



# SEO and the digital news media: From the workplace to the classroom

SEO y cibermedios: De la empresa a las aulas

- ID** Dr. Carlos Lopezosa is Researcher in the DigiDoc Group in the Department of Communication at Pompeu Fabra University in Barcelona (Spain) (carlos.lopezosa@upf.edu) (<https://orcid.org/0000-0001-8619-2194>)
- ID** Dr. Lluís Codina is Associate Professor in the Department of Communication at Pompeu Fabra University in Barcelona (Spain) (lluis.codina@upf.edu) (<https://orcid.org/0000-0001-7020-1631>)
- ID** Dr. Javier Díaz-Noci is Full Professor in the Department of Communication at Pompeu Fabra University in Barcelona (Spain) (javier.diaz@upf.edu) (<https://orcid.org/0000-0001-9559-4283>)
- ID** Dr. José-Antonio Ontalba-Ruipérez is Associate Professor in the Department of Audiovisual Communication, Documentation and History of Art at the Polytechnic University of Valencia (Spain) (joonrui@upv.es) (<https://orcid.org/0000-0002-2071-6108>)

## ABSTRACT

The constant struggle to attract new readers has led the digital news media to adopt search engine positioning strategies within their newsrooms. Given that readers are increasingly opting to consume their news via search engines, such as Google or Bing, this study explores perceptions and applications of search engine optimization (SEO) in the online news media and identifies the future training needs of journalists in this sector. To do so, 33 semi-structured interviews were conducted with individuals representative of three professional profiles: professional journalists, SEO consultants, and academics. Based on the data collected, we created five semantic categories – with 25 subcategories – and we correlated the perceptions of the SEO experts employed by the news media with those of the academics. The results highlight varying degrees of convergence and divergence in perceptions across these three professional profiles. Similarly, the results confirm the sector's pressing need to attract readers by implementing search engine positioning techniques and, hence, its need to ensure future journalists are well trained in technical SEO, on-page SEO, off-page SEO, in the use of SEO analytics and audit tools, and in the ability to identify search trends so that they have the necessary skills to win the struggle for more readers.

## RESUMEN

La lucha de los cibermedios para atraer nuevos lectores ha motivado el uso de estrategias de posicionamiento en buscadores en el seno de las redacciones periodísticas. Dado el consumo, cada vez más frecuente, de noticias a través de buscadores como Google o Bing, este trabajo explora la percepción y la aplicación de la optimización en buscadores (SEO) en los medios de comunicación online y determina las diferentes necesidades formativas de los futuros periodistas que quieran trabajar en este campo. Para ello, se realizaron 33 entrevistas semi-estructuradas a personas que representan tres perfiles profesionales diferentes: periodistas profesionales, consultores de SEO y profesores universitarios. A través de los datos recogidos, creamos cinco categorías semánticas –con 25 subcategorías– y correlacionamos las percepciones de los expertos en SEO que trabajan en empresas periodísticas con las percepciones de los profesores en el contexto académico. Los resultados confirman los diferentes grados de convergencia y divergencia entre estos tres perfiles profesionales. Asimismo, se reafirma la creciente necesidad de atraer lectores a través de técnicas de posicionamiento en buscadores, por lo que señalamos la necesidad de formar a los futuros periodistas en SEO técnico; en SEO On Page; en SEO Off Page; en herramienta analítica; en auditoría SEO; y en la capacidad de identificar tendencias de búsqueda para que estén cualificados con las competencias necesarias para afrontar la lucha por los públicos.

## KEYWORDS | PALABRAS CLAVE

Digital news media, search engine optimization, online journalism, web visibility, journalism training, University, SEO training, Google.

Medios digitales, posicionamiento en buscadores, periodismo online, visibilidad web, formación periodística, Universidad, formación SEO, Google.

## 1. Introduction

The need for journalism to adapt to the Internet has led to a series of changes in journalistic routines (Cebrián-Herreros, 2009; López-García, 2015; García-Avilés et al., 2018; Caminero & Sánchez-García, 2018), related, mainly, to new modes for disseminating news via digital platforms and, more specifically, for disseminating news via search engines (Smyrnaioi & Rebillard, 2009).

The development of search engines, such as Google and Bing, helps users select the most relevant content in response to their searches (Machill et al., 2008; Richmond, 2008), which, together with the increase in competitiveness for information, accounts for the fact that the digital news media are becoming increasingly dependent on search engine optimization (SEO).

SEO, the set of techniques that ensures web content has the greatest chances of appearing at the top of the rankings of Google, Bing, etc. (Davis, 2006; Enge et al., 2012; Orduna-Malea & Alonso-Arroyo, 2017), is a means of attracting the greatest number of readers (Iglesias-García & Codina 2016). Maximizing web visibility in this way means search engine positioning strategies need to be employed in the routines of the digital news media (Maciá-Domene, 2011; Giomelakis & Veglis, 2015a; Google, 2012; 2019a; 2019b; Harry, 2018). In this emerging scenario, traditional journalism is having to face a number of major challenges including the increase in online news, which has triggered the growing dependence of news editors on search engines (Smyrnaioi, 2015; Arias-Robles, 2016), and the developing 'social role' of journalists coinciding with the adoption of SEO techniques (Carlson, 2007; Elcessor, 2012; Gonzalo-Penela et al., 2015), developments that require the attention of scholars.

