Interactivity, searchability and web visibility in award-winning digital journalism

Interactividad, buscabilidad y visibilidad web en periodismo digital galardonado

Interatividade, capacidade de pesquisa e visibilidade na web no premiado jornalismo digital

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ABSTRACT | The main objective of this work is to carry out a comparative analysis between thirteen digital media websites that have won the Online Journalism Awards (ONA) and the World Digital Media Awards (WDMA) regarding the dimensions of interactivity, searchability and web visibility, through the application of an analysis protocol with nine parameters designed specifically for digital journalism (Santos-Hermosa et al. 2021;2022). In this sense, it is an innovative methodological proposal applied to a real case study in digital communication. The results show different levels of achievement of the dimensions of interactivity, navigability and visibility in the awarded digital media; that allows establishing a ranking from highest to lowest score. Some outstanding trends are also identified with respect to each dimension of study. This shows a series of successful strategies and weaknesses linked to interactivity, searchability and web visibility. The application of the protocol turns out to be useful not only for researchers but also for digital journalism professionals, providing data for the creation of new services and products focused on the user experience.

KEYWORDS: interactivity; navigability; web visibility; digital journalism; user experience.

RESUMEN | *El objetivo principal de este trabajo es realizar un análisis comparativo entre los trece sitios web de medios digitales ganadores de los premios Online Journalism Awards (ONA) y los World Digital Media Awards (WDMA) del año 2020 respecto a las dimensiones de interactividad, buscabilidad y visibilidad web, a través de la aplicación de un protocolo de análisis diseñado específicamente para medir estas dimensiones en el periodismo digital a través de nueve parámetros (Santos-Hermosa et al., 2021;2022). Los resultados muestran diferentes niveles de consecución de las dimensiones de interactividad, navegabilidad y visibilidad en los medios digitales premiados; que permite establecer un ranking de mayor a menor puntuación. También se identifican algunas tendencias destacadas por cada dimensión de estudio. Esto evidencia una serie de estrategias de éxito y debilidades vinculadas a la interactividad, buscabilidad y visibilidad web. La aplicación del protocolo resulta ser de utilidad no solo para los investigadores sino también para los profesionales del periodismo digital, aportando datos para crear nuevos servicios y productos centrados en la experiencia del usuario.*

PALABRAS CLAVE: *interactividad; navegabilidad; visibilidad web; periodismo digital; experiencia usuarios.*

RESUMO | O principal objetivo deste trabalho é realizar uma análise comparativa entre os sites de meios digitais vencedores dos prêmios *Online Journalism Awards* (ONA) e World *Digital Media Awards* (WDMA) em relação às dimensões de interatividade, buscabilidade e visibilidade na web, através da aplicação de um protocolo de análise desenhado especificamente para esta finalidade (Santos-Hermosa et al. 2021; 2022). Neste sentido, trata-se de uma proposta metodológica inovadora aplicada a um caso real de estudo em comunicação digital. O protocolo de análise Interatividade, Buscabilidade e Visibilidade em Jornalismo Digital (SAIPD, em espanhol) se articula em torno de nove parâmetros de estudo, cada qual contando com diversos indicadores e todos aparecendo agrupados nas três grandes dimensões de análise. Os resultados mostram diferentes níveis de consecução das dimensões de interatividade, navegabilidade e visibilidade nos meios digitais premiados, o que permite estabelecer um ranking decrescente (da maior a menor pontuação). Por outro lado, também se identificam algumas tendências em destaque a respeito de cada dimensão de estudo. Isto evidencia uma série de estratégias de sucesso e fragilidades relacionadas a interatividade, buscabilidade e visibilidade web. A aplicação do protocolo é útil não apenas para pesquisadores, mas também para profissionais do jornalismo digital, fornecendo dados para a criação de novos serviços e produtos centrados na experiência do usuário.

PALAVRAS-CHAVE: interatividade; navegabilidade; visibilidade web; jornalismo digital; SEO, ONA; WDMA; experiencia usuario.

INTRODUCTION

Interactivity, discoverability and visibility on the web are becoming increasingly important to improve the user experience (Fondevila et al., 2020; Santos-Hermosa et al., 2022; Lopezosa et al., 2021), not only in web environments in general, but also in various digital industries in particular. In this context, the media can strategically use these three dimensions and integrate them optimally into their products to improve their distribution, attract more readers and achieve greater audience engagement, as well as favor the user experience.

The aim of this research is therefore to evaluate the digital characteristics, in particular interactivity, discoverability and visibility on the Internet, of the thirteen media recognized at the Online Journalism Awards (ONA) and the World Digital Media Awards (WDMA) of 2020, to be awarded in 2021, two of the most prestigious international awards in the field of journalism. To this end, a comparative analysis is conducted using a case study (Yin, 2014; Coller, 2000; Eisenhardt, 1989). To this end, it is proposed to identify the best practices in the different parameters that take into account the interactivity, discoverability and web visibility of news media and that can be applied to digital media.

THEORETICAL FRAMEWORK

Interactivity in the media context

Interactivity refers to the various actions that can be performed within a website (Linares et al., 2016). In the journalistic field, it has been a recurring theme since 2010, since interactivity is considered one of the most characteristic dimensions of cyberjournalism (Masip et al., 2010). Among the most relevant research, we find studies that focus on the relationships between the website and the readers (Fondevila et al., 2020), on user comments and generated interaction conversations (González Manzanero, 2020) and on the mechanisms of digital interaction between journalists and news sources on Twitter (López-Rabadán et al., 2019).

