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## Content curation and journalism: exploratory scoping review and expert opinion

## Curación de contenido y periodismo: revisión sistematizada exploratoria y visión experta

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### Abstract

This work uses the scoping review format to embrace a systematic review of content curation and journalism. This initially entailed an analysis of scientific studies on the process of content curation in the media with a view to establishing their academic impact, identifying their characteristics, and determining their academic evolution. Having established the subjects and the types of studies performed, the resulting document bank was then analysed. Next, semi-structured interviews were held with the researchers who emerged from the scoping review. The results show 2020 to be the year in which the greatest number of academic works were published in this area. Research content notably included studies on content curation and new journalistic formats, curation on social media and online tools, algorithmic curation and content curation and misinformation. Lastly, the data from the 13 interviews helped both to expand knowledge of what content curation in journalism is and to understand its application in current and future journalism work, as well as yielding some benchmark examples of content curation in journalism.

### Keywords

Content curation; news curation; journalistic curation; online media; systematic reviews; scoping review

### Resumen

Este trabajo recoge una revisión sistematizada, en forma de scoping review, sobre curación de contenidos y periodismo. Para ello, en primer lugar, se analiza la producción científica sobre el proceso de curación de contenidos en medios de comunicación con el objetivo de conocer el impacto académico de dichos estudios, identificar sus características y determinar su evolución académica. En segundo lugar, se analiza el banco de documentos resultante para conocer las temáticas y tipos de estudios realizados. Y, en tercer lugar, se realizan entrevistas semiestructuradas a los investigadores resultantes de la scoping review. Los resultados confirman que 2020 fue el año con más publicaciones académicas en esta área. En lo que se refiere al contenido de las investigaciones destacan los estudios sobre curación de contenidos y nuevos formatos periodísticos, curación en redes sociales y herramientas online, curación algorítmica y curación de contenidos y desinformación, entre otros. Por último, los datos obtenidos de las 13 entrevistas permiten, por un lado, ampliar los conocimientos sobre la definición de curación de contenidos en periodismo y su aplicación en la empresa periodística actual y futura y, por otro lado, conocer ejemplos de referencia sobre curación de contenidos en el sector periodístico.

### Palabras clave

Curación de contenidos; curación de noticias; curación periodística; medios de comunicación online; revisiones sistematizadas; scoping review

## 1. Introduction

Content curation is becoming a process and concept of value for different disciplines and professions that manage or work with information and digital content, including journalism, media, and general communication, which are the subject of this article.

The concept of digital information curation already has a long history, despite its relatively recent appearance. In the last few years, researchers from all over the world have studied this discipline from different perspectives with greater or lesser success. There are generally two main perspectives of curation applied to digital information, which may have some common elements but nonetheless involve different approaches. The first is known as digital curation and is closely associated with data curation, which is particularly concerned with digital storage and preservation. The second, largely referred to as content curation, is focused on the selection and subsequent re-working of digital information. It is also known in the field of communication as journalistic curation or news curation. An analysis of scientific production in both approaches can be consulted respectively in Salerno, Araujo and Freitas (2021) and in Guallar, Codina y Abadal (2020a).

As mentioned above, this work focuses on the second of the approaches: content curation, thus covering an important gap by establishing for the first time through a scoping review the relationship between curation and journalism, which has also been reinforced with interviews with experts.

From this perspective, the first published texts of a professional nature are usually considered to be from 2009, starting with the well-known "Manifiesto for the content curator" (Bhargava, 2009), and refer to the fields of digital marketing and journalism. In the early twenty-tens, this initial idea spread rapidly and pervaded several professional and academic fields such as journalism and communications, which is the subject of study here, and other areas such as engineering and computer science (De Roure et al, 2010; Yasumoto et al., 2016), library and information science (Parra-Valero, 2017; Martínez-Cañadas, 2017), and education (Caeiro et al., 2013; Juárez-Popoca, et al., 2017). Interest in content curation has yielded not only scientific research, but also several professional or essay type works with considerable impact and scope (Good, s.d.; Rosenbaum, 2011; Guerrini, 2013; Bhaskhar, 2016). As far as content curation applied to the journalism, news and media sector is concerned, in the early twenty-twenties academic research has already yielded a relatively large bibliography that covers a considerable variety of subject matter. This ranges from news sharing on social media (Bruns, 2018) to curation in journalistic articles (Cui and Liu, 2017) and the development of specific social platforms for content curation (Schneider et al. 2014). Finally, the concept of content curation has made its way over the years, differentiating itself from other close concepts related to digital content, such as, to give just two examples, news aggregation and journalistic documentation. On the differences and relationships of curation with both concepts, you can consult Guallar and Leiva-Aguilera (2013, p. 51-52); and Guallar and Codina (2018).