Studies examining the relationship between SEO and the news media confirm that much can still be done to improve the convergence between journalistic routines and those of SEO (Giomelakis & Veglis, 2015b; Codina et al., 2016; Charlton, 2016; Lopezosa & Codina, 2018). And while some recognize that it has become increasingly common to find SEO experts in newsrooms, the need to seek optimal convergence between the best journalism and the best SEO practices continues to be pressing (Dick, 2011; Smyrnaioi & Sire 2014).

Despite this research, the use made today of SEO in the digital news media remains largely unknown. To further our understanding, the main characteristics of the search engine positioning strategies employed by newsrooms need to be described and, simultaneously, any shortcomings, limitations and needs can be identified so that a diagnosis be made of just how the journalism sector can best address the positioning of its content. Ultimately, obtaining this information should enable us to propose changes in Spain's university curricula that can ensure better training for the sector's future professionals.

In short, the overall aim of this study is to examine the role played by SEO in journalism and to identify the corresponding training needs of students of journalism to guarantee they are able to implement SEO strategies in the newsroom. To do this, we conduct a series of semi-structured interviews, a methodology that, to date, has yet to be applied to the study of search engine positioning in relation to university education. Specifically, we set ourselves the following specific goals:

- 1) To explore what SEO experts employed by the news media, consulting firms and universities think about the role played by search engine optimization as applied to the cyber media in promoting the success of digital journalism.
- 2) To determine whether there is a consensus among these groups of professionals about the different elements of SEO being applied to the news media.
- 3) To make recommendations in terms of the competencies and skills that should be part of SEO training for journalism students.

## 2. Material and methods

In carrying out this study, we conducted 33 semi-structured interviews (Coller, 2000; Valles, 2002; Alves & Díaz-Noci, 2019) during 2018 and 2019 with SEO professionals working in the digital news media, with SEO consultants and with teachers providing university training in SEO.

Initially, desired informants were selected on the basis of a prior design that included all three professional categories described above (see below for specific details). Next, we employed one of the most frequently recommended procedures in such cases, the application of so-called critical criteria (Valles,

2002), whereby we identified which professionals had access to the most relevant information, were most socially and physically accessible, were most willing to participate, and best able to communicate their responses with the necessary precision. After sending out invitations to SEO experts identified in this way, we were able to conduct a total of 33 interviews.

A list of the 33 interviewees can be consulted at <http://bit.ly/2OdmZYJ>, where the subjects are classified according to whether they are journalists/professionals with responsibility for SEO in the digital news media, SEO experts in the field of consulting, or university professors that teach SEO. The table also includes information about the specific digital news platform, firm or university in which they work.

Interview responses were recorded either by email or by digital sound recording and subsequently transcribed. The results were then analyzed both manually and using the qualitative research tool NVivo. The latter enabled us to identify semantic networks from which we created categories and subcategories.

Table 1 shows the specific functions of the experts selected for interview in each of the three groups of professionals, according to the criteria discussed above (Valles, 2002).

| <b>Table 1. Professional profiles</b>                                   |                                                                                |                                                             |
|-------------------------------------------------------------------------|--------------------------------------------------------------------------------|-------------------------------------------------------------|
| <b>SEO managers in the digital news media</b>                           | <b>Expert SEO consultants for companies</b>                                    | <b>University professors teaching the subject of SEO</b>    |
| Journalist for digital news platform of international importance        | Senior SEO consultant working for an agency                                    | Professor in the Degree of Documentation                    |
| Journalist for small digital news platform publishing regional news     | Independent consultant offering SEO services to companies                      | Professor in the Degree of Journalism                       |
| SEO manager for digital news platform of international importance       | SEO expert in an international company                                         | Professor in the Master's Degree in Search Engines          |
| SEO manager for medium-sized digital news platform                      | SEO expert in a medium-sized company                                           | Professor in the Degree of Advertising and Public Relations |
| Webmaster responsible for SEO tasks on a digital news platform          | Owner of an SEO agency                                                         | Professor in the Degree of Journalism and Communication     |
| Owner of a small digital news platform performing basic SEO tasks       | SEO entrepreneur specializing in website monetization                          | Professor in the Degree of Advertising and Public Relations |
| Manager of digital content services and SEO for a digital news platform | SEO expert offering expertise via personal blog for different business sectors | Professor in the Degree of Audiovisual Communication        |
| Subdirector of a regional digital news platform                         | SEO entrepreneur specializing in digital projects                              | Professor in the Degree of Digital Marketing                |
| Director of a digital news platform                                     | Independent SEO consultant specialized in training and giving lectures         |                                                             |
| SEO manager of a business media group                                   | External SEO advising the news media                                           |                                                             |

Below we outline the five specific dimensions or categories of analysis addressed by the interviews and, for the subsequent exploitation of the responses obtained, we break these down into their corresponding subcategories:

1) News production routines: SEO routines performed by the journalist, routines developed specifically for SEO, search trend analysis, web analytics and SEO training.