Other works examine the typologies of interactivity and the role they play in the media (Córdoba-Cabús, 2020), as well as their relationship with visualization and good journalism (Freixa et al., 2021), to conclude that this interactivity is inextricably linked to quality journalism. In addition, there are studies on interactivity as a result of structured journalism (Freixa et al., 2017), on the interplay of interactivity and virtual reality in reporting (Domínguez-Martín, 2015) and even as a turning point for the development of new media such as "community media" (Speakman, 2019). This type of approach has enabled the development of studies that use qualitative methods with a focus on content analysis to measure the effectiveness of interactivity in the media (Brannon et al., 2021).

Searchability as an element of information architecture in digital media

Searchability is the set of services that a website makes available to the user so that they can subsequently search the information published by the medium itself (Linares et al., 2016). In this regard, the most prominent studies focus mainly on generalist websites and library websites and their impact on user experience (Morville & Sullenger, 2010; Shieh, 2012), although some cross-sectional studies focusing on cybermedia can also be observed (Linares et al., 2016; Lopezosa et al., 2020). Research on searchability and generalist websites has focused on analyzing the information architecture of aspects such as internal search (Spagnolo et al., 2010) and the findability of digital educational resources from the perspective of inclusive participation of users with disabilities (Navarrete & LujanMora, 2015). In terms of specific studies on libraries and discoverability, there are those that focus on internal search engine optimization (Morville & Sullenger, 2010; Shieh, 2012) and its impact on Google and Bing search results (Onaifo & Rsumussen, 2013). Finally, studies on findability and online media have focused on analyzing their quality through heuristic analysis protocols (Linares et al., 2016; Lopezosa et al. 2020).

Web visibility as a search engine optimization strategy

Web visibility is the relative ease with which the information produced by an online medium appears in news dissemination platforms, especially in search engines such as Google and Bing, thanks to the application of search engine optimization (SEO) strategies, among others (Linares et al., 2016). Among the visibility studies with applied analytical tools, the research on the web visibility of universities using SEMrush (Vállez et al. 2022) and Sistrix (Vállez and Ventura, 2020), the study of video-on-demand portals using Majestic (Lopezosa et al. 2018) or the research by García-Carretero et al. (2016), which identifies a series of analytical tools for the study of cyber media at the level of visibility such as the Alexa ranking, stand out.

In terms of SEO techniques and factors, there are studies that confirm that: the best techniques for visibility on the web refer to the optimization of the SEO title (Lopezosa et al., 2022), the optimization of the meta description, the use of keywords with a single focus, the application of hashtags (Windia et al., 2019), optimizing the user experience (Lopezosa et al., 2020) and, in short, a responsible use of SEO techniques and especially the application of white hat SEO (Shahzad et al., 2018).

METHODOLOGY

To achieve the aim of the study, we conducted a comparative case study (Yin, 2014; Coller, 2000; Eisenhardt, 1989) of thirteen digital media that are relevant

in terms of journalistic quality and have won ONA and WDMA 2020 awards. The winners were selected in the categories directly related to aspects of findability, interactivity and web visibility (table 1).

Digital media	Country	Award	Awarded category	Description of the medium
South China Morning Post	China	ONA	General Excellence in online journalism	Hong Kong reference newspaper (online version 1996)
San Francisco Chronicle	USA	ONA	General Excellence in online journalism	Founded in 1865. One of the largest newspapers in Northern California.
Public Source	USA	ONA	General Excellence in online journalism	Non-profit news organization. Serves the region of Pittsburgh
The Marshall Project	USA	ONA	General Excellence in online journalism	Non-profit news organization. Covers the criminal justice system of the USA.
The New York Times	USA	ONA	Knight Award for public service /Breaking News	Leading USA newspaper in terms of printing, circulation and influence
Star Tribune	USA	ONA	Breaking News	Minnesota newspaper focusing on information from Minneapolis, St. Paul, etc.
The Globe and Mail	Canada	ONA WDMA	Award for Technical Innovation in the service of Digital Journalism Best native Advertising & Branded Content Campaign	Covers national and international news from Canada
BBC News	UK	ONA	Award for Technical Innovation in the service of Digital Journalism	Develops news for television, radio and television news divisions. BBC Internet
La Nación	Argentina	WDMA	Best Data Visualization / Best in Social Media Engagement	Offers news, photos and videos from Argentina and the world.
The Hindu	India	WDMA	Best Marketing Campaign for News Brand	It is the second most widely distributed English-language newspaper in India.
Bloomberg Media for Black Rock	USA	WDMA	Best native Advertising / Branded Content Campaign	Provider of news, photos, videos and data for publishers, broadcasters and other companies in more than 130 countries.
Guardian News & Media	UK	WDMA	Best News Website or Mobile Service / Best paid Content Strategy	Guardian Media Group is one of the world's leading media organizations. UK Communication
Dagbladet	Norway	WDMA	Best in Lifestyle, Sports, Entertainment Website or Mobile Services	First national newspaper with online edition

Table 1. Selection of cases based on ONA and WDMA 2020 awards granted in 2021

Source: Own elaboration.

The analysis protocol of interactivity, findability and visibility in digital journalism, also known by the acronym SAIPD (Santos-Hermosa et al., 2021), is used for the comparison. SAIPD uses the *Sistema Articulado de Análisis de Cibermedios* (SAAC) (Articulated System of Analysis of Cybermedia) (Codina et al., 2014) and the *Sistema de la Evaluación de Recursos Digitales en Línea* (Online Digital Resources Evaluation System) (Codina, 2000). Each of the analysis parameters and indicators used, as well as the evaluations, therefore follow the main guidelines of the aforementioned methodologies, which have been consolidated for years, especially the SAAC.

