SCImago Media Rankings (SMR): situation and evolution of the digital reputation of the media worldwide

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Abstract
In this paper, we present the results of the first global ranking that assesses the status and evolution of the media according to their digital reputation. We analyzed 4,541 general information digital newspapers, both legacy and native, published in 200 countries and in more than 80 languages. Methodologically, we applied a new Digital Reputation Indicator (DRI) as a composite evaluation and measurement tool, weighting web metrics from globally recognized, balanced, and validated sources such as Semrush, Ahrefs, and Majestic. This establishes the foundations of the SCImago Media Rankings (SMR) as a balanced watchdog resource for analysis of the digital transformation of the media and as an international catalog of journalistic websites, with a consensus-based and homologous classification and typification that can be applied to different countries. The main conclusion of the first three quarterly waves, carried out between September 2022 and March 2023, is that there is a direct relationship between the degree of socioeconomic and cultural development of the countries and the digital reputation achieved by their media outlets in the ranking. Additionally, the influence of language is notable as a determining factor in the positioning of the media in the ranking. The top positions are occupied by reference digital newspapers located in Western countries of the Northern Hemisphere, especially those in the English language.

Keywords
SCImago Media Rankings (SMR); Digital Reputation Indicator (DRI); Global press; Media system; Digital observatory; Global media map; Digital newspapers; New media; Digitization; Literacy.
1. Introduction

Since their emergence in the 1990s, digital media have passed through various stages of a transformation process that continues to mark the roadmap of news media companies (Deuze; Witschge, 2018). They have moved from the traditional paradigm of the media industry to a horizon of transmedia convergence (Jenkins, 2008; Levinson, 2012; Renó; Flores, 2012; Jarvis, 2015), where new narratives and professional profiles coexist with the volatile consumption habits of user-prosumers (Toffler, 1980; Masip, 2016; Vázquez-Herrero, 2022), moving from print and audiovisual to multimedia.

All these changes take place in a complex context of challenges ranging from the search for business models that truly guarantee the viability of the media to the reinforcement of their democratic role as prescribers of information, watchdogs of power, and battle horses against disinformation. This is not to mention the impact of technological developments such as 3D and artificial intelligence (AI) that are blurring the very boundaries of the media ecosystem and shaking up the very meaning of the profession.

To evaluate this international digital media ecosystem (Scolari, 2021; Orihuela, 2021; Tubella; Alberich, 2012), SCimago Media Rankings (SMR) was created: https://www.scimagomedia.com

SMR is a pioneering resource that measures the digital reputation of the media on a global scale with quarterly updates. In testing since September 2022 and publicly accessible since January 2023, SMR offers an analysis of the visibility and reputation of the general information digital press on a global scale, and is based on a sample of 4,987 digital newspapers published in more than 80 languages. The resource includes both formerly print (legacy) and native digital media from a total of 200 countries and includes publications with territorial coverage (SMR evaluates and compares media with regional, national, and international coverage).

The project has also emerged as a watchdog of the media ecosystem and the processes of transformation and digital evolution, with the purpose of growing in two complementary directions: on the one hand, to expand the size and diversity of the global sample of media, and on the other, to carry out periodic reviews with constant updating. SMR publishes all its data openly to facilitate collaborative and sectoral research.

Likewise, it will also be open to contributions from both academia and news media companies, in three directions: (1) to evaluate the consistency of the Digital Reputation Indicator (DRI) that classifies the media in the SMR; (2) to enrich the sample, deepening the specific knowledge of each media through metadata and reinforcing the presence of digital native media; and (3) to help journalistic media improve their positioning and web reputation, with a constructive and proactive approach. To this end, SMR will create a space for participation on the web and will activate a line of advice and consultation from the multidisciplinary team developing the project.

SMR has been prepared by SCimago Research Group, a Spanish company specialized in scientometrics, scientific publishing, and web visibility with an important international impact and extensive experience in the field of scientific publications. The project has a board of directors made up of researchers from the Universidades de Granada, Navarra, and Pompeu Fabra.

Having a method to rank these characteristics is considered appropriate given that numerous authors have been warning about the deficiencies of the current digital measurement methodologies (Maestro-Espinola, 2015; Solanas; Carreras, 2011) and the need to establish new, more transparent, comparable, and multiplatform systems (Nielsen, 2020; Hernández-Pérez; Rodriguez-Mateos, 2016; Papi-Gálvez, 2014) that connect audience measurement with big data, advancing context and interpretation (Rodríguez-Vázquez; Direito-Rebollal; Silva-Rodríguez, 2018; Livingstone, 2019).

From a perspective that is not only academic (Carlson, 2020), but also professional and commercial (Quintas-Froufe; González-Neira, 2021), the complexity of having adequate metrics, agreed upon and adapted to the digital reality, along with unaddressed challenges such as monitoring based on the individual and not on devices, or introducing massive analysis and AI techniques to increase the accuracy of the data, is noted. In short, we are faced with a scenario of gaps and challenges that justify the opportunity to tackle a project with the ambition and developments presented here.

2. Background and context of the project

SCimago Media Rankings (SMR), the global media ranking resource that is presented herein, provides initial evidence as to the usefulness and application possibilities of the Digital Reputation Indicator (DRI). It consists of a composite evaluation and measurement tool that weights web metrics from global, balanced, and validated sources such as Semrush, Ahrefs, and Majestic. This composite metric tool has been designed with the precise purpose of incorporating objective and quantifiable criteria to analyze the media in the digital dashboard.