2) SEO tools: Free SEO tools, paid SEO tools, Google's own tools, plugins and content management systems (CMS) and other tools.

3) SEO perception: Importance of SEO in the newsroom, technological convergence, resistance to change, best SEO practices, worst SEO practices.

4) SEO techniques: On-page SEO, off-page SEO, technical SEO, trending topic analysis and its application in the news media, analysis of trending topics and interactions in social networks and their application in the news media.

5) SEO opinions and visions: Voice search, business model, new professional profiles, new SEO techniques and search engine regulation.

### 3. Analysis and results

Below we identify the most important ideas extracted from the interviews. To do so, we identified semantic networks of the given categories and subcategories using NVivo operated in manual data analysis mode.

1) Key ideas emerging from interviews with journalists/professionals with responsibility for SEO in the digital news media:

- News production routines: The editor analyzes search trends to identify newsworthy items and timeless topics, and converts them into news stories, reports, etc. that can be used to position content on Google. Basic SEO actions have to be used (optimization of headline, image and text for search engines) on the news story. The SEO professional provides editors with support, addressing doubts they might have in relation to aspects of positioning and drafts reports on audience results, internal searches conducted by users and user behavior analysis within the digital news media in general. In this way, an understanding is gained of search trends and editors can be informed about new content that they can create and position. We confirmed that the digital news media, thanks to the efforts of their SEO professionals, offer content plans to outside firms to help them improve their brand image and create a new business model. Finally, the SEO professional checks the news stories prepared by editors and journalists to confirm they are optimized for search engines.
- SEO tools: The use of Google tools is widespread today in newsrooms. Likewise, SEMrush is the most frequently used paid SEO audit tool in newsrooms. However, news media companies do not usually have access to paid SEO audit tools, preferring to use their free versions. The most frequently used free tools are Google Chrome extensions and the Alexa Website Ranking online software. As for CMS, digital news media run on a WordPress platform optimize their news with the Yoast SEO plugin (a tool that extends CMS functions).
- SEO perception: Journalists recognize the importance of SEO for newsrooms as a strategy for attracting readers. Search engine positioning in newsrooms is becoming more widespread because traffic from social networks is on the decline and because many readers consume their news via search engines. In-house training is usually provided for editors informing them about the basic elements of SEO and their strategic importance for the media company. Editors have a fairly basic grasp of SEO, but the transformation from paper to digital format often makes it difficult for them to be professionally updated. Digital native editors tend to internalize SEO strategies much better. Newsrooms increasingly take SEO into consideration but acknowledge their abusive use of certain practices that are detrimental to the reader and the social task of the journalist. Finally, exceptions exist with some editors believing that 100% of the readers of their digital news media come from direct traffic (without going through search engines).
- SEO techniques: Results confirm that Google Trends needs to be used in combination with the analysis of comments and hashtags in social networks to track trends and to convert them into news reports; tools such as NewsWhip and CrowdTangle have to be employed to predict content engagement, which also helps create new stories that are not on the media's agenda; competitors have to be monitored daily to detect which news stories are being published so that all the day's topics can be identified and worked on and all events can be identified days before they occur, creating a calendar of publications, so that, in this way, on the day of the event (the day when the number of searches increases), the digital platform has already written and optimized its report, news story, etc., and can compete successfully for the best Google rankings.
- SEO opinions and visions: SEO and its relationship with journalism looks set to be strengthened over the coming years, as it is essential for attracting readers and promoting new business models. New challenges have to be faced within SEO and the digital news media, primarily in terms of achieving the best voice search rankings. The digital news platforms that lead the way in SEO

will ultimately be the ones that enjoy success. Likewise, the relationship between journalism and SEO will depend on the links forged between media organizations and search engines. If a newspaper wants to face the future more effectively, SEO has to be included as a training discipline, a daily practice and a constant space for ongoing professional upgrading. As Google's algorithms evolve, journalists will have to adapt accordingly. Respondents acknowledged the possibility that the EU will end up regulating Google or it is, at least, a possibility that will be debated.