The parameters and indicators of the SAIPD protocol used for the analysis are listed in table 2. SAIPD is organized around nine study parameters (which determine what is assessed), each of which has different indicators (which indicate how it is assessed) (Santos-Hermosa, Lopezosa & Codina, 2021; 2022).

SAIPD ANALYSIS PROTOCOL

Dimension	Parameter	Indicator	Score
INTERACTIVITY	Digital media user relationship	**Reader-author written communication** The user can send a message through a form or e-mail to the author.	0-1
		Twitter-mediated reader-author communication The user can send a message via Twitter to the author.	0-1
		Facebook-mediated reader-author communication The user can send a Facebook message to the author.	0-1
		Reader-author communication mediated by Instagram The user can send a message via Instagram to the author.	0-1
		Reader-writer communication The user can contact the editorial staff of the medium.	0-1
		Twitter-mediated reader-editor communication The user can contact the editorial team of the media outlet via Twitter.	0-1
		Readers' comments The user can comment on the news and view other readers' comments.	0-1
		Readers' votes The user can participate in surveys created by by digital media or other proposed voting options	0-1
		Reader ratings The user can specify his/her vote, express preference or rejection, or more or less satisfaction.	0-1
		Comments in blogs of the digital media The user can comment on the entries published in the media's blogs.	0-1
		Rectifications The user can rectify information published by the medium.	0-1
		Confidentiality channels The user can submit reports or share information with the media anonymously and securely.	0-1

INTERACTIVITY	2. Contents generated by users	**User-generated texts** The user can send texts to the media for publication.	0-1
		User-generated photos The user can send photos to the media for publication.	0-1
		User-generated videos The user can submit self-made videos for publication.	0-1
	3. User relationship user	**Contact between registered users** User communication with other registered users.	0-1
		Contact between users (readers) and other users **The user can share information about the medium with other users via social networks.**	0-1
		Grouping of information according to user activity The user can access information grouped according to other users' queries.	0-1
	4. Customization of contente	**Newsletter offer** The user can subscribe to newsletters offer	0-1
		Syndication of content to mobile or e-mail The user can syndicate content from the digital media via cell phone or e-mail to consume specific information selected by the user.	0-1
		Specific subscriptions User can subscribe to specific content or formats	0-1
		Recommendations based on recent browsing or most viewed/read User can access content recommendations based on the reader's recent browsing or most viewed or read by users.	0-1
SEARCHING	5. Access to information	**Structural navigation** Does the home page have a structural navigation?	0-1
		Internal linking Do the news items incorporate, within the text, internal links to related news items that complement the information?	0-1
		External linking Do the news items incorporate within the text external links to related news items that complement the information?	0-1
		Tag cloud Do news items incorporate tag clouds to access other news items?	0-1
		Taxonomy Does the digital media, in its mobile and desktop version, present a navigation based on the use of categories and, optionally, tags?	0-1
		Adaptation to mobile phones Does the medium have an appropriate mobile version (= with the same features as the desktop version)?	0-1
		Mobile app identification Can the mobile app be identified and downloaded from the media home page when a user accesses from a mobile device?	0-1
	6. Metadata	**ALT attribute in image** Do the news images of each media have an ALT attribute?	0-1
		Semantic markup with schema.org Does the medium use Schema.org semantic markup?	0-1
		SEO title and meta description Does the media have optimized title and meta-description tags?	0-1
	7. User signals	**Permanence on the site** Do users have a positive behavior with a high percentage of permanence on the site?	1-n
		Bounce rate Do users have a positive behavior with a low bounce rate percentage?	1-n
		Page views Do users have a positive behavior with a high percentage of the number of pages visited?	1-n

SEARCHING	8. User searchability	**Simple search** Does the medium have a simple search system/keyword search engine?	0-1
		Advanced search - direct syntax Does the medium have an advanced search system that allows a Boolean or parameterized keyword search?	0-1
		Advanced "assisted" search (filter form) Does the medium have an advanced assisted search system with any kind of filter form?	0-1
		Sorting by date on results page Does the media results page offer date sorting options/filter?	0-1
		Sorting by relevance on results page Does the media results page offer any relevance sorting options?	0-1
		Use of filters in the results page Does the media results page offer any option to group or narrow by filters?	0-1
WEB VISIBILITY	9. Web visibility	**Authority score (overall)** SEMrush metrics to measure the overall quality of the analyzed website and its influence on web visibility.	1-n
		Organic traffic (country of origin) Measures the monthly amount of overall web traffic of the site under analysis.	1-n
		Top 100 keywords (general) Identifies the number of keywords for which a website appears in the search engine index.	1-n
		Reference domains for backlinks (general) Number of referrer domains linking to the analyzed website.	1-n
TOTAL			N

Table 2. Adapted from Santos-Hermosa, Lopezosa & Codina (2021, 2022).

The indicators have scores based on a multiple system: binary values (0 or 1) and values expressed on a scale (between 1 and n). The binary system used for most parameters assesses the presence (yes=1) or absence (no=0). For some parameters (7 and 9), the results have to be summarized in a different way. Therefore, a relative score is calculated for the number of websites analyzed (n) according to the relative position in the ranking of each website (in this case n=13). For this measurement, the tool SEMrush (https://www.semrush.com/) is used, which has metrics to analyze user behavior, the overall quality of the website and its influence in terms of SEO and web presence. The data collection and analysis was carried out in August, September and October 2021.