The objective of SMR is to provide a resource for the qualitative comparison of digital media according to a
webmetric model on the basis of their level of citation by other websites (citation flow), the quality of the sites linked to the media (trust flow), and the level of authority associated with their domain (domain rating and a-score). This composite of metrics aims to combine the rigor, objectivity, and precision offered by webmetrics to present an indicator of the brand value of the media, and in parallel, as a quality factor in the competition for audiences. This can therefore be understood as an avenue of exploration and research that may be of interest to both the academic community and the journalism industry, as more than a quarter of a century of research in digital journalism has already been completed (Salaverría, 2019b).

On the one hand, the DRI allows for a uniform comparison to be made for digital media anywhere in the world, regardless of other characteristics, size, coverage, or language. The only specification for evaluating their digital reputation is that they are journalistic media that operate preferentially on the digital platform, that is, that they have at least a significant part of their audience on the Internet. From this perspective, SMR presents an unprecedented international mapping and media classification. To date, there was no global catalog of digital news media based on web metric data, nor was there an analysis indicator that would allow for such an assessment to be made on a global scale. SMR structures its ranking according to multidimensional metrics capable of providing, for the first time, a comprehensive approach to the relative position of some media compared with others, as well as to gauge their level of adaptation to the digital environment. On the other hand, the DRI allows for analyses and comparisons to be made both on a global scale and in more restricted territorial frameworks, such as continents, countries, or even linguistic spaces.

The webmetric comparison proposed by the DRI solves the shortcomings pointed out by several authors (Olteanu et al., 2019; Graves et al., 2010) in previous digital media classification systems. Faced with sporadic sectoral reports on national and international media markets (Peters et al., 2013) and with a general lack of tools to homogeneously compare digital media on a global scale (Carlson, 2020), SMR and its composite DRI indicator offer a novel, versatile, and reliable methodological resource.

The concept of “digital reputation” on which SMR is based measures the media’s efforts to adapt to the digital ecosystem. As explained in detail in the “Material and methods” section, it is presented as an objective and quantitative approximation as to the value of the medium in the digital context, which we construct from a composite indicator (Overall) on the basis of linking and access values (metrics of interest that the domain of the medium captures in the whole of the domains of the Network) through the weighting of four indicators from three validated sources. From this point of view, it is a concept without qualitative connotations that is limited to the behavior and positioning of the media on the basis of the assessment of the site by the digital audience as a whole.

Building on the development of the DRI outlined above, we propose to go a step further, with a first practical application focused on the global news media industry, and with the following research questions:

Q1: Is it possible to generate a world map of the media system on the basis of the big data provided by the Internet?
Q2: Using media mapping through internet big data as a basis, is it possible to develop longitudinal studies on the media as they adapt to the digital medium?
Q3: Is it feasible to draw conclusions from the territorial distribution of the media included in the map and connect it to other global indicators such as the representation of Internet users and other socioeconomic factors related to the use of technology?
Q4: Assuming that languages play a fundamental role in the world of communication, is the global digital reputation map affected by the language of each medium, and does language have any influence on the medium’s own digital reputation?

3. Material and methods

The Global Media Ranking brings together two complementary research and development actions: on the one hand, the design of the DRI as an original tool for analyzing journalistic sites in the digital ecosystem; and on the other hand, the application and generation of the media map that constitute the object of study. It is important to note that other available rankings do not have this webmetric approach nor global coverage, but rather respond to specific concerns in concrete geographical, historical, and socioeconomic contexts, or to strictly commercial conditioning factors more closely related to industry interests. With these precedents, we outline the process carried out to create the first media sample representative of the sector for the application of the Digital Reputation Indicator (DRI).

3.1. Process and criteria for sample selection

In the absence of a global list of open access media, the following sources have been used for the SMR media search.
- Directory of printed newspapers of Kiosko.net
  https://es.kiosko.net
  The front pages of hundreds of newspapers worldwide are published daily. Each of them is accessed manually, and all domains are retrieved. This is, however, a very limited first approximation.

- Directory of PrensaEscrita.com
  http://www.prensaescrita.com
  A comprehensive list of daily newspapers (differentiating between legacy and digital natives) published worldwide. All domains are retrieved except for strictly local media. It has a marked Hispanic media catalog bias that is corrected with the incorporation of more sources.

- World list of Online Newspapers
  http://www.newspaperindex.com
  Major digital access newspapers in all countries and journalistic news sources, with a special focus on current affairs, politics, and economics. It is contrasted with the domains already retrieved. This is a list focused on the media with the greatest circulation and impact.

- Catalog of W3 Newspapers
  http://www.w3newspapers.com
  Extensive list of media including newspapers as well as news sites and magazines. This source is used to complete and expand the list in key countries such as the United States, United Kingdom, France, Germany, Italy, Russia, and China. Daily newspapers are selected (although it also includes an extensive list of non-daily newspapers).

- World directory of Online Newspapers
  http://onlinenewspapers.com
  It includes thousands of newspapers, as well as websites and audiovisual information sources (radio and television) and specialized media. It is used on an ad hoc basis for supplementation purposes.