## 2) Key ideas emerging from interviews with expert SEO consultants:

- **SEO opinions and visions:** Taking into account trends in search engine positioning, strategies that focus on search intent need to be developed, semantic searches, voice searches and improved user experience. The best way to optimize the search intent is by writing content as if responding directly to the user's query. To optimize semantic searches, the content needs to be enriched with synonyms, compound words, long tail keywords (search queries of more than three words), while audiovisual content needs to be incorporated and Schema.org and Google Action technologies used. For voice search optimization, content needs to be created in the form of questions that respond to (very precise) very long tail keywords, since questions will predominate in voice searches. The markup "speakable", developed by schema.org, should be used. "Speakable" is able to identify the most appropriate sections on a web page for audio reproduction for text-to-speech (TTS) conversion using TTS technology. Finally, to optimize user experience, the web must be well structured, have good internal linking, with optimal loading speed, employing accelerated mobile page (AMP) technology and using mobile-first indexing (which gives more importance to the mobile site than to the desktop version).
- **SEO techniques:** The consensus is that the best strategy for positioning a website is a combination of the different types of SEO: that is, on-page SEO, off-page SEO and technical SEO. Of the three, technical SEO is considered the most important, followed by on-page and off-page SEO, respectively.
- **SEO tools:** Ahrefs is the most frequently used paid SEO audit tool followed by SEMrush and Screaming Frog. Google tools are also a priority to ensure SEO works well. Finally, other tools used by the SEO experts to a lesser degree include Safecont, Xovi, Moz, WooRank, etc.
- **SEO perception:** The experts believe that the national digital news platforms generally implement very good SEO strategies, though they also acknowledge that some media firms have poor or non-existent SEO strategies. They highlight the following as good SEO strategies: the use of AMP technology, the purchase of vertical websites to obtain more web traffic and more authoritative links, the creation of quality content, the optimization of the crawl budget (tracking and indexing time granted by Google to a certain website), and the exhaustive study of search trends to create content. In contrast, they highlight the following poor SEO strategies applied by the digital news media: the massive sale of links to third-party sites, the production of duplicate content (copied content that Google considers plagiarized), the use of click-baiting (headlines and flashy links designed only to generate clicks), and search engine over-optimization (techniques employed to artificially manipulate website optimization). According to those interviewed, the digital news platforms that employ the best SEO strategies are 'El Mundo' and 'OKDiario', followed by 'La Vanguardia', 'ABC', 'El País', 'El Español', etc.
- **News production routines:** Digital news platforms need to create attractive headlines and use keywords (that is, those words consulted by users in search engines) to optimize positioning, take advantage of old content by renewing these earlier news report, and review all aspects of basic SEO before publishing a story. Likewise, online news media need to carry out technical and indexing improvements, they should employ AMP technology and ensure good internal linking between stories using keywords that are trending in real time. They might also acquire thematic blogs to send web traffic and authority in the form of external links to the digital news platforms (of the same business group) to optimize positioning. Finally, communication between the head of SEO and the editors of the digital news platform must be effective and favor consensus,

especially with regard to writing headlines and the configuration of labels for images.

### 3) Key ideas emerging from interviews with university professors teaching SEO:

- SEO perception:
- SEO opinions and visions: The subject of SEO should be incorporated as strategic content in university education, since it is a professional profile that media firms are increasingly seeking to recruit.
- News production routines: SEO training is usually provided transversally as part of a broader subject. In short, while SEO is found as an independent subject on master's programs, this tends not to be the case in undergraduate courses.
- SEO techniques: SEO training in Spanish universities is both theoretically and practically based. The main items taught in relation to SEO theory are the following: the history of SEO, search engine operation, study of visitor flow from search engines, the profile of the SEO professional in the digital news media and SEO as a critical vision of the Internet. In contrast, the main practical elements taught in relation to SEO comprise the following: On-page SEO, off-page SEO and technical SEO. Students are taught how to select keywords, use Google Trends, write headlines and structure and create content for SEO, use SEO tools, exploit publications in social media to make content visible and to use WordPress and its SEO plugins.
- SEO tools: Google tools are the SEO tools most frequently introduced and used in class. Training in the use of free tools prevails over that of paid tools. The most frequently used free or freemium tools are Alexa SiteInfo, SimilarWeb, GTmetrix, and WooRank. Finally, the main functions of the tools taught in class are related to positioning metrics, interaction and content engagement.