RESULTS

First, the overall results of the individual digital newspapers are presented. Secondly, the results are presented according to parameters and grouped within the three dimensions examined. Third, each digital medium is analyzed in terms of the degree of achievement of each parameter and dimension. Finally, the performance levels of the thirteen media analyzed are presented.

Aggregate results

Below are the overall results that each digital newspaper achieved on each of the parameters analyzed, as well as the total sum of these results ranked from highest to lowest score (figure 1). The digital media with the highest overall score –across all parameters– is *The New York Times*, followed by *Guardian News & Media* and *Bloomberg Media*. Conversely, the media with the lowest scores are *Public Source* and *The Marshall Project*.

Medio de comunicación	P1	P2	P3	P4	P5	P6	P7	P8	P9	Total
The New York Times	10	2	3	4	7	3	17	5	51	102
Guardian News & Media	5	1	0	3	7	3	25	5	47	96
Bloomberg Media	7	0	2	3	6	3	25	5	41	92
Star Tribune	8	1	2	3	6	3	36	3	27	89
La Nación	6	0	2	3	7	3	31	6	24	82
BBC News	4	0	0	3	7	3	24	2	37	80
South China Morning Post	8	2	2	3	7	3	21	2	30	78
Dagbladet	3	3	0	2	7	3	34	5	16	73
San Francisco Chronicle	8	2	2	3	6	3	25	3	18	70
The Globe and Mail	9	1	2	3	7	3	12	4	27	68
The Hindu	5	0	2	2	7	3	9	5	33	66
Public Source	3	1	1	3	5	3	9	2	4	31
The Marshall Project	2	0	0	2	6	1	5	2	9	27

Figure 1. Final score according to parameters by media

Results by parameters and dimensions

Interactivity

Relationship between digital media and users (P1). *The New York Times* is the medium that most facilitates the contact relationship with the reader, followed by the *Star Tribune. The Marshall Project* (2), on the other hand, is the most limited in this respect. All media facilitate some type of digital media-user relationship. The most common indicators are: Twitter-mediated communication between reader and publisher (80%), reader-publisher communication (73.3%), and written communication between reader and author (66.6%). The vast majority of digital media therefore communicate with their readers through written communication

with editors and authors (traditionally or via Twitter). In contrast, the least used indicators of interaction with readers are: reader-author communication mediated via Instagram, reader reviews (7.6%), Facebook (23.07%) and the possibility for them to report corrections (23.07%).

User-generated content (P2). *Dagbladet* has better features for users to generate content for publication in the media, as it allows the submission of text, images and videos. Five other media outlets (*The Marshall Project, BBC News, La Nación, The Hindú* and *Bloomberg media for Black Rock*) do not offer this option. The rest offer at least one option, which is usually textual. Thus, 61.5% (8) of the digital media analyzed offer the reader the option of creating textual content for the publication. However, it is unusual to find options that allow the sending of content in the form of images (only in 3) or videos (in 2).

User-user relationship (P3). The New York Times is the digital medium that best ensures interaction between registered and external users. At the opposite extreme, four digital media (*BBC News, La Nación, The Hindú* and *Bloomberg Media for Black Rock*) have no options for interaction between users. A total of 69.2% of the media (9) allow communication between registered users or between their readers and other external users (61.5%, 8). Only one medium provides access to information grouped according to other users' requests. Personalization of content (4). *The New York Times* is the medium with the best personalization of content. In contrast, three media (*The Marshall Project, The Hindu* and *Dagbladat*) offer few options for personalized access to content. All media offer specific subscriptions (for a specific content or product). With the exception of *The Marshall Project*, the remaining media outlets offer the option of syndicating content to cell phones or via email, and the vast majority (11) also offer newsletters. In contrast, only *The New York Times* offers access to content recommendations based on the reader's recent browsing or most viewed or read content.

Searchability

Parameters and indicators for analyzing searchability are information access, metadata, user signals and searchability.

Access to information (P5). 61.5% (8 media: *South China Morning Post, The New York Times, The Globe* and *Mail, BBC News, La Nación, The Hindú, Guardian News Media* and *Dagbladet*) have a good information architecture and fulfill all indicators. The other media also ensure good access to information (6 of the 7 indicators). The least common feature is the non-labeling of mobile apps (not present in 11 media), followed by the inclusion of tag clouds for access to other news (only present in 9).

Metadata (Q6). All media (except one) have metadata to describe their news. *The Marshall Project* uses optimized title and meta description tags, but does not use the ALT attribute for images or semantic markup with Schema Org.

User signals (P7). *Star Tribune* has the best user signals and is close to the maximum score set for this parameter (36 out of 39) for the three indicators analyzed. It is followed by *Dagbladet* (34 out of 39) and *La Nación* (31 out of 39). *The Marshall Project* is in last place for this parameter. Taking a closer look at the indicators, the media with the longest time spent on the website are *Bloomberg Media for Black Rock* (with the highest score, 13) and *Star Tribune* (12), and with the lowest, *The Public Source* (1). In terms of bounce rate and number of page views, the media with the highest scores are *Dagbladet* and *Star Tribune* (13 and 12 respectively). In contrast, *The Marshall Project* (1) has the worst bounce rate and *Public Source* (2) and *The Hindu* (3) have the lowest number of page views.