There is therefore a need for a review study on the subject, which the bibliography lacks. This should be complemented with interviews with the experts identified in the review study.

More specifically, the main objective of this research is to define the state of the question in content curation applied to the media and journalism. Having established this general objective, the following specific objectives can be considered:

- O1: Determine the key ideas, main concepts and theories in content curation applied to the media. This includes identifying the most widely used methodologies, as well as gaps or opportunities in research, etc.
- O2: Identify the structural features of academic research on content curation, which involves identifying patterns in sources, research centres and other significant characteristics.
- O3: Offer evidence-based contributions to the debate on what content curation is and on what its current and future impacts on journalism are and will be, as well as introduce journalistic content curation projects.

## 2. Materials and methods

To fulfil the objectives established above, the research we undertook synthesised evidence using the SALSA framework (Booth et al. 2012). Specifically, given the research objectives and questions, the same methodology was applied as that used in the review work, here in scoping review format.

Scoping reviews provide a method of summarising evidence that is particularly suitable to meet research objectives and answer questions about the characteristics of an area of knowledge.

The SALSA Framework (Grant and Booth, 2009; Booth et al. 2012) was used to establish the main review parameters (see table 1):

**Table 1. Application of the SALSA framework (Grant and Booth, 2009; Booth et al. 2012)**

Application of the SALSA Framework	
Phase	
Criterion	
Search	Database: Scopus and Web of Science
	Search equation: <ul style="list-style-type: none"> <li>• (curation OR "content curation") AND ((journalism* OR newspaper*) OR ("news curation" OR "journalistic curation"))</li> </ul>
	Years of publication: 2011-2021
Appraisal	Initial number of documents: 165. Scopus 90, WoS 75 Initial number of documents after eliminating duplicates: 115 Final number (N) after applying inclusion/exclusion criteria: 49
	Inclusion/exclusion criteria: elimination of false positives, articles must have IMRaD structure or equivalent (explicit method and presentation of results), articles published in English, Spanish or Catalan, documents that include any of the concepts "content curation" "news curation" or "journalistic curation" in the title, in the abstract or in the keywords.
Synthesis	Narrative synthesis based on structured abstracts and tabulation of data.
Analysis (Extracted data)	Components: <ul style="list-style-type: none"> <li>• Purpose of study</li> <li>• Objectives</li> <li>• Questions/Problems/Hypothesis</li> <li>• Methodology</li> <li>• Results</li> <li>• Labels (keywords)</li> <li>• Category (subject)</li> </ul>

Source: Adapted from the SALSA Framework

The inclusion and exclusion criteria, the evaluation criteria, and the data extraction analysis schemes were agreed by the authors. The end results of data extraction were established by one of the authors and reviewed by the other two researchers. Cases of discrepancy were resolved by consensus among the three authors. In addition, to ensure greater transparency of the scoping review and to provide a checking system, the PRISMA SCR checklist (Tricco et al. 2018) was applied. This appears as an annex.

Once the document bank had been established, references were analysed using a systematic analysis scheme. Each article was read and summarized and then analysed structurally. This involved the use of the advanced analysis tools provided by Scopus and Web of Science. The specific indicators used for this work are detailed below.

**Table 2. Bibliometric indicators analysed obtained from Scopus and Web of Science analysis tools**

Indicator	Description
General description of the number of documents	Numbers of articles obtained after applying each search equation
Predominant document type	Type of document identified in the search, whether an academic article, a book chapter, communication, etc.
Most representative journal in relation to the number of articles published	Journals indexed in WoS and/or Scopus with the highest number of articles on the subject analysed
Most representative author in relation to the number of articles published	Authors with the greatest scientific production in relation to the search equation both for WoS and for Scopus
Institution with the highest number of published articles	Institutions with the greatest scientific production in relation to the search equation both for WoS and for Scopus
Countries with the highest production	Countries with the highest production in relation to the search equation both for WoS and for Scopus
Percentage of articles by area of knowledge	Subject areas in which published articles are integrated with the search equation both for WoS and for Scopus
Evolution of citations	Evolution of citations from January 2011 to July 2021
Article with the highest number of citations	The most cited article is identified in relation to the search equation both for WoS and for Scopus