| Table 2. Perceived level of agreement among the three professional groups                                |                                     |                                       |                                    |
|----------------------------------------------------------------------------------------------------------|-------------------------------------|---------------------------------------|------------------------------------|
| Subcategory                                                                                              | Perceived level of agreement – high | Perceived level of agreement – medium | Perceived level of agreement – low |
| SEO routines performed by the journalist                                                                 |                                     | ●                                     |                                    |
| Routines developed specifically for general SEO tasks                                                    |                                     |                                       | ●                                  |
| Search trend analysis                                                                                    |                                     |                                       | ●                                  |
| Web analytics                                                                                            | ●                                   |                                       |                                    |
| SEO training                                                                                             |                                     | ●                                     |                                    |
| Free SEO tools                                                                                           |                                     | ●                                     |                                    |
| Paid SEO tools                                                                                           |                                     |                                       | ●                                  |
| Use of Google's own tools                                                                                | ●                                   |                                       |                                    |
| CMS Plugins and CMS                                                                                      |                                     | ●                                     |                                    |
| Other tools                                                                                              |                                     | ●                                     |                                    |
| Importance of SEO in the newsroom                                                                        | ●                                   |                                       |                                    |
| Technological convergence                                                                                | ●                                   |                                       |                                    |
| Resistance to change                                                                                     |                                     | ●                                     |                                    |
| Best SEO practices                                                                                       | ●                                   |                                       |                                    |
| Worst SEO practices                                                                                      | ●                                   |                                       |                                    |
| On-page SEO                                                                                              | ●                                   |                                       |                                    |
| Off-page SEO                                                                                             | ●                                   |                                       |                                    |
| Technical SEO                                                                                            | ●                                   |                                       |                                    |
| Trending topic analysis and its application in the news media                                            |                                     | ●                                     |                                    |
| Analysis of trending topics and interactions in social networks and their application in the news media. |                                     | ●                                     |                                    |
| Voice search                                                                                             |                                     | ●                                     |                                    |
| Business model                                                                                           |                                     | ●                                     |                                    |
| New professional profiles                                                                                |                                     | ●                                     |                                    |
| New SEO techniques                                                                                       |                                     | ●                                     |                                    |
| Possibility of future search engine regulation                                                           |                                     |                                       | ●                                  |

Table 2 shows the main convergences and divergences of opinion as expressed by professionals in the three groups studied. Here, for each of the subcategories identified we run a semantic check to see if their perspectives coincide. A high perceived level of agreement is said to occur when all three parties (professionals employed in the journalism industry, SEO consultants/experts not employed directly by the

industry and university professors) express the same ideas, a medium level when two of the three parties agree, and a low level when all three parties disagree or express different opinions in relation to the same subcategory.

Based on an analysis of the responses obtained in the interviews, we have built various models which we express graphically. These models are designed for two distinct profiles: that of the journalist/editor with responsibility for implementing SEO tasks and that of the SEO (non-journalist) expert employed in the news media company.

| Table 3. Training model for journalists/editors and SEO managers in the digital news media |                        |                                                               |
|--------------------------------------------------------------------------------------------|------------------------|---------------------------------------------------------------|
| Profile                                                                                    | Skills                 | Training                                                      |
| Journalist                                                                                 | On-page SEO            | SEO headlines                                                 |
|                                                                                            |                        | Keywords and content clusters                                 |
|                                                                                            |                        | SEO image optimization                                        |
|                                                                                            |                        | News article design: tables and layout                        |
|                                                                                            | Trend analysis         | Google trends                                                 |
|                                                                                            |                        | Identification of newsworthy event                            |
|                                                                                            |                        | Creation of editorial calendar                                |
|                                                                                            | Ethics of SEO          | SEO and the social task of the journalist                     |
|                                                                                            |                        | The debate on the regulation of Internet information          |
|                                                                                            |                        |                                                               |
| SEO manager                                                                                | SEO strategies         | AMP                                                           |
|                                                                                            |                        | Schema.org                                                    |
|                                                                                            |                        | Internal linking                                              |
|                                                                                            |                        | Mobile-first indexing                                         |
|                                                                                            |                        | Optimization of strategies for buying vertical websites       |
|                                                                                            | Tools                  | Google Analytics                                              |
|                                                                                            |                        | Google Search Console                                         |
|                                                                                            |                        | Google Trends                                                 |
|                                                                                            |                        | SEMrush                                                       |
|                                                                                            |                        | Ahrefs                                                        |
|                                                                                            | Types of optimization  | Search intent optimization                                    |
|                                                                                            |                        | Voice search optimization                                     |
|                                                                                            |                        | Semantic search optimization                                  |
|                                                                                            |                        | User experience optimization                                  |
|                                                                                            | Business opportunities | Identification of future search trends to improve web traffic |
|                                                                                            |                        | Providing consultancy services to firms                       |
|                                                                                            |                        | Purchase of vertical websites to generate income              |

The first training profile includes elements such as SEO ethics, trend analysis and on-page SEO, while the second includes business opportunities, tools, types of optimization and advanced SEO strategies. Figures 1 and 2 show the fields of knowledge for each of the two profiles.

#### 4. Conclusions

Studies have already been undertaken examining SEO as a business strategy, highlighting the importance of search engine positioning to attract readers (Carlson, 2007; Smyrniaos & Rebillard, 2009; Muerza-Ferrer, 2017); however, such studies do not concern themselves with internal business elements, such as new business models or the relationship and communication established between SEO managers and editors and their teams of journalists, aspects which, in contrast, the results of our interviews seem to emphasize.

