



Article

SEO inside Newsrooms: Reports from the Field

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Abstract: The journalism profession has changed dramatically in the digital age as the internet, and new technologies, in general, have created new working conditions in the media environment. Concurrently, journalists and media professionals need to be aware and possess a new set of skills connected to web technologies, as well as respond to new reading tendencies and information consumption habits. A number of studies have shown that search engines are an important source of the traffic to news websites around the world, identifying the significance of high rankings in search results. Journalists are writing to be read, and that means ensuring that their news content is found, also, by search engines. In this context, this paper represents an exploratory study on the use of search engine optimization (SEO) in news websites. A series of semi-structured, in-depth interviews with professionals at four Greek media organizations uncover trends and address issues, such as how SEO policy is operationalized and applied inside newsrooms, which are the most common optimization practices, as well as the impact on journalism and news content. Today, news publishers have embraced the use of SEO practices, something that is clear also from this study. However, the absence of a distinct SEO culture was evident in newsrooms under study. Finally, according to results, SEO strategy seems to depend on factors, such as ownership and market orientation, editorial priorities or organizational structures.

Keywords: search engine optimization; SEO; search engines; search; online journalism; media websites; news content; news articles

1. Introduction

Major search engines today are considered to be one of the most trusted and common services to retrieve information from the internet and at the same time the main method used for navigation for hundreds of millions of users around the world [1,2]. In this context, recent studies have indicated that a significant percentage of users turn to search engines first when shopping online or when information gathering really matters [3,4]. As a result, online search remains one of the best traffic sources for any website [5–7]; however, it should be noted that the vast majority of all search traffic comes from the top rankings in search engine results [8,9].

Web technologies, new reading tendencies and new information consumption habits create new working conditions for both media organizations and journalists in order to improve online news websites and make them more readable. On the one hand, the abundance of news media websites requires news organizations to be on all major platforms, all the time [10]. On the other hand, many people look for specific information, and their priorities area convenience, rapid access, and accuracy [11]. As internet technologies have brought about new modes of producing and consuming news content, many changes are observed in basic journalistic work processes, such as newsgathering, news production and distribution, and the way people consume news [12–17]. The journalistic profession is changing. Journalists and news media organizations are required to adapt to the new conditions, to become competitive and respond to the needs of the market by making the most of

their resources [14,16,18]. News websites, online radio and web TV, are the main areas of action. It is generally observed that the arrival of digital technologies has made journalistic work both easier, enabling better monitoring of economic and political organizations, and more difficult, overwhelming journalists with more information than they can handle [19].

Search technology has evolved over the last years, using more complicated algorithms and incorporating information from Web 2.0 applications in order to provide better results [20]. As new technologies continue to develop rapidly, different news sources have also emerged, including search engines, online news aggregators, social networks and citizen journalism. A number of studies have shown that search engines are an important source of the traffic to many news websites today, identifying the importance of high rankings in search results and creating a significant challenge for the digital media outlets to keep their news content at the top of the search rankings [21–27]. Journalists are writing to be read, and that means ensuring that news content is found also, by search engines.

The current exploratory study is focused on the use of search engine optimization (SEO) in news websites. Specifically, it focuses on four Greek news websites with some of them being among the most recognized media outlets in Greece with high traffic volumes. The innovation of the study lies in the fact that it is one of the first research studies to investigate SEO practices in news websites, as well as in a journalism context with a different culture that has received little attention so far. Another strength pertains to the study design, including in-depth interviews with practitioners coming from four news publishers. Through a series of semi-structured interviews with SEO and media professionals, the study examines the familiarity of these news publishers with SEO practices, including common trends and practices inside their own newsrooms, and the perceived impact of SEO on journalism and news content.

2. About SEO

The practices designed to increase the visibility and traffic (visitors) that a website or a webpage receives from organic (i.e., unpaid) search engine results are referred as search engine optimization (SEO) [28–30]. SEO is connected with the creation of the first search engines in the early-90s, and it has been associated with the influence of search engine results. In general, the position and the frequency a site appears in the Search Engine Results Page (SERP) influence the number of visitors it will receive from the search engine's users.

SEO can be applied to many different websites and can target different types of search, including image—video search, local, news or academic search [31–33]. It is also very closely connected to e-Commerce websites [34]. Besides, SEO constitutes a part of Search Engine Marketing (SEM) and one of the leading and most influential activities in the field of online marketing which defines the steps taken to organically grow a site's relevancy by building links, writing strong content or submitting to search sites [28,35]. SEO and SEM strategies should be carried out in order to attract customers and clients for business-to-consumer (B2C) companies [36]. In general, a business website can be found via a search engine by an online user in two ways: Through a pay-per-click campaign (PPC) or through an organic result listing that is based essentially on SEO. Malaga [37] divides SEO practices into four major categories:

1. Keyword research/selection;
2. Search engine indexing;
3. On-page optimization;
4. Off-page optimization.

Keyword research is the main SEO task that involves finding and analyzing actual search terms/phrases people enter into search engines. This practice, (usually with help from keyword suggestion tools, such as Google's Keyword planner) gives SEO professionals a better understanding of how high the demand is for specific keywords, as well as how hard it would be to compete for those terms in the organic search engines results. Indexing is the process of attracting the search engine

spiders to a website. All of the major search engines have a submission form where users could submit a website (entering the URL) for consideration. On-page optimization includes the management of all factors associated directly with a website, such as keywords, appropriate content, internal link structure, as well as html elements. It also contains page title (or HTML title tag), on-page headlines, description of web pages (or meta description tag) and URLs. Finally, off-page optimization includes all the actions made away from the website, such as link building or social signal strategy. Regarding link building, the more referrals someone has across the Web, the more search engine spiders notice and categorize their content [38]. Also, social signals may have a positive impact on websites and are considered as the new link building metric as search engines increasingly search for social signals to help the ranking of pages [39,40].

SEO has come a long way from its early days, and the search industry has seen many innovations from artificial intelligence to voice search. The latter looks like a fast-rising trend in web search, considering that a significant percentage of searches on mobile comes from voice searches [41–44]. Today, recent algorithm changes in search engines especially in Google, the world's most popular search engine, place more value on quality and content marketing, leading many experts to call these changes the new SEO [45]. As Ledford [29] notices, the search results are affected by the perceived quality of the page (indicated by a quality score) in accordance with the algorithm used, which includes a number of factors such as location, frequency of keywords, links or clickthrough rates.