Source: Indicators and Description. Own Elaboration

The scoping review also entailed interviews with experts, who were identified from the exploratory systematic review. The process for identifying possible interviewees was successfully and methodologically tested in previous studies (Lopezosa et al. 2021). Here, we followed what is known as the 'criterion questions' procedure (Valles, 2002) or condition for selection, one of the considerations of which is who possesses the relevant information and who is likely to be willing to answer. On this basis, the questions (Table III) were sent to 76 authors of the articles in the corpus of documents and a total of 13 responses were received (see Table IV).

Once the interviews had been held, they were transcribed, and mixed content analysis was performed. This is partly automated, which involves the use of the qualitative analysis tool Nvivo (Lopezosa, 2020) and partly manual.

**Table 3. Questions asked of experts about content curation and the reason for asking the question**

Question	Objective
How would you define the concept of "content curation" or what does it mean to you?	To establish a definition of content curation.
What do you consider the most important impact of content curation to be for current or future journalism?	To identify the effects of applying content curation in journalism.
Could you provide some examples of news media with good quality curation? (Two or three examples will suffice).	To establish benchmarks in journalism in which quality content curation is applied.
What medium- and long-term future do you think content curation applied to journalism will have?	To establish the prospects of content curation in the journalism sector.

Source: Questions and Objectives. Own Elaboration

**Table 4. Experts interviewed**

Expert	Number of papers published in Scopus	Citations in Scopus	Date of application of the questionnaires
Steve Dale	5	172	02/08/21
Nicholas Diakopoulos	73	2897	10/09/21
Pere Freixa	14	132	03/09/21
Federico Guerrini	1	6	09/10/21
Patricia Henríquez	32	1140	10/08/21
Hendrik Heuer	13	32	02/08/21
Eni Mustafaraj	40	884	18/08/21
José Manuel Noguera Vivo	8	42	07/09/21
Rafael Pedraza	28	303	09/11/21
José Luis Rojas Torrijos	20	90	01/08/21
Carol Schwalbe	17	229	10/09/21
José Sixto	17	72	01/09/21
Damian Trilling	49	1064	04/08/21

Source: Own Elaboration

### 3. Results

This work presents a panoramic study of the main features of academic production on content curation in the media. We have presented results in three main sections, which we have referred to as structural results, thematic results, and interview results.

The structural results are those obtained through analysis of data patterns in search results. They lend themselves to presentation in table or graph form. To obtain the structural data we applied analysis of the databases used to the sets of documents recovered in each given case. Thus, for Scopus  $N = 90$  and for WoS  $N = 75$ .

The thematic results, meanwhile, refer to the key concepts, ideas and theories yielded upon analysis of the references that form the evidence base. Such results generally require narrative synthesis. To extract these data, we used as an evidence base the resulting documents, after applying inclusion and exclusion criteria. This establishes that  $N = 49$ .

It may be observed that we used different  $N$  figures for structured and thematic results. This is because for the former we used the results of the search equations, with no omissions.  $N$  is different in Scopus and in WoS as they are different databases, the results of which partially overlap. They do, however, require separate analyses because each database applies its own metrics.

For the thematic results, however, we used documents that upon evaluation proved to be sufficiently apt and relevant to form the evidence base from which to extract key concepts and ideas. Here,  $N$  equals 49.

The structural results should not be projected onto the thematic results. Rather, each set of documents has its intrinsic logic of analysis, by virtue whereof we deemed that both groups of results should be maintained. The former, for which  $N$  is greater, allow for a general approximation to patterns of publication in the case of research reports that satisfy the search equation. As will be apparent, they help us to locate general trends in the field.

It is the evidence base that appears because of  $N = 49$  that has allowed us to pioneer in this field, which is the main intention of this work.

### 3.1. Structural results

As far as the sources consulted are concerned, more articles with the same equation were found in Scopus than in Web of Science, and of these, most focused on curation and on content curation and journalism. Conversely, less research was published on news curation and journalistic curation, mainly because these terms in academia are more recent (as of 2017) than the concept of content curation (as of 2007).

The specific results obtained for searches run in Scopus and Web of Science appear below (see Table V). The searches were conducted on 26 July 2021.