Likewise, although news strategies have previously been discussed from the point of view of on-page SEO, off-page SEO and technical SEO (Giromelakis & Veglis, 2015a; 2015b; Charlton 2016), including distinctive working frameworks (Codina et al., 2016) and specific strategies, such as the concept of SEO headlines (Asser, 2012), the specific use of keywords (García-Orosa & López, 2014), and the use of technologies such as AMP (Heijmans, 2016), these studies do not include two aspects that emerge from our interviews: namely, the identification of search trends as part and parcel of the work of the SEO manager in the newsrooms of the digital media, and voice search optimization and other emerging aspects of SEO (e.g. semantic SEO, search intent, etc.). Similarly, studies of visibility and SEO auditing applied to the

digital news media report the use of the main tools discussed here: i.e. SEMrush, Ahrefs, Majestic, Alexa, MOZ, among others (Rodríguez-Martínez et al., 2010; 2012; García-Carretero et al., 2016; Lopezosa & Codina, 2018; Lopezosa et al., 2018; Lopezosa et al., 2019); however, they tend to comprise case studies and to focus on visibility rankings of the digital media in search engines, yet they fail to verify whether the newsrooms are using these tools to analyze and position news content.

Finally, a number of studies of SEO applied to the digital news media make recommendations for newsrooms (Giomelakis & Veglis, 2015a; 2015b; Codina et al., 2016; Asser, 2012; García-Orosa & López, 2014), but they do not consider the training that editors/journalists and SEO managers of media platforms need, bearing in mind that good journalistic practice is vital, and that SEO is the support for its dissemination and expansion. Next, we return to reflect on the objectives set out when initiating this study and discuss the results and conclusions that can be drawn:

1) All three groups of professionals identify the need to implement the same types of strategy in promoting search engine optimization, that is, on-page SEO, off-page SEO and technical SEO.

SEO managers working in news media houses confirm the strategic need to take into account search engine positioning techniques when working with news content. Likewise, expert SEO consultants recommend buying third-party vertical websites in order to send authoritative links to their main digital news media sites in order to attract more readers and obtain greater web authority. They also recognize the need to foster optimal internal communication between the SEO department/manager and the editor and journalists. The university professors also recognize the importance of SEO for newsrooms; however, training in this field typically forms part of a much broader subject area in university studies. Similarly, all three groups of professionals speak of the need for newsrooms to make effective use of SEO analytics.

Finally, the interviewees believe that SEO and its relationship with journalism will go from strength to strength over the forthcoming years, although major new challenges are likely to emerge, including voice search optimization, new business models and the possible regulation or political debate concerning the news media and search engines.

2) The perceived level of agreement between the three groups of professionals is high to medium. Indeed, a clear distinction is drawn between the SEO routines implemented by editorial teams and those implemented by SEO professionals or experts. The perception of SEO professionals is that journalists need to apply the basics of content SEO and search trend analysis, while the work of SEO experts should center on advising editors about content optimization and advanced SEO strategies, ensuring that news stories are optimized for search engines, and identifying publication opportunities and business opportunities in the form of new customer services.

Generalist SEO consultants believe that editors should be able to apply a basic SEO to their news stories, while SEO experts should concern themselves with the more technical aspects of optimization. Somewhat tellingly, it should be stressed that SEO studies in university education today provide the basic SEO training for journalists; however, this training is insufficient if, in the future, the student wants to find employment as an SEO expert for an online media company. Likewise, all three groups of professionals identify the need to measure results using web analytics. Specifically, SEO experts working in the digital media draft reports proposing business strategies that can help news platforms obtain a better positioning and, as a result, more readers. SEO consultants working outside the digital news media stress the need to use web analytics tools specifically to improve user experience and, in this regard, universities do introduce students to tools such as Google Analytics so that they learn which metrics can be used to obtain a better understanding of users.

As for tools, those offered by Google are deemed essential by all three groups of professionals, above all Google Analytics and Google Search Console. In the case of paid SEO tools there is no consensus as to which are the most useful. In fact, in newsrooms their use is scarce. However, overall, based on an analysis of the responses given, the preferred tools appear to be SEMrush, Alexa, SimilarWeb and Sistrix. In contrast, for the SEO consultants, Ahrefs is considered the most complete tool. And as far as university training is concerned, free tools predominate, while there is a clear need for students to acquire a greater understanding of CMS and specific positioning plugins, specifically WordPress and the Yoast plugin. The use of positioning strategies in the news media is becoming more and more commonplace, although

there is a minority of journalists that remain resistant to change and who even think that optimizing news content for search engines does not improve the visibility of their news stories. It should be stressed that, although the three groups of professionals recognize the importance of the same types of SEO strategies (on-page, off-page and technical), digital news platforms and universities highlight the emergence of new SEO strategies, including the identification of trending searches via Google Trends and the analysis of social media interactions in order to write new stories to obtain better positioning.

Finally, the individuals interviewed here believe that SEO experts should be capable of recognizing a user's search intent and apply this to their content. Likewise, they believe they should be able to exploit semantic content to the full, improve user experience and undertake the necessary work to position voice searches. In parallel to this, the universities need to set about consolidating the teaching of SEO as a subject in its own right or, at least, as strategic content for training future professionals for the journalism sector, although it is not yet clear what profile and skills an SEO expert should have for the newsroom, given that the journalist and the engineer find themselves at opposite ends of this training spectrum.