- ComScore listing
  https://www.comscore.com
  In the case of Spain and Latin America, the media auditing company collaborates with the SCImago Research Group project by providing its internal lists.

- Database of digital media in Spain and Portugal from the Iberifier project (Salaverría et al., 2022).
  http://map.iberifier.eu
  In addition, the digital media listings of:
  - Media Information Association (AMI)
    https://www.ami.info
  - Office for the Justification of Diffusion (OJD)
    https://www.ojd.es
  - General Media Study (EGM) of the Association for Media Research (AIMC).
    https://www.aimc.es/egm

From these digital media directories and databases, a sample was obtained according to the following selection criteria:

- General news media with an online presence, originating from both print media and digital native publications.
- Digital media with their own domain. Publications with only subdomains (i.e., www.dominio.com/subdominio or sub-domain.domain.com) are excluded, as is often the case with vertical gateways or publications promoted by certain media groups.
- Media with national-global, regional, and “glocal” scope, as explained by Gómez-Mompart (2013).

SMR includes several descriptive variables of the media aimed at serving as a thermometer of the industry’s reality and its evolution:

- Typology: general, sports, economic, and other media (this last category is intended to serve as a resource to provisionally classify digital media specialized in other topics that will eventually be subject to future classification).
- Location: location of the media by country and by region (geographic and sociopolitical).
- Scope: international, national, regional/state.
- Language: includes both the main language used by the medium and additional languages.
- Categorization: in its initial phase, SMR classifies digital editions of print newspapers, digital native media,
and large news agencies. In later development, specific categories for digital media originating from radio, television, and magazines will be included.

3.2. Sources for generating the Digital Reputation Indicator (DRI)

The design of the Digital Reputation Indicator (DRI) that was used for the preparation of the media ranking presented in this paper results from the triangulation of data obtained through Semrush, Ahrefs, and Majestic, three tools for analysis and data tracking for search engine optimization (SEO) that are consolidated and recognized by the web metrics sector at an international level and with recent studies corroborating their reliability in the analysis of domain authority (Reyes-Lillo; Morales-Vargas; Rovira, 2023).

- **Semrush** (2023), founded in 2008 by Oleg Shchegolev and Dmitry Melnikov as a comprehensive SEO analysis software, is used for keyword tracking, competitor research, search result position monitoring, and general website auditing. It also offers online advertising and social networking applications.

- **Ahrefs** (2023) has become one of the leading SEO analysis tools in the industry. Founded in 2010 by Dmitry Gerasimenko, it is known for its massive link database and its ability to trace links to websites and provide information about a website's link profile. Like Semrush, Ahrefs also offers applications for keyword research, competitor research, and search result position monitoring.

- **Majestic** (2023) is a SEO analysis tool that focuses on link research and backlink building. Founded in 2004 by Dixon Jones, Majestic also has a massive link database, and key to our study is its ability to trace links to websites and analyze them. In addition, Majestic also offers applications for keyword research and search result position monitoring.

“Positioning” refers to the position of a website in the results page of a search engine for a certain keyword. The higher the position of a website, the more likely it is to be visited by users, and therefore the greater its digital influence. The algorithms of search engines such as Google use several factors to determine the position of a website, including relevance and site authority.

Connected to this concept is that of “visibility,” i.e., the ability of a website to be found and seen by online users: the more visible a website is, the more likely it is that users will visit it. Visibility can be measured by the number of impressions (appearances) of the website on the first pages of search engine results.

In such searches, the appropriate use of keywords in news content is fundamental, since these are the terms or phrases with which users retrieve content from search engines to find information online. The use of applicable keywords is important in improving the positioning and visibility of a website. From this perspective, SEO analysis tools identify the suitability of keywords in content on the basis of their relevance and search volume.

Furthermore, backlinks (inbound links) are links that come from an external website. Backlinks are used by search engines to determine the authority and relevance of a website, which can translate into a better position on the search engine results page. In this case, SEO analysis tools identify and analyze the backlinks pointing to a website, as well as evaluate their quality and relevance.

Semrush, Ahrefs, and Majestic operate independently, use their own databases, and are not part of any holding or group, which is considered relevant in our study because of the data triangulation achieved by combining three approaches with independent development.

Although the most widespread use of these three tools is focused on the SEO and digital marketing industry, aimed at helping companies improve their online visibility and performance in search engines, they prove to be resources with great potential in academic research on the media system, including the more industrial dimension of media audits.

3.3. Composite indicator calculation and robustness testing

The Digital Reputation Indicator (DRI) combines the values of a total of four metrics obtained from Semrush, Ahrefs, and Majestic, with which it calculates the composite indicator (Overall®). The metrics are as follows:

- **Authority Score (Semrush):** The A-Score measures a domain’s authority on the basis of two main dimensions: the quantity and quality of a domain’s inbound links and its estimated average monthly traffic.

- **Domain Rating (Ahrefs):** Measures the strength and authority of a website on the basis of its link profile. It is mainly calculated by evaluating a website’s backlinks and social media posts. Domain Rating uses the number of unique domains linking to a website and the quality of those links. The higher the domain rating of a website, the higher its authority and the more likely it is to rank well in search results.

- **Citation Flow (Majestic):** Evaluates the authority of a website on the basis of the number of links it receives, without taking into account other factors.