3. SEO and News Websites

As people's reading habits change due to web technologies, online journalism finds itself having to chase web traffic [46]. Nowadays, there is no doubt that the internet is the main source of news preferred by many readers in order to get informed [47]. Search engines are used as a basic tool of navigation and filter for news by many people, as internet traffic depends to a great extent on them [25,48]. According to reports from the Reuters Institute for the Study of Journalism, search remains a significant gateway to the news in many countries, such as Poland, Turkey, Germany, France, Italy, the United States and Brazil [26,27]. As a result, the survival of a website is related to its visibility through web search [49].

Although search engine optimization appeared almost in parallel with the creation of the first search engines [50], SEO practices were only adopted by newsrooms within the last few years [32,51]. Many leading online media outlets (e.g., Daily Mail, Guardian, Los Angeles Times, Daily Telegraph) have employed SEO specialists in an attempt to win greater visibility and position their stories at the top of the search rankings. In the British Broadcasting Company (BBC), for example, journalists are trained in basic SEO [52–55]. Another important change concerns the implementation of a dual-headline system that is used until now. Specifically, a short one for the front page and other website indexes, and a longer SEO title with more characters/keywords which appear on the story page itself and also in search engine results [52,53]. Other noteworthy examples include the Los Angeles Times, as well as the Christian Science Monitor, where the incorporation of an SEO strategy or an SEO manager proved to be key factors leading to traffic increase [54,56].

The presence of SEO strategies is considered as an emerging production norm and practice that directly impacts journalistic workflow and creates new challenges for media professionals. Given the increase in online news and the dependence of the media outlets on digital platforms (especially in Google), news publishers constantly try to find techniques in order to improve the prominence and visibility of their stories in search engines and other news aggregators [6,32,51,57,58]. Today, the digital success of news organizations depends, among other things, on operational changes in the processing and distribution of news. In this context, news publishers need to consider search engine positioning strategies and implement SEO actions in their newsrooms [6,32]. Application of SEO practices to digital media outlets can be divided into three broad categories: On-page, off-page and technical SEO. Investing in the appropriate systems and training, news organizations need to alter their content to attract the interest of the bots and thus, improve the exposure of their news stories in search

engines [54]. Regarding on-page SEO, many news publishers today around the world create news rich in keywords: They create SEO-friendly titles, they use metadata, they include relevant keywords in the initial paragraphs (synonyms, plural variations or other forms) and use multimedia content in the form of videos, photographs, podcasts, etc. [6,32]. In contrast, off-page SEO refers to all the actions carried out off the web page, such as obtain as many quality incoming links as possible or disseminate the news content on the social platforms. Finally, technical SEO may include actions like the use of special formats for the mobile web, good information architecture or an increase in website speed [32,57,58].

Today, SEO is considered among the key journalistic skills that a modern journalist must possess. However, the development of online journalism is accompanied by a significant dependence of news publishers on technology firms that run the function of infomediation (a mix of edition, aggregation and distribution of third-party content that connects information supply with information demand). This function has changed news production practices and also it is creating conflicts between journalistic values, norms and new digital practices [6]. The entrance of SEO strategies in news organizations was—and is sometimes still—criticized by some people who believe that they downgrade the journalistic work. This belief derives from the observation that journalists change their news agenda and the way they write, producing content written mainly for machines. According to Giomelakis and Veglis [6], the aim of SEO is not better or more diverse journalism. However, journalistic work can be benefited if it is implemented consciously and wisely. SEO does not require media professionals to dumb down or writing with the only purpose to achieve better rankings. Besides, journalists are still writing to be read, and these practices can help their articles to be found [6,59]. Quality content made from professionals is still necessary, and thus, the role of the journalist is more important than SEO. During the writing process, a web editor must feel creative, combining SEO with quality content production. Given the wealth of news websites and the rapid dissemination of information, the main goal is a story to be found by readers also through search engines and news aggregators [59]. This means that journalists, and media organizations in general, must adapt to the new circumstances. As the world of SEO continues to evolve, SEO workers in every business must be up to date on new developments and also utilize useful tools and services for their work.

4. Methodology

This study is focused on the application of SEO practices inside newsrooms and news media outlets. The paper draws on data derived from in-depth interviews with practitioners coming from four news publishers in Greece with some of them being among the most recognized media outlets with high traffic volumes. The only prerequisite was the respondents and media representatives to have a position of SEO manager or be responsible for SEO strategy in every newsroom. The sample of four interviewees included an SEO manager, two general directors and one business owner. The main goal of the study was to examine different types of media organizations with different characteristics. Thus, the sample (see Table 1) included some long-established online news publishers along with a newer media outlet (with online presences ranging from 3 to 12 years), both nationwide and local media, and finally, online-only media organizations, as well as outlets co-published with print editions.

Table 1. Greek media outlets under study.

Name	Alexa Rank (GR) *	Years	Incoming Links *	Type
Thestival.gr	60	8	1.165	Online only
Tvxs.gr	132	11	2.547	Online only
Neolaia.gr	573	12	520	Online only
Thessnews.gr	457	3	228	Newspaper/Online

* Data are based on information from the Alexa ranking system that includes top sites from all categories in Greece, not only news websites (foreign websites are also included).

Following the initial acceptance of media representatives, the interview questions and a link to an online, semi-structured questionnaire were sent electronically. Semi-structured interviews were used in order to allow an in-depth exploration of participants’ responses and space to express their experiences and the trends in their newsrooms. A standard set of questions was covered, allowing flexibility for any follow-up questions and to explore other issues of relevance to participants. The interviews and data collection took place during a two-month period (from June until July 2019). The research, along with the development of the questionnaire, was based on the literature review [6,32,51,53,57–60] and was adapted in the context of the Greek media landscape. The interviews included a mixture of open-ended and closed-ended questions in order to answer the research questions (RQ) based on what previous, recent studies have found. It should be noted that the majority of the questions were open-ended, allowing the respondents to answer in their own words in open text format to better capture their complete knowledge, feeling, and understanding of the topics. Additionally, the small number of close-ended questions (including questions with a five-level Likert scale) focused on some general characteristics for every media outlet (e.g., job position of respondents, type of media outlets) and questions where respondents were asked to give their personal opinion. Regarding the latter, the respondents had the opportunity to justify their answers providing more details. This type of question (close-ended) was chosen because it was easier and quicker for respondents to answer, decreasing the likelihood of irrelevant or confused answers. Also, it was taken into account that if respondents were struggling to understand particular questions, they could read the answer options for further context (e.g., names of common SEO tools). In this case, an ‘Other’ answer option was added if a respondent wanted to provide a unique answer. Where it was necessary, a follow-up via telephone was carried out in order to make clear the answers or discuss other issues of relevance. Apart from some general questions about media outlets under study, questions covered many areas, including how SEO policy is operationalized and applied inside newsrooms, how long these policies have been in place and also the impact on journalism and news content. The main questions during the interviews are depicted in Table 2, according to their type (open/close-ended).