User searchability (P8). While *La Nación* ensures the best user searchability (with 6 out of 6 points), three other media (*The Marshall Project*, *Public Source* and *BBC News*) occupy the lowest positions. This parameter is quite even in terms of the presence of indicators, as 53.8% (7) of the media obtain a high score (between 4 and 6), while the rest (5) obtain scores between 2 and 3. On the other hand, the option of "assisted" advanced search using a filter form is rather uncommon as it is only available in one medium. The second most common search option in the digital media is the use of filters on the results page (in 69%, 9 media). Sorting the results by date or relevance is less important, in 46.1% (6) and 53.8% (7) respectively.

Web visibility

Web visibility (P9). *The New York Times* is the medium with the best web visibility (51 out of 52 total points), as it achieves the maximum in 3 out of 4 indicators (organic traffic, top 100 keywords and reference domains for backlinks). It is followed by *BBC News* (with 37 out of 52 points). *Public Source*, on the other hand, ranks last (4 out of 52). It can be seen that 61.5% of the media are above half of the maximum score set for this parameter, i.e. 8 out of a total of 13 media achieve a score of over 26 points. The rest (5 media) are below half (between 4 and 25 points).

Results by level of achievement

Following the previous general ranking (figure 1), each digital medium is now analyzed independently and in terms of the level or degree of fulfillment of each dimension. These levels were determined based on the average values obtained for each parameter and dimension. Specifically, the arithmetic mean is used, which makes it possible to obtain a score by adding the individual values (in our case, the number of indicators in each parameter) and dividing them by the total number

of measurements (i.e., the maximum number achieved by each medium in each parameter on the one hand and in each dimension on the other).

Table 3 summarizes these values and relates each digital medium to its level of performance by parameter (the average achieved in each parameter) and by study dimension (the average achieved in interactivity, searchability and web visibility).

The measurement scale, which ranks the digital media according to their level of performance, is itself constructed on the basis of arithmetic averages and the numerical range 0-10 in the form of intervals achieved by each medium: very poor (mean of 0 and 2.9), poor (mean of 3- 4.9), adequate (mean of 5- 5.9), good (mean of 6- 6.9), very good (average of 7-8.9), and excellent (average of 9-10).

Below there is a detailed list of the individual media in terms of their performance in the areas of interactivity, searchability and visibility on the Internet:

The New York Times: the media with the best level of performance in the dimensions analyzed, with a maximum score in 5 of the 9 parameters analyzed and an overall score of 8.9, offering an excellent service for visibility on the Internet (average score of 9.8). It also has a very good level of very good interactivity options (8.75), especially the systems for the relationship between digital media and users, and also very good search options (8.15). The most deficient level, which could be improved, is that of user signals (4.3).

Guardian News and Media: media with top scores in some parameters (metadata and access to information) and an overall score of 8.9, achieving an excellent level in the web visibility dimension (9) and a very good level in the searchability dimension (8.6). However, apart from the personalization of content, it scores poorly in the interaction dimension (3.75), particularly in relation to user-generated content and the user-user relationship.

Bloomberg Media: average with a good overall level (7) and maximum score in only one parameter (metadata). In this regard, the findability dimension is the best (8.3), followed by visibility on the web (7.9). Interactivity has a sufficient level (5), which highlights the lack of services with user-generated content.

Star Tribune: media with an overall good level (6.4), characterized by being the media with the best user signals (9) and with the highest score in only one parameter (metadata). As with the previous media, the searchability dimension is the one with a very good level (8.3). Interactivity is generally good (6), but has shortcomings in terms of user-generated content. Finally, visibility has a sufficient level (5.2).

DIGITAL MEDIA	PARAMETERS (max. score per parameter)	P1 (12)	P2 (3)	P3 (3)	P4 (4)	Total INTERACTIVITY (22)	P5 (7)	P6 (3)	P7 (39)	P8 (6)	Total SEARCHABILITY (55)	P9 (52)	Total WEB VISIBILITY (52)
THE NEW YORK TIMES	Num. indicators	10	2	3	4	19	7	3	17	5	32	51	51
	Media	8,3	6,7	10	10	8,8	10	10	4,3	8,3	8,2	9,8	9,8
GUARDIAN NEWS & MEDIA	Num. indicators	5	1	0	3	9	7	3	25	5	40	47	47
	Media	4,2	3,3	0	7,5	3,8	10	10	6,4	8,3	8,7	9	9
BLOOMBERG MEDIA	Num. indicators	7	0	2	3	12	6	3	25	5	39	41	41
	Media	5,8	0	6,7	7,5	5	8,6	10	6,4	8,3	8,3	7,9	7,9
STAR TRIBUNE	Num. indicators	8	1	2	3	14	6	3	36	3	48	27	27
	Media	6,7	3,3	6,7	7,5	6,1	8,6	10	9,2	5	8,2	5,2	5,2
LA NACIÓN	Num. indicators	6	0	2	3	11	7	3	31	6	36	24	24
	Media	5	0	6,7	7,5	4,8	10	10	7,9	10	9,5	4,6	4,6
BBC NEWS	Num. indicators (total)	4	0	0	3	7	7	3	24	2	36	37	37
	Media	3,3	0	0	7,5	2,7	10	10	6,2	3,3	7,4	7,1	7,1
SOUTH CHINA MORNING POST	Num. indicators	8	2	2	3	15	7	3	21	2	33	30	30
	Media	6,7	6,7	6,7	7,5	6,9	10	10	5,4	3,3	7,2	5,8	5,8
DAGBLADET	Num. indicators	3	3	0	2	8	7	3	34	5	49	16	16
	Media	2,5	10	0	5	4,4	10	10	8,7	8,3	9,3	3	3
SAN FRANCISCO CHRONICLE	Num. indicators	8	2	2	3	15	6	3	25	3	37	18	18
	Media	6,7	6,7	6,7	7,5	6,9	8,6	10	6,4	5	7,5	3,5	3,5
THE GLOBE AND MAIL	Num. indicators	9	1	2	3	15	7	3	12	4	26	27	27
	Media	7,5	3,3	6,7	7,5	6,3	10	10	3,1	6,7	7,5	5,2	5,2
THE HINDU	Num. indicators	5	0	2	2	9	7	3	9	5	24	33	33
	Media	4,2	0	6,7	5	4	10	10	2,3	8,3	7,7	6,3	6,3
PUBLIC SOURCE	Num. indicators	3	1	1	3	8	5	3	9	2	19	4	4
	Media	2,5	3,3	3,3	7,5	4,2	7,1	10	2,3	3,3	5,7	7,7	7,7
THE MARSHALL PROJECT	Num. indicators	2	0	0	2	4	6	1	5	2	14	9	9
	Media	1,7	0	0	5	1,7	8,6	3,3	1,3	3,3	4,1	1,7	1,7