- **Trust Flow (Majestic):** Measures the quality of links pointing to a website. Trust Flow is based on the idea that links from trustworthy websites carry more weight than links from low-quality websites. Thus, the higher the trust flow of a website, the higher the quality of the links pointing to it.
The weight assigned to these four metrics to calculate the composite indicator (Overall) is equal, at 25% each. This weighting provides triangulated data of high robustness and consistency, as shown in the “Results” section. In any case, SMR also offers disaggregated access to each of the four metrics by which the composite indicator (Overall) is calculated.

In short, the combination of the number of inbound links (citations), their quality (relative weight of each link), and the estimation of traffic are the basis of the integral DRI indicator that we propose to measure the web reputation of a media outlet in its digital aspect. With this precision, it is important to emphasize that “digital reputation” is what is being referred to at all times. The indicator does not make a statement as to the intrinsic journalistic quality of each media outlet, which requires different indicators.

In the following section, the results of three robustness tests of the SMR that have been carried out on the selected sample will be presented. The first corresponds to the pilot version of the ranking in September 2022 (Q3 edition 2022); the second was carried out in December of the same year (Q4 edition 2022); and the third is already in the first quarter of this year (Q1 edition 2023). In all three cases, the results are published openly on SMR’s website, where the progress of the research is explained. This accessibility of the data allows for the verification of these tests by third parties, as well as for the eventual development of specific studies. As developed in the “Results” section, a global positioning scale is set from 0 to 100, and between the different tests to assess the consistency of the indicators, a period of 3 months is given to analyze the evolution of the media in the digital environment as well.

4. Analysis of results

In response to the dual usefulness of the SCImago Media Rankings (SMR) for both the academic and professional worlds, and given its international focus, the development of the project in which the Global Digital Reputation Media Ranking is framed is being carried out through a website in English that prioritizes transparency, open data, and participation: https://scimagomedia.com

The objective is to allow for personalized and corporate access to all content, to prioritize the usability of the interface, and to facilitate the downloading and visualization of data, as well as interaction and feedback with the research team as a constructive space for debate and discussion.

With these criteria, two key areas have been enabled on the project site: access to the ranking itself, which allows for individual media searches as well as searches by country, language, and region (political and geographic). This search proposal allows for fully customizable comparisons, useful for both news media companies and media researchers and consultants, as well as those that are evolving.

As mentioned in the “Material and methods” section, each media outlet includes a summary of the indicators applied to determine its digital reputation (authority score, domain rating, citation flow, and trust flow) and a series of identification and typification metadata (location, coverage, support, languages, and basic context information).

Complementary to this access, a visualization space (Viz Tool) has been developed with the idea of generating graphics that allow for analysis of the results, showing the evolution of the media system and contributing to the debate on the dynamics and opportunities of its evolution and digital development. In this sense, both the blog space opened on the web with observations made by the research team developing the project and the critical dissemination that is being carried out on social networks (especially on Twitter) are complementary.
As a first analysis of the results of the Global Digital Reputation Ranking generated around the journalism industry, the general distribution of newspapers is focused on observing how a connection between the greater presence and weight of the sites analyzed and the factors and conditioning factors that have historically come into play in the development and evolution of media systems are generated (Reig; Labio, 2020). The socioeconomic position of the respective countries, the evolution of technology and Internet adoption in different regions, and more cultural aspects such as the level of digital literacy are all referred to. In this sense, it can be observed how a very powerful media system is emerging in Europe, the United States, and Latin America.

In the selection of the sample, due to a conditioning factor of the sources used for this purpose (which will be corrected for in future waves of analysis), there is still a greater weight of printed newspapers (compared with digital natives) and of Spanish- and English-language media, a nuance related to the typology of media analyzed.

In future waves, the sample should grow in native media and include a greater number of newspapers from regions such as Asia-Pacific and Africa (despite the difficulties posed by the characteristics and lack of transparency in their own media systems, including important legal and political development limitations) to improve global representativeness, and above all, to act as a watchdog in the intense and accelerated process of digitization in which the entire sector is immersed, especially following the impact of the coronavirus disease 2019 (Covid-19) pandemic.

The potential that the Asia-Pacific region is acquiring at a global level is not only indicative of the weight and projection of countries such as China at an economic level, with the international geopolitical debates questioning even the possibility that it might dispute the United States’ world leadership (Bustelo, 2022), but also of that of India from the population point of view, with the recent news that it is already the most inhabited area on the planet (Sánchez, 2023).

The technological aspect itself, focused on cell phones, is also an illustrative factor of this, as can be seen in Figure 4 on the use and prospects for the implementation of 5G technology worldwide.

In parallel to the factors that come into play in the digital transformation of the media, if the focus is on analyzing their digital reputation –on how they are facing the responsibility of making the leap into cyberspace and carrying out the best possible journalism for audiences in the web ecosystem– both the final ranking (Table 2) and the image on the territorial distribution of the media according to their digital reputation (Figures 9 and 10) present a very strong and direct connection with the global map on the implementation of the Internet (Figure 5).
In reality, it can be understood that this is a final image that visualizes the status and evolution of countries and regions, and that ends up being the result of the confluence of all the factors previously indicated in the map regarding the death of paper newspapers.