Table 2. Main questions under study. SEO, search engine optimization.

Questions	Type
How familiar are you with SEO, and how long have you been dealing with these practices?	Closed-ended (Likert scale)/open-ended
Is there any SEO expert in your organization? If not, is there another person involved in such practices?	Open-ended
What factors do you think may influence SEO usage?	Open-ended
How SEO strategy is applied inside your newsroom and which are the most common practices—tools?	Close-ended with a list of possible answers
Do you use SEO practices when writing news articles?	Open-ended
What (if any) are the consequences of SEO on news language?	Open-ended
Do you track online traffic to your site and what kind of metrics are you most interested in?	Open-ended/close-ended (Likert scale)
What impact do you think SEO has on news agenda and several publication practices?	Open-ended
How much do you think SEO improves the relationship with your audience?	Open-ended
Do you think SEO benefits journalism, in general, (or it may impact negatively)?	Open-ended

Prior to performing the main research, a pilot study was conducted in order to find any problems and discrepancies that the questions might have included. A number of improvements were made on the initial questionnaire, mainly in the fields of readability and usability. An introductory text informed the respondents about the use of the obtained information and the voluntary nature of this

research. Thematic analysis (TA) using Braun and Clarke's six-phase framework [61] was used to make sense of the data. The analysis focused on examining patterns within qualitative data that are important or interesting. Specifically, it was used to explore questions about respondents' experiences, perspectives, practices or factors that influence and shape particular phenomena. The different stages that were followed in the process of analysis were:

1. Familiarizing with data

Repeated reading in order for researchers to feel familiar with the data. Also, the follow up interviews made via telephone were transcribed. In parallel, thoughts or ideas for coding and meanings were noted, generating an initial list of interesting segments across the data set.

2. Assign preliminary codes to the data

Identify interesting elements of the data (coding manually) that can be assessed in a meaningful way. Important ideas/codes providing a description of respondent's experience were identified and written in the form of a list.

3. Searching for repeated patterns and themes

When all interviews were coded separately, the different codes were sorted into potential themes. Also, the researchers considered how different codes may combine to form a primary theme.

4. Reviewing themes

Themes were reviewed and refined—coherent patterns were formed in the context of the data set. The researchers re-read data several times and went backwards and forwards between raw data, codes and themes, until they felt confident enough that different codes, could collate together and form a theme.

5. Defining and naming themes

The scope and content of each theme and sub-theme clearly defined. The researchers considered the themes themselves, and each theme in relation to the others. Different dimensions of the same pattern-phenomenon were shown at this stage.

6. Producing the report

Final analysis of repeated patterns (themes)—connection with research questions and relevant literature.

Finally, the thematic analysis identified five major themes:

- Awareness and use of SEO;
- Factors affecting the use of SEO;
- Common SEO tools/practices;
- Monitoring web traffic;
- Impact of SEO on news content creation and journalism.

5. Research Questions

Following the previous discussion and guided by the key concepts of field theory, this study attempts to answer the following research questions:

RQ1: Do the media representatives know and thus, utilize SEO practices in their working organization, and what factors may affect their use according to their point of view?

RQ2: Is there an individual SEO job position inside the newsrooms under study, and which are the most common SEO tools and practices?

RQ3: Do media outlets under study monitor their web traffic and what metrics do they focus on?

RQ4: What is the impact of SEO on news content creation inside these newsrooms?

RQ5: According to respondents' point of view, what is the impact of SEO on the journalism profession, in general, regarding the publication/selection of news, as well as the relationship with the audience?

6. Results and Discussion

6.1. Awareness and Usage of SEO (RQ1)

The respondents were questioned about their experience in using SEO practices with the answers ranged initially in five categories ((1) Poor, (2) Fair, (3) Good, (4) Very Good, (5) Excellent). Subsequently, the respondents had the opportunity to justify their answers providing more details through open-ended questions (e.g., the years they deal with SEO). Generally, the sample reported a high degree of SEO practice awareness. The majority of the respondents had excellent knowledge of them, and one of them had very good knowledge. It is very interesting that all of them have dealt with SEO for many years in their working organization, as two of them had ten-years of experience, one of them had eight-years, and the other had five-years. The result seems to be reasonable given that many studies have shown that search engines are an important source of the traffic to many news websites around the world, identifying the importance of high positions in search results [21–27]. Also, newsrooms are being increasingly asked to cater to audience interests in order to generate more traffic and “clicks” [62] and in this context many Greek media professionals have begun to emphasize more on what audiences want to know [63].

Regarding the factors that may influence SEO usage, all the respondents agreed that the use of SEO practices is more prevalent in large news organizations, which try to ensure high traffic numbers, in contrast with smaller media outlets. Moreover, they reported that ownership and market orientation (i.e., public or private), as well as the type of media organization (print, radio, television or online), are highly related to how search engine optimization is used in newsrooms. For example, private news organizations seem to use more of their resources in SEO strategy than the public ones. Also, its use might vary if media organizations are online-only or coexist with other distributions (e.g., print/broadcast channel). All the above are in agreement with prior studies where SEO strategy was found to be varied among newsrooms and factors, such as market orientation, or the ownership/business model were proved to play an important role on how new technologies are incorporated into the journalism profession [6,53,64–67]. In short, it may be concluded that news organizations tend to develop distinct forms of SEO use aligned with their organizational imperatives, structures, business model, as well as their editorial priorities.

6.2. SEO Job Position and Most Common SEO Practices/Tools (RQ2)

According to the results of this research, it is noticeable that there was no specific SEO specialist jobs in any of the news websites that were examined. The respondents referred different reasons for this, each one for the website in which they work: It may be a decision of the ownership, there may be financial reasons, or someone else works on it. Considering there were no SEO specialists working for the news websites, respondents answered that SEO is a duty of the director or the chief editor or the journalists or a freelancer. The results come in contrast with many leading media outlets across the US and other European newsrooms (e.g., Daily Mail, Guardian, BBC, Los Angeles Times) which created SEO specialist/editor positions within their newsrooms during the last years [52–55]. In this context, the incorporation of an SEO chief and SEO strategy proved to be key factors leading to traffic increase in news publishers, such as Los Angeles Times and the Christian Science Monitor [54,56].