Table 3. Breakdown of scores by indicator.

Source: Own elaboration

La Nación: average with an overall good level (6.2). In three of the four parameters for findability (metadata, access to information and findability by users) it achieves the highest score, so that this dimension has an excellent level (9.4) and the best average among the sites analyzed in this aspect. However, in the other two dimensions –web visibility (4.6) and interaction (4.8)– the level is poor and there are no options for user-generated content.

BBC News: media with an overall sufficient level (5.7), with top scores in two parameters (metadata and access to information), but with weaknesses in 4 of the 9 parameters analyzed. It stands out for its very poor interactivity (2.7), with zero or very low scores in all parameters of this dimension, except for content personalization. In terms of visibility on the Internet (7.1) and findability (7.3), it achieves a fairly good level, although it shows deficits in the specific parameter of findability by users.

South China Morning Post: average with a good overall level (6.6). It has a very good level in findability (7.1), with top scores in two parameters (metadata and access to information) and a good level in interactivity (6.9), with good coverage in all parameters included. Web visibility, on the other hand, is weaker (5.8).

Dagbladet: media with an overall sufficient level (5.5), whose strong aspect is findability, with an excellent average (9.3) due to good coverage of all parameters. However, it receives poor scores for visibility on the Internet (3) and interactivity (4.4). In the latter case, the discrepancy in scores between the user-generated content parameter (where it scores highest) and the user-user relationship parameter (with a zero score) is notable.

San Francisco Chronique: medium with a moderately good level (6), especially with shortcomings in Web Visibility (with an average of 3.5), as the other two dimensions are between a good level in interactivity (with 6.9) and a very good one in Navigability (7.5). The best covered aspects are metadata (with the highest score), access to information (8.6) and personalization of content (7.5).

The Global and Mail: average with a good level (6.3), with very good navigability (7.4), where it receives top marks in the metadata and access to information parameters, but shows weaknesses in the user signals parameter (3.1). The average interactivity is good (6.2), with the exception of the aspect of user-generated content, and visibility on the web reaches a sufficient level (5.2).

The Hindu: medium good level (6), but with insufficient interactivity (4), especially in terms of the medium user relationship (4.2) and user-generated content (0).

Although it generally has a very good findability, the user signals are very poor (2.3). On the other hand, the web visibility dimension is better covered (6.3).

Public Source: average sufficient level (5.9), with deficiencies in 5 of the 9 parameters analyzed. The weakest dimension, as in the previous case, is interactivity (4.2), where it only performs well in content personalization. Visibility on the web (7.7) is better than navigability, which achieves a sufficient average (5.7) but is poor in terms of user signals and navigability. This medium also stands out because it is one of the few that does not achieve the highest score for the metadata parameter.

The Marshall Project: average insufficient level (2.5) in all dimensions, especially in interactivity (1.6) and visibility on the web (1.7), where it has a very poor level. It is the worst digital newspaper in the sample analyzed, with plenty of room for improvement.

In general, all but one of the digital media analyzed performed adequately in the aspects of interactivity, navigability and web visibility (Figure 2).

While the majority of the sample analyzed (Figure 3) falls into the good and adequate categories, there are only two cases where a higher level is achieved (namely *Guardian News & Media* and *Bloomerg Media*), and two others that stand out at both ends of the scale: the excellent level in the case of *The New York Times* and the very poor level in the case of *The Marshall Project.*

However, these performance levels vary within each dimension, depending on the independent overall scores for interactivity, navigability and web visibility. This means that the positioning and ranking of digital media also varies depending on the focus on one dimension or another (figure 4).