As can be seen in Figure 5, the number of Internet users has grown again in the last year (1.9%) and now reaches a total of 5.16 billion people connected worldwide. Around the year 2000, the number of Internet users around the world was 396 million, a figure that had doubled by 3 years later (761 million in 2003), with exponential growth until 2021 when the curve began to flatten, a result of the end of the pandemic confinements and the gradual recovery of normality.

The two regions with the highest Internet penetration are Northern Europe (97.4%) and Western Europe (93.5%), followed by North America (92%), while the two regions with the lowest Internet penetration are Central Africa (27.9%) and East Africa (23.1%).

Connecting the map of Internet penetration and access, and looking at our contribution with the distribution of print and digital newspapers by region (Figure 6), it is precisely the European Nordic countries that occupy the first position overall (with representation based on the median excluding outliers), a position that speaks to the strength of its sample and the high average quality of the sites included. In this figure of geographical and political distribution, the position of the Asia-Pacific region also emerges as a developing focus of expansion in the economic, technological, and media fields.

From the point of view of regional analysis, we can render a more accurate reading by utilizing geographic zones, as seen in Figure 7. Apart from the reading of the medians, conditioned by the limitations and biases of the sample, as previously mentioned, it can be seen how the best media (with the best digital reputation) are located in the orbit of Western Europe and the United States (as can be seen in the figure, some media have above 90 for Overall). In fact, it is these two
regions that distribute media along the entire scale and that are in a more powerful relative position. In the case of Latin America, in last position in both geographic and political distribution, this is a circumstance conditioned by the strong presence of media from this region in the analysis sample and their heterogeneity.

The median ranking, regardless of the number of media in each region, should not be understood as a reflection of the quality of the media in each area, but rather as a reference that allows for comparability. In other words, it says more about the sample than about the quality of the media, and in this sense, the ontological argument about “what is seen at a great distance versus what is seen at close range” could be referenced. The limitation discussed in the research on the Western and Hispanic focus that characterizes this first selection of media can be observed here.

Along with regional readership, the distribution and positioning of the media according to language is very relevant. The general map of media included in this first sample includes newspapers published in more than 80 languages, dozens of them with bilingual and multilingual editions in response to their objective of global reach. There is a clear weight of the most widely spoken languages, such as English, Spanish, Portuguese, and Chinese, as well as unique journalistic projects that reflect the linguistic richness and cultural diversity of this first global ranking.

Figure 8, which compares the Spanish and English media, shows how the consolidation of English as the language not only of science but also of the web—of the digital ecosystem—has a direct impact on the media map. The same is true for the Spanish case when considering the world population that a Hispanic website can potentially reach due to quantitative population.

In this approach from the perspective of digital reputation, it can be observed how one of the characteristics of the media systems that is at the base of the large conglomerates with global projection is repeated: the socioeconomic and cultural characteristics of the country have an important weight, as well as the normative regulations and the historical tradition itself, but factors related to technology (greater or lesser penetration and access to the Internet) and language become determinants of their international trajectory and visibility. The DRI is based on access and link indicators, and thus elements such as the potentially objective Internet-connected population of the medium and the language filter are, evidently, fundamental.
A relevant datum that was extracted by analyzing the characteristics of access to the media outlets included in the sample refers to international traffic. *Semrush* was used as a source, with a reference sample of 4,500: 7% of the journalistic sites analyzed do not have a registry (317 media) and would therefore be left out (63 of them are Chinese, so the lack of data could be due to their restrictive regime regarding computer freedom).

A total of 4.6% (208 media) have more than half of their traffic outside their country of origin (≤50%), and only 40 media publish a version in more than one language (within the same domain), which is less than 1%.

### 4.1. Comparison of the first three waves

From an evolutionary point of view, while waiting to reach the first year since the ranking was launched in autumn, the three analyses carried out allow for the observation of the general behavior of the media and for some initial comparisons to be made. As an overview for the analysis of the digital reputation of the media, Figure 9 shows how the bulk of newspapers (legacy and native) are located in the central part of the scale (out of 100), around a third of the sample occupies a very low position, while a small elite holds the top positions as global benchmarks in the journalistic field of general information.

In Figures 9 and 10, what can be observed is a behavior similar to what happens with other websites when facing the challenge of competition in the digital ecosystem: entry is relatively easy, as is climbing positions in the lower part of the ranking, but it is increasingly difficult to advance when in positions at the top. In the context of the 1–100 scale used by the *DRI* as a simple numerical matter, the differences in positions in the intermediate zones are very small, and become more demanding at the extremes, especially in the leadership zone.

In contrast, when analyzing global behavior among the first three waves used in the robustness test (Table 1), it can be seen how there are more than 1,000 media outlets that change more than 100 positions in the analysis interval. However, although such a figure might seem high, when looking at the Overall results, we see that only 100 of them change the value of the indicator by more than 10%. Most of them, moreover, are in the central zone of the ranking, where small changes can cause significant rises or falls in position.

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<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

From a comparative point of view, a general assessment can also be carried out as to how the languages in which the different media outlets publish affect their respective digital reputation rankings. The tentative tendency to incorporate
more than one language (primarily English) is noticeable, in line with the observations already made above. This is another point of analysis to be corroborated and evaluated in future waves.