Apart from the SEO job position, respondents were also asked to indicate the most common search engine optimization practices used in their newsrooms. According to the answers received from media representatives, the most common practices utilized by media professionals were keyword research, as well as research about hot topics, the top search queries and the users’ preferences. Correspondingly, the most popular tools were Google keyword planner (for keyword research) and Google trends (that analyzes the interest and the popularity of a search term and track “buzz” online). Alexa.com services and Google search console were less popular among newsrooms. Furthermore, half of the respondents answered that backlink checker for monitoring inbound links, as well as software solutions for general SEO analysis, are often used in their newsrooms.

Regarding off-SEO and link-building strategies, all the media outlets under study tend to share their news content on social media after publishing it. All the newsrooms share their content on Facebook, three of them on Twitter and one on Instagram (all three comprising the most popular social networks in Greece), in an effort to increase the shelf life and distributed reach of quality content. The newsrooms seem to realize the significance of social media platforms in a changing news media landscape having an active presence on Facebook, Twitter and YouTube (all of them), as well as on Instagram (3 out of 4). Particularly in Greece, the media market is characterized by high use of social media, since Greek people tend to read the news and participate by commenting or sharing content [26]. In this context, social media are considered a great source of user opinions whose structure can offer useful information for the polarity classification task [68]. While search engines are increasingly becoming more sophisticated at interpreting web content, social signals and links from social media have already started to play their role in SEO. The extent of social impact on search is evolving, which constitutes a characteristic of the SEO industry [39,50,69,70]. Today, an active presence in social media is considered a requirement for a news organization and the above may affect or have an indirect impact on SEO. For example, the more Facebook page likes or Twitter followers a media outlet has, the more social signals, such as likes or tweets its posts will generate. Video content (e.g., content on YouTube) is also often ranked higher in search engines.

Finally, it is worth mentioning that 2 out of 4 representatives admitted during the interviews to the practice of links exchange in cooperation with other web sites, especially web sites with relevant content. This finding is in line with prior work [6] where it was also found that many Greek media outlets exploit this practice, establishing contact with other sites in order to share links, to boost ranking and also, cover a wider range of topics. Reciprocal linking between two websites through their content can help in building more qualitative inbound links and also in bringing an increase in traffic. It is considered a common tactic for media websites, especially when there is a lack of staff and a number of thematic categories cannot be covered properly.

6.3. *Online Traffic Reports and Main Traits (RQ3)*

Initially, all the respondents reported web analytics usage for monitoring website traffic in their company and all of them mentioned the use of Google analytics. The above results were reasonable, given that Google Analytics is deemed globally as the most popular web analytics software and a leading tool for sales and marketing purposes [71,72]. Moreover, the high degree of web analytics use can be characterized as unsurprising, given the growing importance of internet metrics in the journalism profession in recent years across different types of newsrooms [67,73]. Based on the data from the interviews, in three out of the four newsrooms under study, the traffic coming from search engines was around a third or more (30–40%) and in another news outlet was between 10–20%. The results are in consonance with previous studies that have shown that a large percentage of readers get informed through search engines [21–23,26–28] and confirm that, for news sites, search remains crucially important. The respondents were also asked to give information regarding the use of web analytics, such as who is in charge and who tracks them, as well as the frequency of use. In two media outlets, the traffic reports are being checked daily; one respondent reported many times throughout a day; while another one answered monitoring on a weekly basis. Chief editors have access to these tools in all newsrooms under study, while in the majority of media outlets, the traffic reports are also monitored from journalists and the marketing department. The IT departments, as well as external partners specializing in SEO, have access in two out of four newsrooms.

Regarding the most popular metrics, newsrooms were more interested in web analytic metrics that report data for the overall website content and less about specific sections of their website or about specific articles. The interest of newsrooms in online traffic metrics (concerning a variety of indicators) was measured on a 1–5 scale, with 1 signifying not at all interested to 5 indicating highly interested. Subsequently, the respondents had the opportunity to justify their answers providing more details through open-ended questions. According to the results, it was found that newsrooms use

Web Analytics to obtain information regarding general website/content metrics. For example, they seem to be very interested in the overall data for the website traffic, such as page views, sessions and unique visitors, as well as the type of content users specifically prefer to read (popular articles). Additionally, they showed significant interest regarding the visitors' behavior and metrics, such as bounce rate/exit, average time spent on the website and new/returning users. Finally, the respondents seemed to appreciate the data for the traffic sources—channels (e.g., search engines, social media, etc.), as well as the data for the search terms that led to a website. On the other hand, newsrooms seem to be less interested regarding the demographic data of users (e.g., language, country, city, age, sex), as well as technical data, such as the most used browser (e.g., Chrome, Firefox, etc.), operating system (e.g., Windows, Mac OS), screen resolution, devices, etc. Also, they showed little interest concerning the number of comments on their articles and social media sharing (e.g., Facebook, Twitter, etc.).

6.4. SEO and News Content Creation (RQ4)

The current study examined real data and certain aspects of everyday routines according to respondents' media outlets. In general, the respondents reported that SEO affects news stories, and more specifically, it may have a significant impact on the editing of the articles and news language. Based on the results, newsrooms have seen SEO practice having a direct impact on journalistic workflow and the creation of news content incorporating techniques designed to ensure high ranking in search engine results pages.

The most popular SEO practices used by media outlets implemented in news content creation were the use of keywords in SEO-friendly titles, the use of meta description tag to summarize a web page's content, and the use of internal links that point to another webpage on the same website (see Figure 1). Other widely used practices were the presence of keywords in the main text of an article, keyword tags, image optimization (with use of keywords and small sentences on file names or alternative texts/tags), external links and also the use of multimedia content. Less common practices (only two out of four media outlets) were the use of different titles and the estimation of the title character limit.

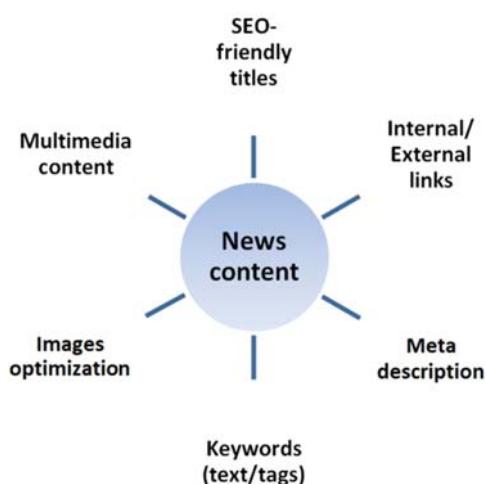


Figure 1. Most common SEO practices in news content creation.