**Table V. Scopus and WoS comparative bibliometric results**

Indicator	Scopus	Web Of Science
General description of the number of documents	90 documents	75 documents
Predominant document type	Academic articles (56)	Academic articles (60)
Most representative journal in relation to the number of articles published	Digital Journalism (6), Journalism Practice (4), Profesional de la Información (4), Estudios sobre el mensaje periodístico (3), New Media and Society (3)	Digital Journalism (6), Profesional de la Información (4), Journalism Practice (4) Journalism (3), Journalism Studies (3).
Most representative author in relation to the number of articles published	Diakpoulos (5), Guallar (5), Schneider (5), Bruns (3), Antón (2)	Guallar (7), De Souza (4), Diakpoulos (4), Schneider (4), Codina (4)
Institution with the highest number of published articles	The University of Barcelona (5), Universidade Federal do Rio de Janeiro (5), Northwestern University (4), Universitat Pompeu Fabra (4), Universiteit van Amsterdam (3)	The University of Barcelona (7), Universidade Federal do Rio de Janeiro (4), Northwestern University (4), Federal University of Rio de Janeiro (4), Universitat Pompeu Fabra (4)
Countries with the highest production	United States (26), Spain (16), Australia (7), Germany (7), UK (7)	Spain (17), United States (15), Netherlands (6), Brasil (5), Germany (4)
Percentage or number of articles by area of knowledge	Social sciences (44.6%), computer science (33.1%) and mathematics (5.8%)	Communication (53,3%), computer science (26,7%), behavioural science (20%)
Evolution of citations	2020 was the year with the highest number of citations (310)	2020 was the year with the highest number of citations, (over 220)
Article with the highest number of citations	Networked Gatekeeping and Networked Framing on #Egypt	Networked Gatekeeping and networked Framing on #egypt.

Source: Scopus and Web Of Science

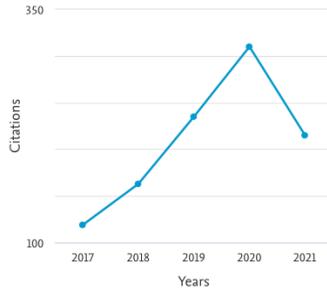
Scientific production on content curation is growing, as shown by the production curve both in Web of Science and in Scopus. 2020 was generally the year with the highest scientific production, followed by 2019 and 2021 (figure 1 and figure 2).

Figure 1: Scopus scientific output

This is an overview of citations for the documents you've selected. Document h-index : 17 [View h-graph](#)

**90 cited documents** [+ Add to list](#)

Date range: 2007 to 2021  Exclude self citations of all authors  Exclude citations from books [Update](#)



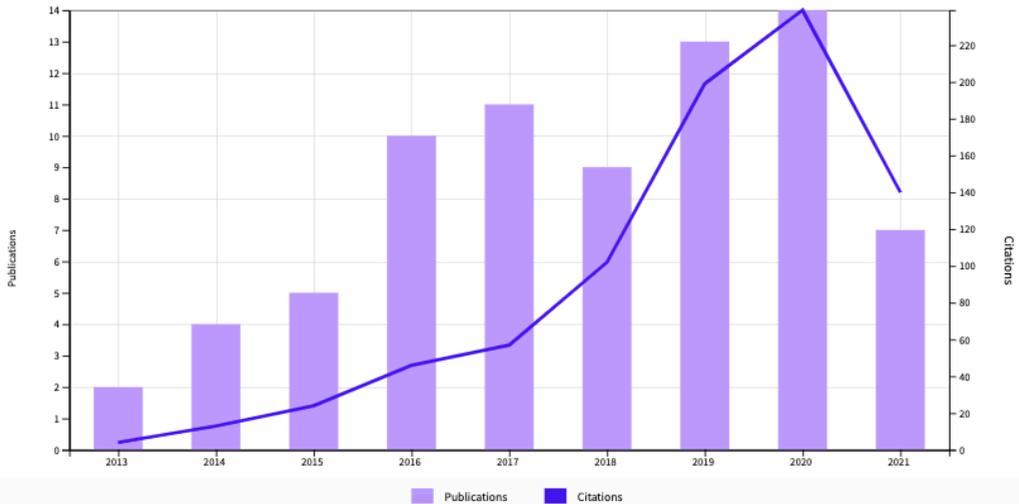
Source: Scopus Web

Figure 2: scientific production of WoS

<b>Publications</b> <b>75</b> Total From 1900 to 2021	<b>Citing Articles</b> <b>759</b> Analyze Total <b>740</b> Analyze Without self-citations	<b>Times Cited</b> <b>824</b> Total <b>788</b> Without self-citations	<b>10.99</b> Average per item	<b>12</b> H-Index
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Times Cited and Publications Over time

[DOWNLOAD](#)



Source: Web of Science Web

These results, plus the fact that the data for this research was collected on 26 July 2021, suggest a likely exponential increase in scientific production on content curation and journalism in the coming years.