Table 2. Incidence of the language in the top 100 positions (+ indicates that, in addition to the main language, it coexists with other languages).

<table>
<thead>
<tr>
<th></th>
<th>Monolingual</th>
<th>More than one language</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>English</td>
<td>English +</td>
</tr>
<tr>
<td>Q3 2022</td>
<td>94</td>
<td>6</td>
</tr>
<tr>
<td>Q4 2022</td>
<td>93</td>
<td>7</td>
</tr>
<tr>
<td>Q1 2023</td>
<td>90</td>
<td>10</td>
</tr>
</tbody>
</table>

The Digital Reputation Indicator (DRI), used for the preparation of the media ranking presented in this paper, results from the triangulation of data obtained through Semrush, Ahrefs, and Majestic, three tools for analysis and data tracking for search engine optimization (SEO) that are consolidated and recognized by the web metrics sector at an international level.

The distribution of media by region shown in Figure 11 provides a global assessment of the volume of the selected samples (the point clouds show each of the sites analyzed according to their Overall position). From this point of view, the weight of the media environments in Latin America, Western Europe, and the United States is apparent, as these are the regions that make up the countries with the largest number of selected media. As can be seen, all the regions present a diamond shape that is less stylized (with a bulk of media in intermediate positions and a small group of leading sites), except in the Latin American case, which is presented in the form of a fir tree, showing a sample effect (media outlets in intermediate and low positions stand out).

Altogether, this distribution is considered representative of the projection and global position that the media outlets occupy on the global map, incorporating socioeconomic factors, transparency policies, and indicators such as digitalization and literacy. The evolving analysis of this representation, and with the expansion of the sample being carried out in the regions of the East, Asia, the Pacific, and Africa, will also help in assessing in general terms how their media systems are developing.

The qualitative approach of this figure, which has to do with the Overall results of the different regions, is the one that already provides valuable information as to the quality of the media outlets according to their digital reputation when the boxplot that appears in gray on the point clouds of the different samples is analyzed. With this schematic representation, which will also facilitate longitudinal analysis, the distribution of means by quartiles and the average value in each region can both be seen. In the areas with a smaller number of websites included in the sample selection, a certain uniformity is observed in relatively high positions, which has to do with the above-mentioned sample effect as well as with the uniqueness of their media systems. It is noteworthy that the breadth for Pacific, Eastern Europe, and Asia is greater than that of the United States or Western Europe (media outlets with a medium–high Overall predominate), although
the position of the North American and European presses becomes evident when analyzing which general information newspapers lead the global map.

In fact, when the changes in the positions of the media outlets are evaluated globally according to their digital reputation (Table 3), within the top 100 positions there are 69 journalistic brands that remained in the three quartiles within the top 100, mainly US and British media.

Likewise, if the analysis is broadened and the Overall result for each sample is averaged, we start from an overall position of 42.72 in the September wave, see a slight rise of 0.4 points in the December wave (43.12), and, breaking the trend, observe a drop of almost 3 points in the last wave carried out in March of this year (2.93 compared with the first one in September and 3.33 compared with the one in December).

However, when observing the leading positions, it is illustrative that, in contrast to the slight general worsening of the sample, there is a significant increase in the positions of the media outlets that are at the top: in the first ranking, The New York Times was in the leading position with an Overall of 87.25, followed by USA Today with 86.75 and The Guardian with 86.50. In the March edition, The Guardian ousted the US newspapers with 89.50, a quarter of a point ahead of The New York Times and ahead of USA Today (88.50) as well, which took first place in December but now slips to third.

The Overall analysis of the three waves allows for an important change to be distinguished in the maximum results when comparing the upper limit 87.25, which has remained constant in Q3 and Q4 of 2022, with 89.50 in Q1 of 2023. This generalized change in the overall ranking score may be due to the recent reformulation of Semrush’s Authority Score (AS), although this is an assessment that we will have to verify with new editions of the ranking.

In general, the dispute for the top positions is very fluid: all of them register advances in positions and improve their own records, but in the comparison, the positions are always interchanging. Pending new editions, what has been observed so far is that there is a prominent media elite at the international level, led by the most emblematic American and British newspapers (The Washington Post, The Independent, and the English tabloids join the aforementioned media outlets).

In the European case, the leadership tends to be quite stable with very consolidated positions and global reach, such as the Spanish El País, the French Le Monde, the German Der Spiegel, or the Italian La Repubblica. In the case of Spain, Prisa’s newspaper El País is the first to appear in the global ranking, with a very significant rise between the first and last sample, from 19th to 7th place.

In Latin America, Clarín, La Nación, Infobae, and O Globo compete for the top positions, while in other regions such as Asia, two media outlets are clearly prominent, driven by the multilingual editions of their sites: the Renmin Ribao/People Daily newspaper and the Xinhua news agency. In the Pacific, there are emblematic newspapers from Australia such as The Sydney Morning Herald or The Daily Telegraph, of the News Corporation emporium, and from Japan, Asahi Shim-bun’s position (with English edition) is significant as one of the world’s best-selling newspapers.

In general terms, in these first three waves, it is noteworthy that small changes in the positioning of the newspapers can already be seen, reflecting the movements that are taking place in the digital media landscape, largely as a result of the active processes of digital drive and transformation in which journalistic companies are immersed. Table 1 presents the world’s top 50 presses according to their digital reputation.