The above results are unsurprising. Titles are considered one of the most important on-page SEO elements with major search engines, paying a lot of attention to them. Also, the use of meta description tag is a good practice and is highly recommended because they are commonly used by Google as a snippet/preview of someone's web pages on SERPs [28,29]. The addition of relevant, video content adds value, makes content even richer, and it is often ranked higher from search engines [45]. Video

content attracts and engages users more, since it is deemed to be highly shareable and having a higher clickthrough rate compared to traditional text results [50]. In addition, the optimization of images helps search engines to determine easily what the image is about, and it is considered very important, especially for image-based search engines, such as Google Images [19]. Finally, links that lead to other relevant web pages (preferably high-ranking sites) can contribute positively to SEO, especially if a site is new [6,74]. In contrast with our results, the practice of different titles is often used by several large news organizations (e.g., New York Times, BBC News, Huffington Post or Guardian) and the most common practice is the different headlines between the front page and the story page itself. The latter, appearing in search engine results, are usually more specific and include more keywords [6,32,52,53].

6.5. The General Impact of SEO on Journalism (RQ5)

Other topics addressed by this research included the impact of SEO practices on issues related to both the publication and selection of news. It also examined if these practices improve relations with the public and with the journalism profession in general. According to the respondents, the position of the article on the site and the period of time it will remain online are connected with SEO, as their responses ranged from quite to very much, while one of them indicated that there is no connection at all. About the multimedia content, there was some differentiation between the respondents: Two of them said that its presence affects SEO practices a little and two of them said a lot. According to the answers, the presence and sharing of articles on social media are also connected with SEO.

Moreover, three out of four respondents indicated that the use of SEO practices within newsrooms could greatly improve their relationship with the audience, and just only one believed that there is no connection between them. The respondents were asked to give their opinion about whether SEO, in general, affects the way journalists choose the news stories that will be published. All the respondents responded that SEO, in general, affects the news agenda and news content chosen by their media outlet considerably. From the same perspective, SEO techniques seem to prefer news stories that concern topical subjects or breaking news, while making the promotion of features or opinion pieces more difficult [59]. However, respondents also reported that SEO strategy would have a greater impact on others (third person) than themselves (first person) as regards the selection of news content. From a social perspective, this might be connected to other studies where Davison's [75] initial hypothesis of the third-person effect was studied.

Finally, all the respondents considered SEO strategy as an essential tool for editors, bloggers, media professionals and anyone, in general, who publishes newsworthy content. They seemed to appreciate the usefulness of an SEO strategy, and they believed that it could only benefit journalistic work by helping news articles to be found. The above results are consistent with previous studies where journalists and media owners in Greece were found to be able to adapt to technological progress, considering it useful for their profession [15,76]. It is remarkable that there were different opinions about the journalistic product and how it is affected by the SEO practices. Only one of the respondents thought these practices do not diminish journalistic quality, while one of them thought that SEO affects it a little, one quite a lot and one very much in agreement with media professionals who talk about a negative impact on the craft of journalism and the creation of stories exclusively for search engines.

7. Conclusions and Future Extensions

This paper examined the use of search engine optimization practices in news websites and journalism using a series of semi-structured, in-depth interviews with professionals at four Greek media organizations. The aim of this study was to identify how familiar news publishers are with SEO practices, how SEO policy is applied inside newsrooms, the most common trends and practices, as well as the impact on news content. Nowadays, newsrooms and media outlets have embraced the use of SEO practices and utilize them in order to make their content more easily available through search results, something that is clear also from this study. In the same context, the study also noted specific optimization practices that are often used by news websites, such as keyword research,

research about hot topics and the top search queries or dissemination via social media. All of the four newsrooms under study incorporate several techniques designed to ensure high ranking in search results, such as the use of keywords and SEO-friendly titles, meta description tags, internal/external links, image optimization or the use of multimedia content. Furthermore, search traffic measurement tools and Google analytics services were used across all news organizations studied. According to the respondents' viewpoints, SEO strategy seems to be varied among different newsrooms, depending on factors, such as ownership model, editorial priorities and organizational structures. Finally, SEO practices may have a considerable impact on the way journalists and media professionals choose news stories, as well as their publishing practices (e.g., position of the article on the site or the amount of time it will remain online). In the context of the above findings, it should be noted that all the news publishers of the sample seem to not have a clear structure for using SEO practices, and they have adopted a more rudimentary approach utilizing different, popular off-the-shelf tools. The absence of a distinct SEO team or SEO chief is evident in the studied newsrooms where journalists or media professionals with many other responsibilities often deal with these practices.

In a constantly changing and competitive media environment, no one can take their readership for granted. While the media industry adapts to the digital age and competition increases, effective use of SEO within newsrooms seems to be an important element for attracting more online readers. SEO is not only about visibility on search engines—it also includes making a website more user-friendly. As Richmond notes [59], everything has to do with the editorial choices. SEO per se is value-neutral, and it does not require journalists to dumb down or write solely for gaining traffic. SEO practices reflect the essential needs of web users to find information, while also securing long-term promotion for journalism. The content is still the most important thing for any website, and it has to be characterized by reliability, interest and quality [6]. In this way, readers will be satisfied and motivated to share it through social networks, blog posts or forums, which is what search engines look for. Under these conditions, a journalist must be creative, but also strategic, combining SEO with quality content production.

This study is not without limitations. Firstly, as being an exploratory study, the sample included only a small number of Greek newsrooms, and thus, it is not claiming to be representative of the entire population of newsrooms and media outlets. It is reasonable that a larger sample could yield better results. Moreover, our results are dependent on the accuracy and honesty of the respondents answering the questions. Nevertheless, the main strength of the study was that it attempted to explore the role of SEO practices in media websites, as well as in a journalism context with a culture (i.e., Greek newsrooms) that has received little attention so far. Even though SEO is widely used by marketing practitioners, there is a relatively small amount of academic research that systematically attempts to capture this phenomenon and its impact on various industries. To the best of our knowledge, there is a scarcity of academic research examining the relationship between SEO and journalism. We believe that this study provides useful insights concerning the use of SEO inside newsrooms and it will open the door for further longitudinal analysis. Future extension of this work will include the repetition of the study with a larger sample size and a more varied selection of newsrooms. In this context, comparative studies with foreign online media would be another study goal in the near future.