The level of performance in interactivity fluctuates between a medium and a low level of performance and continues to place *The New York Times* at the highest level –although it has lost its top position overall– and *The Marshall Project* at the lowest level. The level of findability is higher, with most media performing very well; in this case, *La Nación* and *Dagbladet* are at the highest level. Finally, visibility on the Internet is more evenly distributed on the scale, with an equal number of media with good and poor scores.
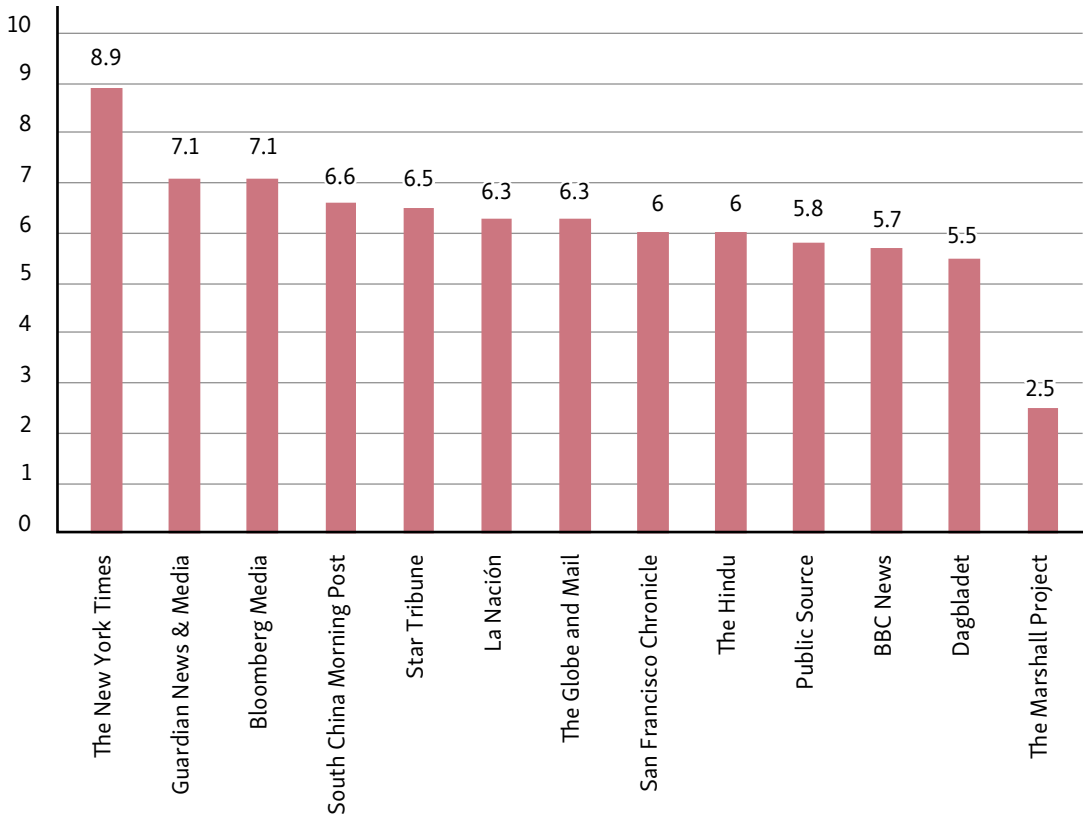
Figure 2. General comparison of the award-winning digital media analyzed
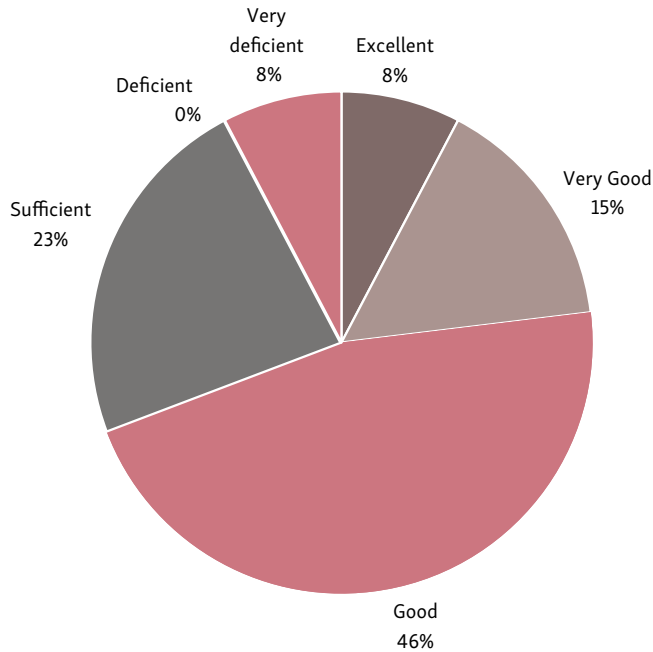
Source: Own elaboration.

Figure 3. Overall comparison of the awarded digital media by level of achievement
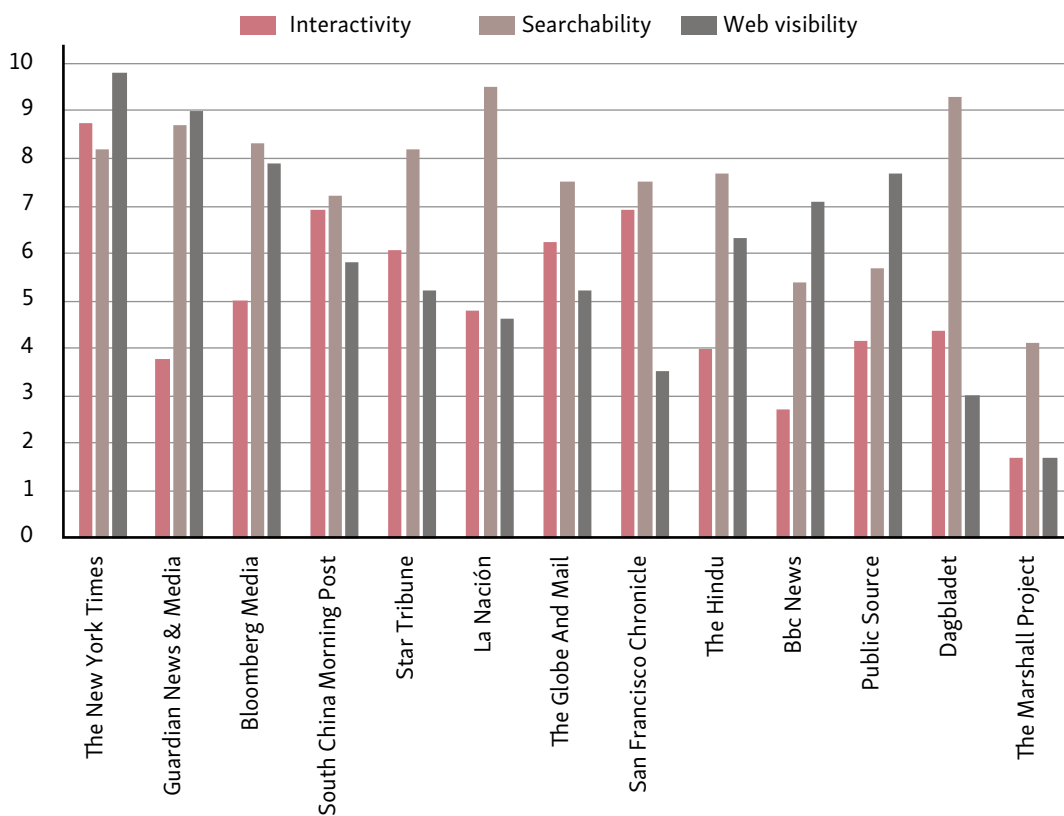
Source: Own elaboration.