3) SEO training needs to focus on providing SEO strategies specifically designed for news editorial teams and journalists, on the one hand, and on SEO strategies for SEO experts working within news media houses, on the other. SEO training for editors and journalists should focus above all on ensuring these teams acquire the essentials of on-page SEO and, more specifically, that they can:

- Optimize news stories for search engines;
- Analyze and recognize search trends;
- Identify best SEO practices; and
- Consider the ethics related to the use of search engine positioning strategies in relation to the social role of journalists.

In contrast, the training for students who want to find jobs in the SEO department of a digital news platform should focus on more advanced strategies, that is, ensuring they can:

- Identify publication opportunities based on search trends. To do this, students need to learn how to use Google Trends, analyze social media interactions and use such paid tools as NewsWhip and CrowdTangle.
- Identify business opportunities;
- Perform technical SEO actions focused on optimizing search intent, optimizing both voice and semantic searches, and optimizing user experience;
- Use SEO and web analytics tools, including those developed by Google (Google Analytics and Google Search Console) as the paid tools, such as SEMrush and Ahrefs;
- Perform off-page SEO actions, specifically that they study strategies to identify thematic vertical websites that can be purchased in order to obtain more web traffic and authority.

While this study has confirmed the adequacy of semi-structured interviews for obtaining relevant insights into the role played by SEO in the digital news media, in the future new analyzes need to be conducted that address the continuing development of this relationship. To gain these insights, other qualitative methods might favorably be adopted, including the Delphi technique, expert panels, or consensus methods.

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### References

- Alves, K., & Díaz-Noci, J. (2019). Informatius de televisió i audiència activa: Estudi de cas de TV3-Televisió de Catalunya. *Comunicació*, 36(1), 9-29. <https://doi.org/10.2436/20.3008.01.176>
- Arias-Robles, F. (2016). Teoría y práctica del lenguaje ciberperiodístico. SEO, redes e (hiper)textos. *Revista Mediterránea de Comunicación*, 7(2), 177-194. <https://doi.org/10.14198/medcom2016.7.2.8>
- Asser, M. (2012). Search engine optimisation in BBC News. <https://bbc.in/2J8TzIR>
- Caminero, L., & Sánchez-García, P. (2018). El perfil y formación del ciberperiodista en redacciones nativas digitales. *Hipertext.net*, (16), 4-15. <https://doi.org/10.31009/hipertext.net.2018.i16.04>
- Carlson, M. (2007). Order versus access: News search engines and the challenge to traditional journalistic roles. *Culture & Society*, 29(6), 1014-1030. <https://doi.org/10.1177/0163443707084346>