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References

1. Dod, R. How Social Media Helps SEO [Final Answer]. Search Engine Journal: Boca Raton, USA 2017. Available online: <https://www.searchenginejournal.com/social-media-seo/196185/> (accessed on 22 August 2019).
2. Purcell, K. *Search and Email Still Top the List of Most Popular Online Activities*; Pew Research Center: Washington, DC, USA, 2011. Available online: <https://www.pewinternet.org/2011/08/09/search-and-email-still-top-the-list-of-most-popular-online-activities/> (accessed on 20 September 2019).
3. Purcell, K.; Brenner, J.; Rainie, L. *Search Engine Use 2012*; Pew Research Center: Washington, DC, USA, 2012. Available online: <http://www.pewinternet.org/2012/03/09/search-engine-use-2012/> (accessed on 20 September 2019).
4. Murga, G. Amazon Takes 49 Percent of Consumers' First Product Search, But Search Engines Rebound, 2017. Available online: <https://blog.survata.com/amazon-takes-49-percent-of-consumers-first-product-search-but-search-engines-rebound> (accessed on 20 September 2019).
5. Schwartz, E. *Search Engines Still Dominate Over Social Media, Even for Millennials*; Search Engine Land: Redding, CT, USA, 2018. Available online: <https://searchengineland.com/search-engines-still-dominate-over-social-media-even-for-millennials-308135> (accessed on 20 September 2019).
6. Safran, N. Natural Web Site Traffic Accounts for Nearly Half of All Traffic [Data]. 2013. Available online: <http://www.conductor.com/blog/2013/06/web-traffic-natural-search-data/> (accessed on 20 September 2019).
7. Giomelakis, D.; Veglis, A. Investigating Search Engine Optimization Features in Media Websites: The Case of Greece. *Digit. J.* **2016**, *4*, 379–400.
8. Brightedge. Organic Search Is Still the Largest Channel. 2018. Available online: <https://www.brightedge.com/resources/research-reports/organic-search-still-largest-channel-2017> (accessed on 20 September 2019).
9. Chitika Online Advertising Network. The Value of Google Result Positioning, 2013. Available online: <http://info.chitika.com/uploads/4/9/2/1/49215843/chitikainsights-valueofgoogleresultspositioning.pdf> (accessed on 18 August 2019).
10. Petrescu, P. *Google Organic Click-Through Rates in 2014*; Moz: Seattle, WA, USA, 2014. Available online: <https://moz.com/blog/google-organic-click-through-rates-in-2014> (accessed on 20 September 2019).
11. Picard, R. Blogs, Tweets, Social Media and the News Business. In *Let's talk: Journalism and Social Media*, 1st ed.; Ludtke, M., Ed.; Nieman Reports: Cambridge, MA, USA, 2009; Volume 63, pp. 10–12. Available online: <https://niemanreports.org/wp-content/uploads/2014/03/Fall2009.pdf> (accessed on 22 August 2019).
12. Giussani, B. A New Media Tells Different Stories. *First Monday* **1997**, *2*, 4–7. Available online: <http://firstmonday.org/ojs/index.php/fm/article/view/521/442> (accessed on 22 August 2019). [CrossRef]
13. Chung, S.D. Interactive features of online newspapers: Identifying patterns and predicting use of engaged readers. *J. Comput. Mediat. Commun.* **2008**, *13*, 658–679. [CrossRef]
14. Spyridou, P.; Veglis, A. Exploring structural interactivity in online newspapers: A look at the Greek Web landscape. *First Monday* **2008**, *13*, 5. Available online: <http://firstmonday.org/ojs/index.php/fm/article/view/2164/1960#17> (accessed on 22 August 2019).
15. Bunce, M. Management and Resistance in the Digital Newsroom. *Journalism* **2017**, *20*, 890–905. [CrossRef]
16. Doudaki, V.; Spyridou, L.P. News Content Online: Patterns and Norms under Convergence Dynamics. *Journalism* **2015**, *16*, 257–277. [CrossRef]
17. Spyridou, P.; Matsiola, M.; Veglis, A.; Kalliris, G.; Dimoulas, C. Journalism in a State of Flux: Journalists as Agents of Technology Innovation and Emerging News Practices. *Int. Commun. Gaz.* **2013**, *75*, 76–98. [CrossRef]
18. Welbers, K.; van Atteveldt, W.; Kleinnijenhuis, J.; Ruigrok, N.; Schaper, J. News Selection Criteria in the Digital Age: Professional Norms Versus Online Audience Metrics. *Journalism* **2016**, *17*, 1037–1053. [CrossRef]
19. Kizys, R.; Juan, A.; Sawik, B.; Calvet, L. A Biased-Randomized Iterated Local Search Algorithm for Rich Portfolio Optimization. *Appl. Sci.* **2019**, *9*, 3509. [CrossRef]
20. Venturini, T.; Jacomy, M.; Bounegru, L.; Gray, J. Visual network exploration for data journalists. In *The Routledge Handbook to Developments in Digital Journalism Studies*; Eldridge, S., II, Franklin, B., Eds.; Routledge: London, UK; New York, NY, USA, 2019; pp. 265–283. Available online: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3043912 (accessed on 22 August 2019).

