weideman, 2017).

Search Engine - An application which takes as input a search query and returns a list of relevant webpages (Mor, Rai, & Kumar, 2018).

Search Engine Optimization or SEO - The process of affecting – improving the visibility of a website (or a web page) so that it ranks well for particular keywords in a search engine's "natural" or "organic" (un-paid) search results (as cited in Giomelakis & Veglis, 2019, p. 1790).

Search Engine Results Page (SERP) - "A page displayed by a search engine in response to a keyword search query, which usually contains a listing of search results; each result includes a short description and a hyperlink to the original website or page" (Zhang & Cabage, 2017, p. 150).

Social Media - "Consists of groups of internet platforms that people use to communicate with other users online such as Facebook" (Palanisamy & Liu, 2018, p. 93). "Refers to the Internet technology that can provide editing, sharing, forwarding, commenting, and exploring" (Lei & Weina, 2017, p. 603).

Social Media Optimization or SMO – "A process of optimizing your site/blog to be more visible in social media searches and sites, more easily linked by other sites, and more frequently discussed online in blog posts and other social media" (Bhargova, 2014, p. 3).

Title Tags - "Are not visible on the webpage itself, but are instead at the top of the browser window and are also what appears as the link to the site on SERPs" (Umenhofer, 2019, p. 264).

Twitter - Social networking/media platform (Zhang & Cabage, 2017).

User Experience - "Taking the users' needs into account at every stage of the product life cycle, from the time they see an ad on TV, through purchasing it and tracking its delivery online, and even returning it to a local branch store" (Krug, 2014, p. 183-184).

Web Designer - A person "who engages in the aesthetic design of websites through knowing-inaction, has specialized knowledge, and utilizes the activity as web design as their primary mode of interaction with market contexts" (Frazier, 2018, p. 10).

Website Usability - "A person of average (or even below average) ability and experience can figure out how to use the thing to accomplish something without it being more trouble than its worth" (Krug, 2014, p. 9).

Yahoo - The third most popular search engine (Zhang & Cabage, 2017).

YouTube - Social networking/media platform (Zhang & Cabage, 2017) and the "world's largest repository of online videos and the second most visited website globally" (as cited in Cowley, 2020, p. 125).

APPENDIX A: SURVEY QUESTIONAIRE

Figure 1

Example of Survey Participant's Response

7. Rate these 5 Online Social Networks (OSNs) below (Top 1 being the most important).

	Top 1	Top 2	Тор 3	Top 4	Top 5
Twitter	\circ	\circ	\circ	\circ	•
Instagram	•	0	\circ	\circ	\circ
YouTube	•	\circ	\circ	\circ	\circ
Facebook	•	0	\circ	0	\circ
LinkedIn	\circ	\circ	\circ	•	\circ

7a. Are there any other Online Social Networks (OSNs) you would add?

It depends on the client. Pinterest, houz, and many others exist for niche interests/products/services.

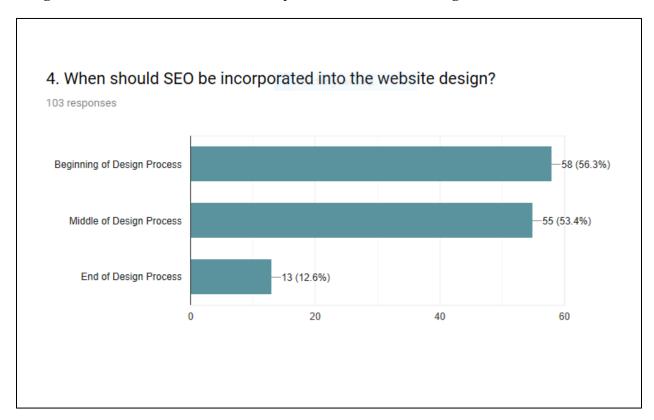
8. List 3 ways to increase site traffic utilizing SMO.

- 1.SMO should contain GOOD QUALITY CONTENT that drives back constantly to the site.
- 2.Use alternate content for Social sites. Focus on what interactions your users really want (video, gifs, etc).
- Message consistency. Make your social pages and your site work as a single unit. Cross
 populate wording and imagery to make a cohesive brand presentation. This builds
 consumer confidence.

APPENDIX B: SURVEY CHARTS

Figure 2

Design Phase When SEO Should Be Incorporated Into Website Design



APPENDIX B: SURVEY CHARTS

Figure 3

Top 5 SEO Factors Rated By Survey Participants

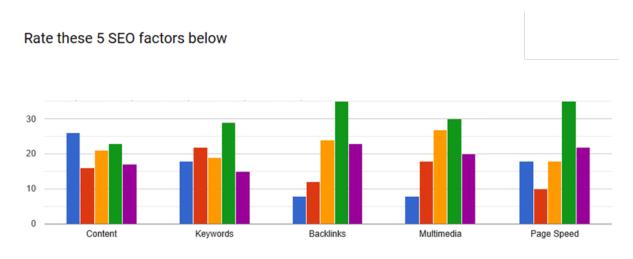


Figure 4

Top 5 Social Networks Rated By Survey Participants

Rate these 5 Online Social Networks (OSNs) below