Digital Journalism, Journalism Practice and Profesional de la Información were the journals that published the most about new journalistic formats. The three academic journals cited here have a high academic impact in their field, which confirms a commitment to publishing on content curation and journalism by benchmark journals on communication.

Moreover, although most articles on content curation and media are published in social science journals, which in this case are mainly communication journals, a percentage of articles is also published in computer science journals. This is mainly the result of algorithmic content curation and their high technological and interactive component.

The existence of benchmark authors whose lines of research include journalism-related content curation was also confirmed. These are principally Guallar (7 papers), Diakopoulos (5 papers), and Schneider (5 papers).

Meanwhile, of all the institutions that appeared from the search equation, the University of Barcelona proved to be the institution that has published most articles.

The large number of authors and institutions publishing works on content curation and journalism demonstrates the interest that exists in this matter, its research potential, and its international scope. The United States, Spain and Australia are the countries that are exploring new journalistic formats the most, followed by the Netherlands, which has a clear academic impact in Web of Science.

Some articles with large numbers of citations should also be mentioned. This confirms the existence of benchmark research in their field. Examples are the publications "Networked Gatekeeping and Networked Framing on #Egypt" by Meraz and Papacharissi, with 253 citations identified in Scopus and 226 in Web of Science, "Algorithmic Transparency in the News Media", by Diakopoulos, and Koliska, with 128 citations identified in Scopus and 103 in Web of Science and "Aggregation, content farms and huffinization: the rise of low-pay and no-pay journalism", by Bakker, with 74 citations in Scopus and not included in the Web of Science database.

### **3.2. Thematic results**

Content curation in journalism has been intensively applied as a system or process to search, select and publish information from open sources, which makes it a key strategic instrument for the media and for journalists in general.

Analysis of the files from the articles selected in this review has confirmed that the main studies on content curation undertaken in recent years have focused on conceptualizing content curation in the context of the media, content curation and new formats, content curation in social media, apps and news aggregators, content curation and algorithms, and content curation and misinformation.

#### **3.2.1. Curation in the media**

One of the major areas of research in this discipline has focused on defining journalistic curation, its functions and its tasks, tools, and products (Díaz-Arias, 2015). This includes its relationship with journalistic documentation (Guallar and Codina, 2018), more in-depth exploration of curation in online media (Dale, 2014; Cui and Liu, 2017), including a proposal for an analysis methodology known as CAS, Curation Analysis System (Guallar et al 2021b), content curation applied by visual journalists (Schwalbe, 2015), curation of news comments (Dimakopoulos, 2015), curation related to news bots (Lokot and Diakopoulos, 2016), personalization of news and its perception by users (Monzer et al. 2020), the study of co-creation in native digital media (Sixto-García et al. 2020) and analysis of curation in the context of metamedia (Noguera-Vivo, 2016).

The results of these studies on curation in the media confirm that all journalists should be able to curate (Díaz Arias, 2015) and that in the twenty-first century journalism indeed needs to be curated to make it useful to society (Guallar and Codina, 2018). In short, a good curator could therefore be identified for being able to establish links between the media and the internet (Dale, 2014).

These studies also acknowledge that content curation involves modifying some important aspects in the journalism sector, such as:

(1) Sources: some studies show there has been some change in the use of source types, one example of which is greater presence of sources associated with non-profit organizations (Cui and Lui, 2017).

(2) Productive routines: this aspect is well illustrated in Schwalbe's (2015) research on visual journalism. This author confirms that twenty-first century visual journalists should take content curation into account when establishing the validity of the images arising from news situations. With regard to this challenge, this researcher proposes a new visual control model that includes the selection, verification, and curation of images.

(3) New methods of doing journalism: some examples are given by Lokot and Diakopoulos (2016), who recognize the power of automated social content curation and the use of bots, and by Noguera-Vivo (2016), who identify, redefine, and classify metamedia according to curation-related criteria.