5. Limitations and discussion

As mentioned above, Scimago Media Rankings (SMR) analyzes a relevant and qualified sample of the digital press at the global level. However, the ranking leaves out numerous digital publications that will gradually be incorporated into future updates. As the initial sample expands and SMR assigns greater prominence to countries with less developed journalistic ecosystems, the results obtained in the first waves will probably have to be put into context. The sample selection process has resulted in an over-representation of digital media based in English-, Spanish-, French-, and Portuguese-speaking countries, while other languages, such as Chinese, Hindi, or Arabic, have a relatively more modest presence in the ranking. The gradual inclusion of these less studied regions will undoubtedly lead to an enrichment of the results, as well as, in all likelihood, to a greater degree of nuance.

Another bias of the SMR in its initial versions is the preferential focus on digital publications originating from print media and, to a lesser extent, on digital native media. The project plans to include digital media linked to audiovisual media (radio and television) in future updates, which may also contextualize some of the results described in this study.

In addition, there are plans to expand the registry of specialized digital media, starting with sports and economy. These media outlets, which in some cases have a great

In this study, we present the results of three robustness tests of the SMR that have been carried out on the selected sample. The first corresponds to the pilot version of the ranking in September 2022 (Q3 edition 2022); the second was carried out in December of the same year (Q4 edition 2022); and the third is already in the first quarter of this year (Q1 edition 2023)
Table 3. Media outlets making up the global Top 50 for digital reputation. Q1 edition 2023.

<table>
<thead>
<tr>
<th>Position</th>
<th>Media outlet</th>
<th>Domain</th>
<th>Country</th>
<th>Rank</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>THE GUARDIAN</td>
<td>theguardian.com</td>
<td>United Kingdom</td>
<td>1</td>
<td>89.50</td>
</tr>
<tr>
<td>2</td>
<td>THE NEW YORK TIMES</td>
<td>nytimes.com</td>
<td>United States</td>
<td>2</td>
<td>89.25</td>
</tr>
<tr>
<td>3</td>
<td>USA TODAY</td>
<td>usatoday.com</td>
<td>United States</td>
<td>3</td>
<td>88.50</td>
</tr>
<tr>
<td>4</td>
<td>THE INDEPENDENT</td>
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<td>United Kingdom</td>
<td>4</td>
<td>86.00</td>
</tr>
<tr>
<td>5</td>
<td>THE WASHINGTON POST</td>
<td>washingtonpost.com</td>
<td>United States</td>
<td>5</td>
<td>85.00</td>
</tr>
<tr>
<td>6</td>
<td>LE MONDE</td>
<td>lemonde.fr</td>
<td>France</td>
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<td>84.00</td>
</tr>
<tr>
<td>7</td>
<td>EL PAÍS</td>
<td>elpais.com</td>
<td>Spain</td>
<td>7</td>
<td>83.75</td>
</tr>
<tr>
<td>8</td>
<td>NEW YORK POST</td>
<td>nypost.com</td>
<td>United States</td>
<td>8</td>
<td>83.00</td>
</tr>
<tr>
<td>9</td>
<td>THE DAILY TELEGRAPH</td>
<td>telegraph.co.uk</td>
<td>United Kingdom</td>
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<tr>
<td>10</td>
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</tr>
<tr>
<td>12</td>
<td>DER SPIEGEL</td>
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<td>Germany</td>
<td>11</td>
<td>82.50</td>
</tr>
<tr>
<td>13</td>
<td>THE TIMES OF INDIA</td>
<td>timesofindia.indiatimes.com</td>
<td>India</td>
<td>11</td>
<td>82.50</td>
</tr>
<tr>
<td>14</td>
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<td>United Kingdom</td>
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<td>82.25</td>
</tr>
<tr>
<td>15</td>
<td>ASAHI SHIMBUN</td>
<td>asahi.com</td>
<td>Japan</td>
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</tr>
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<td>hurrriyet.com.tr</td>
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</tr>
<tr>
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</tr>
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<td>DNES</td>
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</tr>
<tr>
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<td>22</td>
<td>79.25</td>
</tr>
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<td>Italy</td>
<td>22</td>
<td>79.25</td>
</tr>
<tr>
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<td>Russia</td>
<td>24</td>
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</tr>
<tr>
<td>25</td>
<td>ABC</td>
<td>abc.es</td>
<td>Spain</td>
<td>25</td>
<td>78.75</td>
</tr>
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<td>SAN FRANCISCO CHRONICLE</td>
<td>sfgate.com</td>
<td>United States</td>
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<td>27</td>
<td>INFOBAE</td>
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</tr>
<tr>
<td>28</td>
<td>SYDNEY MORNING HERALD</td>
<td>smh.com.au</td>
<td>Australia</td>
<td>27</td>
<td>78.50</td>
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<td>78.25</td>
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<tr>
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<td>33</td>
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<td>focus.de</td>
<td>Germany</td>
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<td>77.75</td>
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<tr>
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<td>Russia</td>
<td>33</td>
<td>77.75</td>
</tr>
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<td>77.75</td>
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<td>77.00</td>
</tr>
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<td>KOMPAS</td>
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<td>SABAH</td>
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<td>Turkey</td>
<td>48</td>
<td>76.25</td>
</tr>
</tbody>
</table>
reputation in and influence on the networks, are a strategic pillar in the transformation and evolution of the media to the new digital ecosystem and require specific analysis.