- Cebrián-Herreros, M. (2009). New forms of communication in the cybermedia. [Nuevas formas de comunicación: Cibermedios y medios móviles]. *Comunicar*, 17(33), 10-13. <https://doi.org/10.3916/c33-2009-01-001>
- Charlton, G. (2016). How much do journalists and editors need to know about SEO? <https://bit.ly/1UIOyp5>
- Codina, L., Iglesias-García, M., Pedraza, R., & García-Carretero, L. (2016). Visibilidad y posicionamiento web de informaciones periodísticas: El framework SEO-RCP. DigiDoc-UPF. <https://bit.ly/2QR08nA>
- Coller, X. (2000). *Estudio de caso. Colección cuadernos metodológicos*. Centro de Investigaciones Sociológicas. <https://bit.ly/2NjqlPZ>
- Davis, H. (2006). *Search engine optimization*. O'Reilly Media. <https://doi.org/10.4016/32139.01>
- Dick, M. (2011). Search engine optimization in UK news production. *Journalism Practice*, 5(4), 462-77. <https://doi.org/10.1080/17512786.2010.551020>
- Ellcessor, E. (2012). Captions on, off, on TV, online: Accessibility and search engine optimization in online closed captioning. *Television & New Media*, 13(4), 329-352. <https://doi.org/10.1177/1527476411425251>
- Enge, E., Spencer, S., Fishkin, R., & Stricchiola, J. (2012). *The art of SEO*. O'Reilly Media.
- García-Avilés, A., Carvajal, M., & Arias, F. (2018). Implantación de la innovación en los cibermedios españoles: Análisis de las percepciones de los periodistas. *Revista Latina de Comunicación Social*, 73, 369-384. <https://doi.org/10.4185/RLCS-2018-1260>
- García-Carretero, L., Codina, L., Díaz-Noci, J., & Iglesias-García, M. (2016). Herramientas e indicadores SEO: Características y aplicación para análisis de cibermedios. *El Profesional de la Información*, 25(3), 497-497. <https://doi.org/10.3145/epi.2016.may.19>
- García-Orosa, B., & López, X. (2015). Los titulares en los principales cibermedios europeos: Más funcionales y menos conceptuales. *Estudios sobre el Mensaje Periodístico*, 21(2), 833-847. [https://doi.org/10.5209/rev\\_esmp.2015.v21.n2.50887](https://doi.org/10.5209/rev_esmp.2015.v21.n2.50887)
- Giomelakis, D., & Veglis, A. (2015a). Employing Search Engine Optimization Techniques in Online News Articles. *Studies in Media and Communication*, 3(1), 22-33. <https://doi.org/10.11114/smc.v3i1.683>, <https://dx.doi.org/10.11114/smc.v3i1.683>
- Giomelakis, D., & Veglis, A. (2015b). Investigating search engine optimization factors in media websites, the case of Greece. *Digital Journalism*, 4(3), 379-400. <https://doi.org/10.1080/21670811.2015.1046992>
- Gonzalo-Penela, C., Codina, L., & Rovira, C. (2015). Recuperación de información centrada en el usuario y SEO: Categorización y determinación de las intenciones de búsqueda en la Web. *Index.Comunicación*, 5(3), 19-27. <https://bit.ly/2qmiwha>
- Google (Ed.) (2012). Google guide making searches even easier. Search operators. <https://bit.ly/1axVR8p>
- Google (Ed.) (2019a). Google news help. <https://bit.ly/2XqyBY9>
- Google (Ed.) (2019b). Search quality rating guidelines. <https://bit.ly/2TZssH7>
- Harry, D. (2018). How search engines rank web pages. <https://bit.ly/2L4OUtN>
- Heijmans, M. (2016). What to do to optimize your news site for SEO. <https://bit.ly/2J5vceZ>
- Iglesias-García, M., & Codina, L. (2016). Los cibermedios y la importancia estratégica del posicionamiento en buscadores (SEO). *Opción*, 32(9), 929-944. <https://bit.ly/2J8Skuu>
- López-García, G. (2015). Periodismo digital: Redes, audiencias y modelos de negocio. *Revista de Interculturalidad*, 10, 175-176. <https://bit.ly/2FPA59Y>
- Lopezosa, C., & Codina, L. (2018). Análisis de posicionamiento en medios de comunicación con herramientas SEO. Cobertura informativa de los premios OSCAR 2017. *Digidoc-EPI*. <https://bit.ly/2NFsjmo>
- Lopezosa, C., Codina, L., & Freixa, P. (2018). SEO y comunicación audiovisual: Análisis comparativo de portales de video bajo demanda. *Digidoc-EPI*. <https://bit.ly/2PUFb15>
- Lopezosa, C., Codina, L., & Rovira, C. (2019). Visibilidad Web de portales de televisión y radio en España: ¿Qué medios llevan a cabo un mejor posicionamiento en buscadores? *DigiDoc-EPI*. <https://bit.ly/2pyKbHC>
- Machill, M., Beiler, M., & Zenker, M. (2008). Search-engine research: A European-American overview and systematization of an interdisciplinary and international research field. *Media, Culture & Society*, 30(5), 591-608. <https://doi.org/10.1177/0163443708094010>
- Maciá-Domene, F. (2011). *Técnicas avanzadas de posicionamiento en buscadores*. Anaya Multimedia.
- Muerza-Ferrer, A. (2018). Producción de noticias radiofónicas en el contexto de la convergencia periodística: Análisis de Radio Marca y sus sinergias con Marca y marca.com. *Estudios sobre el Mensaje Periodístico*, 24(1), 758-795. <https://doi.org/10.5209/esmp.59979>
- Orduna-Malea, E., & Alonso-Arroyo, A. (2017). *Cybermetric techniques to evaluate organizations using web-based data*. Chandos Publishing.
- Richmond, S. (2008). How SEO is changing journalism. *British Journalism Review*, 19(4), 51-55. <https://doi.org/10.1177/0956474808100865>
- Rodríguez-Martínez, R., Codina, L., & Pedraza-Jiménez, R. (2010). Cibermedios y web 2.0: Modelo de análisis y resultados de aplicación. *El Profesional de la Información*, 19(1), 35-44. <https://doi.org/10.3145/epi.2010.ene.05>
- Rodríguez-Martínez, R., Codina, L., & Pedraza-Jiménez, R. (2012). Indicadores para la evaluación de la calidad en cibermedios: Análisis de la interacción y de la adopción de la Web 2.0. *Revista española de Documentación Científica*, 35(1), 61-93. <https://doi.org/10.3989/redc.2012.1.858>
- Smyrniaos, N. (2015). Google and the algorithmic infomedia of news. *Media Fields Journal*, 10, 1-10. <https://bit.ly/2XJIMN7>
- Smyrniaos, N., & Rebillard, F. (2009). L'actualité selon Google L'emprise du principal moteur de recherche sur l'information en ligne. *Communication & Langages*, 160, 95-95. <https://doi.org/10.4074/S0336150009002087>
- Smyrniaos, N., & Sire, G. (2014). The news according to Google how does algorithmic infomedia frame the work of French journalists? In *JSS-ECREA 2014 Conference, Thessaloniki*. <https://bit.ly/33bA5tN>
- Valles, M. (2002). *Entrevistas cualitativas. Colección cuadernos metodológicos*. Centro de Investigaciones Sociológicas.