21. Zimmer, M. The Externalities of Search 2.0: The Emerging Privacy Threats when the Drive for the Perfect Search Engine meets Web 2.0. *First Monday* **2008**, *13*, 3. Available online: <http://firstmonday.org/ojs/index.php/fm/article/view/2136/1944> (accessed on 22 August 2019). [CrossRef]
22. Newman, N. *Mainstream Media and the Distribution of News in the Age of Social Discovery*; Reuters Institute for the Study of Journalism, University of Oxford: Oxford, UK, 2011. Available online: <https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2017-11/Mainstream%20media%20and%20the%20distribution%20of%20news%20in%20the%20age%20of%20social%20discovery.pdf> (accessed on 22 August 2019).
23. Dutton, W.H.; Blank, G. *Next Generation Users: The Internet in Britain*; Oxford Internet Survey 2011 report; Oxford Internet Institute, University of Oxford: Oxford, UK, 2011. Available online: <http://www.oii.ox.ac.uk/news/?id=598> (accessed on 22 August 2019).
24. Olmstead, K.; Mitchell, A.; Rosenstiel, T. *Navigating News Online: Where People Go, How They Get There and What Lures Them Away*; Pew Research Center's Project for Excellence in Journalism: Washington, DC, USA, 2011. Available online: <http://www.journalism.org/2011/05/09/navigating-news-online/> (accessed on 22 August 2019).
25. American Press Institute. The Personal News Cycle: How Americans Choose to Get Their News. This Research was Conducted by the Media Insight Project, 2014. Available online: <http://www.americanpressinstitute.org/publications/reports/surveyresearch/how-americans-get-news/> (accessed on 22 August 2019).
26. Newman, N.; Levy, D.A.L. *Reuters Institute Digital News Report 2014—Tracking the Future of News*; Reuters Institute for the Study of Journalism, University of Oxford: Oxford, UK, 2014. Available online: <https://reutersinstitute.politics.ox.ac.uk/our-research/digital-news-report-2014> (accessed on 22 August 2019).
27. Newman, N.; Fletcher, R.; Kalogeropoulos, A.; Levy, D.; Nielsen, R.K. *Reuters Institute Digital News Report 2017*; Reuters Institute for the Study of Journalism, University of Oxford: Oxford, UK, 2017. Available online: <http://www.digitalnewsreport.org/survey/2017/> (accessed on 22 August 2019).
28. Newman, N.; Fletcher, R.; Kalogeropoulos, A.; Levy, D.; Nielsen, R.K. *Reuters Institute Digital News Report 2018*; Reuters Institute for the Study of Journalism, University of Oxford: Oxford, UK, 2018. Available online: <http://www.digitalnewsreport.org/survey/2018/> (accessed on 22 August 2019).
29. Potts, K. *Web Design and Marketing Solutions for Business Websites*, 1st ed.; Apress: New York, NY, USA, 2007.
30. Ledford, L.J. *Search Engine Optimization Bible*, 2nd ed.; Wiley: Indianapolis, IN, USA, 2009.
31. Saura, J.R.; Palos-Sánchez, P.; Suárez, L.M.C. Understanding the Digital Marketing Environment with KPIs and Web Analytics. *Future Internet* **2017**, *9*, 76. [CrossRef]
32. Beel, J.; Gipp, B.; Wilde, E. Academic Search Engine Optimization (ASEO): Optimizing Scholarly Literature for Google Scholar and Co. *J. Sch. Publ.* **2010**, *41*, 176–190. [CrossRef]
33. Giomelakis, D.; Veglis, A. Employing Search Engine Optimization Techniques in Online News Articles. *Stud. Media Commun.* **2015**, *3*, 22–33. [CrossRef]
34. Wikipedia. Search Engine Optimization. Available online: https://en.wikipedia.org/wiki/Search_engine_optimization (accessed on 22 August 2019).
35. Malaga, R.A. The Value of Search Engine Optimization: An Action Research Project at a New E-Commerce Site. *J. Electron. Commer. Organ.* **2007**, *5*, 68–82. Available online: <http://www.irma-international.org/viewtitle/3498/> (accessed on 22 August 2019). [CrossRef]
36. Nigro, H.O.; Balduzzi, L.; Cuesta, I.A.; Cvsaro, S.E.G. Knowledge Based System for Intelligent Search Engine Optimization. In *Recent Progress in Data Engineering and Internet Technology*; Ford Lumban Gaol; Springer: Berlin/Heidelberg, Germany, 2012; Volume 157, pp. 65–72. [CrossRef]
37. García, J.J.L.; Lizcano, D.; Ramos, C.M.; Matos, N. Digital Marketing Actions That Achieve a Better Attraction and Loyalty of Users: An Analytical Study. *Future Internet* **2019**, *11*, 130. [CrossRef]
38. Malaga, R.A. Worst Practices in Search Engine Optimization. *Commun. ACM* **2008**, *51*, 147–150. [CrossRef]
39. Ehrlich, S. SEO Best Practices: The Impact of Social Media on Search Engine Optimization. *Bulldog Reporter*. 25 November 2013. Available online: <http://www.bulldogreporter.com/dailydog/article/thought-leaders-seo-best-practices-the-impact-of-social-media-on-search-engine-opti> (accessed on 22 August 2019).
40. Rayson, S. The Social Media Optimization (SMO) of SEO: 7 Key Steps. *Social Media Today*. 20 August 2013. Available online: <https://www.socialmediatoday.com/content/social-media-optimization-smo-seo-7-key-steps> (accessed on 22 August 2019).