Figure 4. Overall comparison of award-winning digital media by dimensions

Source: Own elaboration.

DISCUSSION

Thank you to this research, we can propose a general diagnosis of interactivity, discoverability and visibility on the Internet in the journalistic sector through a case study of online reference media. This allows us not only to know the degree of application of these three dimensions, but also to identify the challenges and opportunities of their implementation for other media.

The results confirm a clear commitment of the media to innovation, both in terms of the state of digital journalism in general and the use of technological tools, although it is true that they have great room for improvement.

Likewise, this work shows that the application of SAIPD allows us to identify strengths and weaknesses in terms of interactivity, searchability and web visibility of the analyzed media. The method can also be applied to other case studies, which in turn can be compared with previous work with similar characteristics or contexts, so as not to fall into a certain technological determinism.

It is important to keep in mind that some SAIPD parameters, especially 7 and 9, may have specific effects on the overall results of the media sample due to their values. In this sense, it could be interesting to strengthen and even adjust the scoring of these parameters. However, when it comes to analyzing and drawing conclusions for improvement, we do so in a disaggregated way and based on the results of each media.

It is also worth noting that a high or low score in the SAIPD ranking is not directly related to good or bad journalism. Likewise, it is important to emphasize that these parameters and the corresponding indicators measure good performance in terms of interactivity, searchability and visibility on the Internet. Be that as it may, if we return to objective 1, the digital media analyzed generally show different levels of performance in the three aspects. When comparing the individual media, significant differences can be observed, which allow the creation of quality rankings and different gradations in the implementation of functions. On the other hand, if we look at objective 2, some similarities can be identified that show transversal behaviors and trends between the digital media in relation to the aspects analyzed. In general, it can be said that most media have a high degree of findability, while visibility on the Internet - depending on the newspaper - varies greatly and interactivity is rather weak.

Looking at the individual aspects in more detail, some of the successful strategies identified in relation to searchability are the correct architecture of the information and description using metadata. Another trend identified is the lack of advanced options that make search more efficient (e.g., 'assisted' search or sorting by relevance). In this sense, Guallar and colleagues (2012) found that the simplification of media search systems may be related to making the process easier for the average user. Therefore, some recommendations to improve searchability would be to enhance the search functions as well as the knowledge of the user's experience with digital media through attractive and easy-to-use search options and filters.

With regard to visibility on the web, no clear pattern relating this parameter to others could be identified in view of the different results. This statement is in line with other studies on specific areas of digital media (Lopezosa et al., 2019; Lopezosa et al., 2020). Therefore, it is recommended to strengthen search engine positioning as a specific business strategy within media seeking a greater web presence.

The pattern of weaknesses identified in terms of interactivity shows that there is still much room for improvement in this dimension. The weaknesses focus mainly on the lack of options that allow users to create content and interact with each other. According to Pius Nedumkalle (2020), interactivity is a crucial factor

that can significantly improve media consumption. Another recommendation to consider would therefore be the introduction or improvement of features that put the user more in the foreground, so that they in turn can improve their satisfaction and use of the medium.

CONCLUSIONS

This research has confirmed to us that both the sequence of gradations and the trends identified are useful to highlight strengths and weaknesses that need to be improved and to improve sustainability and innovation in today's digital media. The proposed recommendations aim to turn weaknesses into opportunities within plans or strategies that ensure greater interactivity, discoverability and web visibility in digital media. Finally, it should be noted that this study should be seen as an exploratory analysis of a sample of digital media winners of journalism awards through the application of the SAIPD protocol. Therefore, it is a priori a multiple-case study that includes a selected sample of cases given the particular characteristics of the media analyzed. However, the procedure can be applied to any type of digital newspaper. Alternative research could focus on extending the comparative analysis to other digital media, for example in a specific geographical area or in a specific sector. It would also be interesting to apply this protocol to the study of other types of media, such as radio portals, television, streaming platforms, newsletters, etc.

Assuming that the applied protocol is useful not only for researchers but also for digital journalism professionals, it provides data to develop new services and products focused on user experience. In this case, some of the challenges are related to greater interaction between users and enabling more options for content creation by users.

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