Critically speaking, presenting a digital reputation ranking is key, given that the media system is currently experiencing a reconfiguration after the impact and acceleration of the digitalization processes brought about by the Covid-19 pandemic (WHO, 2020; Salaverría et al., 2020; Pérez-Dasilva et al., 2020; Cerezo, 2020; López-García et al., 2021; Pérez-Escoda; Pedrero-Esteban, 2021). We are also in the midst of a debate on the viability and survival of media companies in a digital ecosystem where their “visibility” on the Internet is a determining factor in their sustainability strategies, and it is here where the concept of web reputation used for the evaluation of media and the construction of the ranking is crucial, because it has a direct connection with visibility.

Likewise, the value of connecting our study on digital reputation with a more intangible element such as the concept of branding is important in an environment increasingly saturated with actors, many of which are completely outside the media ecosystem and competing for the information business (Reig, 2011). Brand competitive advantage (Chan-Olmsted, 2011) and its impact on audience growth, thanks to the reputation effect (Pérez-Latre; Sánchez-Tabernero, 2012), constitutes a valuable line of development and innovation within the media, as well as of academic analysis.

Faced with the short-sighted vision of certain digital media, which continue to limit their strategies to simple monetization through the distribution of content on various platforms, the growing interest in cultivating a long-range “media branding” (Chan-Olmsted, Shay, 2015) as a way to strengthen the recognition and perception of quality by the public should not be ignored.

These final reflections on the future of the press and on the idea of branding as a factor of differentiation and value of the media, questions increasingly conditioned by actors outside the sector, are related to one of the most ambitious and long-term goals of the research project presented here: to position SClimago Media Rankings as a watchdog of analysis and evolution of the journalism industry and as a space for debate and discussion that has not only a dissemination aspect in academia, but also a practical aspect at the professional and business levels.

6. Conclusions and future avenues of research

The media industry, always at the center of the global stage, is one of the areas in which transformation processes are taking place in a more intense and dramatic way. The new SClimago project, presented here with this first assessment of the global press, was created with the aim of describing the current situation and contributing to the development of prospective studies: in the short term, to evaluate the research questions we have posed regarding the application of the Digital Reputation Indicator (DRI) to build a media ranking, and in the medium and long term, to become a new benchmark in the study of the sector.

After analyzing the results of the first SMR, we believe that it is possible to validate the objectives set out regarding the possibility of generating a world map of the media system on the basis of the big data provided by the Internet (with the limitations and future avenues of research already mentioned), as well as to lay the foundations for the development of longitudinal studies that will give us clues as to the processes of adaptation to the digital ecosystem.

From this perspective, in the “Results” section we have also confirmed the possibility of drawing conclusions about the territorial or regional distribution of the media outlets included in the map and connecting it to other global indicators such as the representation of Internet users and other socioeconomic factors related to, for example, the use of technology, digitalization, and literacy.

Even having presented and discussed the brand effect of the media in their positions in the Digital Reputation Ranking, the global assessment set forth in this paper shows the relative weight of communicational branding when it comes to competing for the attention of the digital ecosystem’s users: it can be concluded that, as has been argued, branding helps, but only based on the use of previous conditioning factors and context that have to do with the infrastructure of the countries and regions, socioeconomic conditions, and even cultural habits associated with the processes of digitization and globalization. Only from this perspective can it be explained, for example, that The New York Times is a leader (on its own merits, but also with a potential audience of millions of users world-
wide), and that an equivalent media outlet in regions such as Asia or China with a very significant population weight is not found. The creation of high-value content is important, but so is the context.

In this sense, the Digital Reputation Ranking is based on the idea, established at an academic level on the key characteristics of media systems, that those who pull the strings at a global level (and in this case objectively underscored by their digital drive for global projection) are located in the North and speak English. The conviction that languages play a fundamental role in the world of communication to the point of clearly affecting the configuration of the map is strongly reinforced here, to the extent that they become a key factor in a media outlet’s digital reputation, as has been observed in a singular way with websites that opt for English as a lingua franca and for multilingualism.

Finally, analyzing the Overall results of the analysis waves carried out between 2022 and 2023, we have seen how the media outlets with the best digital reputations are located in Western Europe and the United States, with a small group of leading media outlets competing for the top positions very closely, and who end up acting as an advance faction in their own digital innovation processes and strategies. In this leadership, a transfer of prestige from the historical paper newspapers to the digital environment can be observed (the brand effect previously mentioned), but the solid emergence of native projects capable of looking at the centuries-old brands from the perspective of digital reputation is already remarkable. The tension between legacy media and new media is a point of analysis that will be able to be evaluated more accurately as the sample expands and we respond to the dynamics of market evolution.

7. Notes
1. We use the term “overall” in its methodological, neutral sense as a composite indicator (as stated on the project’s website). Applied to our field of study and our proposed evaluation and media analysis, we refer to it as the Digital Reputation Indicator (DRI).
2. In the summer of 2023, the study was completed with a fourth wave of analysis (Q2 edition 2023), and a new update is scheduled for release in October 2023.
3. All the identification and typification metadata are currently being completed and will be part of a new dissemination work.

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