41. Frasco, S. 6 Reasons Social Media is Critical to Your SEO. *Social Media Today*. 9 November 2013. Available online: <https://www.socialmediatoday.com/content/6-reasons-social-media-critical-your-seo> (accessed on 22 August 2019).
42. Dean, B. The Definitive Guide to SEO in 2019. Available online: <https://backlinko.com/seo-this-year> (accessed on 22 August 2019).
43. Sterling, G. *Google Says 20 Percent of Mobile Queries are Voice Searches*; Search Engine Land: Redding, CT, USA, 2016. Available online: <https://searchengineland.com/google-reveals-20-percent-queries-voice-queries-249917> (accessed on 22 August 2019).
44. Sentance, R. *The Continuing Rise of Voice Search and How You Can Adapt to It*; Search Engine Watch: Connecticut, USA, 2016. Available online: <https://searchenginewatch.com/2016/05/31/the-continuing-rise-of-voice-search-and-how-you-can-adapt-to-it/> (accessed on 22 August 2019).
45. Ansley, A. Advanced SEO Techniques: A Mega Guide to Ranking in 2019. *Raventools*. 2019. Available online: <https://raventools.com/blog/advanced-seo-techniques/> (accessed on 22 August 2019).
46. DeMers, J. SEO in 2013: 7 Surprisingly Simple Factors That Will Take The Lead. *Search Engine Watch: Connecticut, USA*. 2013. Available online: <http://web.archive.org/web/20170905043128/http://www.searchenginejournal.com/seo-in-2013-7-surprisingly-simple-factors-that-will-take-the-lead/57092/> (accessed on 22 August 2019).
47. Tandoc, C.E., Jr. Journalism is twerking? How web analytics is changing the process of gatekeeping. *New Media Soc.* **2014**, *16*, 559–575. [CrossRef]
48. Pew Research Center for the People & the Press. Amid Criticism, Support for Media's 'Watchdog' Role Stands Out. 2013. Available online: <http://www.people-press.org/2013/08/08/amid-criticism-support-for-medias-watchdog-role-stands-out/> (accessed on 22 August 2019).
49. Safran, N. *310 Million Visits: Nearly Half of All Web Site Traffic Comes From Natural Search (Data)*; Conductor: New York, NY, USA, 2013. Available online: <http://www.conductor.com/blog/2013/06/data-310-million-visits-nearly-half-of-all-web-site-traffic-comes-from-natural-search/> (accessed on 22 August 2019).
50. Galitsky, B.; Levene, M. On the Economy of Web Links: Simulating the Exchange Process. *First Monday* **2004**, *9*, 1. Available online: <http://firstmonday.org/ojs/index.php/fm/article/view/1109/1029> (accessed on 22 August 2019).
51. Dover, D. *Search Engine Optimization Secrets*, 1st ed.; Wiley: Indianapolis, IN, USA, 2011.
52. Codina, L.; Iglesias-García, M.; Pedraza, R.; García-Carretero, L. *Search Engine Optimization and Online Journalism: The SEO-WCP Framework*, 1st ed.; UPF: Barcelona, Spain, 2016.
53. Asser, M. *Search Engine Optimisation in BBC News*; BBC: London, UK, 2012. Available online: http://www.bbc.co.uk/blogs/internet/posts/search_engine_optimisation_in (accessed on 22 August 2019).
54. Dick, M. Search Engine Optimisation in UK News Production. *J. Pract.* **2011**, *5*, 462–477. [CrossRef]
55. Ellis, J. *Traffic Report: Why Pageviews and Engagement Are up at Latimes.com*; NiemanLab: Cambridge, MA, USA, 2011. Available online: <https://www.niemanlab.org/2011/08/traffic-report-why-pageviews-and-engagement-are-up-at-latimes-com/> (accessed on 22 August 2019).
56. Oliver, L. *Mail Online Names Simon Schnieders as Search Strategy Head*; Journalism.Co.Uk: Brighton, UK, 2008. Available online: <http://www.journalism.co.uk/news/mail-online-names-simon-schnieders-as-search-strategy-head/s2/a531917/> (accessed on 22 August 2019).
57. Groves, J.; Brown, C. Stopping the Presses: A Longitudinal Case Study of the Christian Science Monitor Transition from Print Daily to Web Always. *ISOJ: The Official Research Journal of the International Symposium on Online Journalism* **2011**, *1*, 86–128.
58. Lopezosa, C.; Orduna-Malea, E.; Perez-Montoro, M. Making Video News Visible: Identifying the Optimization Strategies of the Cybermedia on YouTube Using Web Metrics. *J. Pract.* **2019**. [CrossRef]
59. Lopezosa, C.; Codina, L.; Perez-Montoro, M. SEO and Digital News Media: Visibility of Cultural Information in Spain's Leading Newspapers. *Tripodos* **2019**, *44*, 41–61.
60. Richmond, S. How SEO is changing journalism. *Br. J. Rev.* **2008**, *19*, 51–55. [CrossRef]
61. Usher, N. *What Impact Is SEO Having on Journalists? Reports from the field*; NiemanLab: Cambridge, MA, USA, 2010. Available online: <https://www.niemanlab.org/2010/09/what-impact-is-seo-having-on-journalists-reports-from-the-field/> (accessed on 22 August 2019).
62. Braun, V.; Clarke, V. Using thematic analysis in psychology. *Qual. Res. Psychol.* **2006**, *3*, 77–101. [CrossRef]

63. Tang, Y.E.; Sridhar, S.; Thorson, E.; Mantrala, M.K. The Bricks that Build the Clicks: Newsroom Investments and Newspaper Online Performance. *Int. J. Media Manag.* **2011**, *13*, 107–128. [CrossRef]
64. Touri, M.; Kostarella, I.; Theodosiadou, S. Journalism Culture and Professional Identity in Transit: Technology, Crisis and Opportunity in the Greek Media. In *Digital Technology and Journalism*, 1st ed.; Tong, J., Lo, S.H., Eds.; Palgrave Macmillan: Cham, Switzerland, 2017; pp. 115–139.
65. Boczkowski, P. The Processes of Adopting Multimedia and Interactivity in Three Online Newsrooms. *J. Commun.* **2004**, *54*, 197–213. [CrossRef]
66. Usher, N. Al Jazeera English Online: Understanding Web Metrics and News Production When a Quantified Audience Is Not a Commodified Audience. *Digit. Journal.* **2013**, *1*, 335–351. [CrossRef]
67. Ferrucci, P.; Tandoc, E.C., Jr. A Tale of Two Newsrooms: How Market Orientation Influences Web Analytics Use. In *Contemporary Research Methods and Data Analytics in the News Industry*, 1st ed.; Gibbs, W.J., McKendrick, J., Eds.; IGI Global: Hershey, PA, USA, 2015; pp. 58–76.
68. Cherubini, F.; Nielsen, R.K. *Editorial Analytics: How News Media Are Developing and Using Audience Data and Metrics*; Digital News Project; Reuters Institute for the Study of Journalism: Oxford, England, 2016. Available online: <https://reutersinstitute.politics.ox.ac.uk/our-research/editorial-analytics-how-news-media-are-developing-and-using-audience-data-and-metrics> (accessed on 22 August 2019).
69. Vairetti, C.; Martinez-Camara, E.; Maldonado, S.; Luzon, V.; Herrera, F. Enhancing the classification of social media opinions by optimizing the structural information. *Future Gener. Comput. Syst.* **2020**, *102*, 838–846. [CrossRef]
70. Pascale, A. *7 Legitimate Ways That Social Media Impacts SEO*; ClickZ: New York, NY, USA, 2014. Available online: <https://www.clickz.com/7-legitimate-ways-that-social-media-impacts-seo/31746/> (accessed on 22 August 2019).
71. Stanhope, J.; Frankland, D.; Dickson, M. *The Forrester Wave: Web Analytics, Q4 2011*, 1st ed.; Forrester Research: Cambridge, MA, USA, 2011.
72. Kent, M.; Carr, B.; Husted, R.; Pop, R. Learning Web Analytics: A Tool for Strategic Communication. *Public Relat. Rev.* **2011**, *37*, 536–543. [CrossRef]
73. Hanusch, F. Web Analytics and the Functional Differentiation of Journalism Cultures: Individual, Organizational and Platform-specific Influences on Newswork. *Inf. Commun. Soc.* **2017**, *20*, 1571–1586. [CrossRef]
74. Dean, B. We Analyzed 1 Million Google Search Results. Here's What We Learned about SEO. *Backlinko*. 2 September 2016. Available online: <https://backlinko.com/search-engine-ranking> (accessed on 22 August 2019).
75. Davison, W.P. The Third-Person Effect in Communication. *Public Opin. Q.* **1983**, *47*, 1–15. [CrossRef]
76. Giannakouloupoulos, A.P.; Kodellas, S.N. The Impact of Web Information Availability in Journalism: The Case of Greek Journalists. In *Digital Utopia in the Media: From Discourses to Facts. A Balance*, 1st ed.; Masip, P., Rom, J., Eds.; Tripodos: Barcelona, Spain, 2005; Volume 2, pp. 547–560.



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