(4) Readers: here there are two main aspects, one of which is the personalization of news, and the other are spaces enabled for co-creation. Some studies acknowledge that content curation as a strategy for personalizing news offers new ways of improving medium-audience relations (Monzer et al. 2020). Sixto-García et al. meanwhile (2020) acknowledge that the media should continue to value and curate contributions from the public (their co-creations) with a view to using them, if necessary, within their agendas and thus protect freedom of expression as well as the right to receive truthful information.

### 3.2.2. News curation on social media

Content curation on social media has been studied both from general (López-Meri et al. 2020; Merten, 2020) and a specific perspective (Bruns et al. 2018; Henríquez-Coronel et al.), mainly in studies on its application on Twitter (Meraz & Papacharissi, 2013; López-Meri & Ripolles, 2017; Park, 2019), on Facebook (Kümpel, 2019) and through mobile messaging (Chagas, 2018).

General content curation has been studied from the perspective of journalism students, most specifically in relation to the implications of having a personal brand on social media (López-Meri et al. 2020). This study showed that 86.7% of interviewees were intensely active on Twitter and posted daily tweets of all types encouraging content curation. Practices of content curation and its role as a tool for disseminating news on social media were also examined (Merten, 2020) and it was confirmed that users with very active social media profiles were more likely to be involved both in promoting the news and in curating it.

Studies of specific content curation on Twitter and Facebook were based on different situations:

- Content curation on Facebook and its impact on users as a result of the tagging of news was studied (Kümpel, 2019) and yielded the conclusion that being tagged in the comments of news publications encourages more news consumption.
- The Twitter participation strategies of the 20 most influential journalists in Ecuador were evaluated to analyse the engagement strategies they use (Henríquez-Coronel et al. 2020). It was confirmed that the strategy they used most was content curation.
- Comparative analysis was presented of the Twitter news sharing options of members of the Australian and German national press corps. This revealed considerably different news selection patterns (Bruns et al. 2018). The result of this research shows that German journalists seem to be more independent in selecting and publishing content for their Twitter feeds than the Australian journalists analysed.
- Twitter communication patterns during the uprisings in Egypt in 2011 that led to the resignation of President Mubarak were studied. This included content curation (Meraz & Papacharissi, 2013) and confirmed results showing new directions for hybrid journalists that are based on subjective pluralism, co-creation, and collaborative curation.
- Research on the use of Twitter as a personal brand both for journalists (López-Meri & Ripolles, 2017) and for opinion leaders (Park, 2019) revealed that its use helps in the construction of a personal and professional brand. It was also established that the opinion leadership on Twitter of those who both consume and curate news on Twitter is stronger than those who consume but do not curate it.

Lastly, research on content curation from the perspective of mobile messaging apps has been focused mainly on gatewatching (social media gatekeeping) and the selection of sources via WhatsApp. Chagas (2018) analysed the gatekeeping work of a Brazilian radio station and confirmed the substantial work done by news presenters, producers, WhatsApp journalists, reporters, and editors in terms of the speed in which they check information and broadcast it.

### 3.2.3. Curation on aggregators and curation platforms

Content curation through news aggregators and feeds has been studied from both a general and a specific perspective. General press credibility has been studied in the context of news aggregators, mainly through analysis of the repeated publication of news (Choi and Kim, 2017). RSS feeds were analysed as the curated aggregation of political news and how users consume it (Sydnor and Psimas, 2017). The business model of news collection, production and distribution was studied from the perspective of aggregators and "content farms" (Bakker, 2012).

Studies on specific tools have entailed analyses of aggregators such as those by Digg (Schneider et al. 2014), Reddit (Leavitt and Clark, 2014; Schneider et al. 2014) and Acrópolis (Schneider and de Souza, 2016; Schneider et al. 2017; Pimentel et al. 2019; Schneider, 2020; Schneider et al. 2021).

A further case study of interest is Storify. This content curation platform was very popular for a few years before its disappearance in 2018. It aroused the interest of the research community, which devoted different studies to it: Cappellefetti and Domínguez-Quintas, 2014; Callaghan, 2016.

### 3.2.4. Curation of news in newsletters

In recent years studies on content curation and emerging journalistic formats have focused on researching newsletters. The most significant of these are the research by Rojas-Torrijos and González-Alba (2018), which explores the different types of newsletters on the international media scene and compares the contents, structure and business models of three Spanish media newsletters (El País, El Español and El Independiente); the study by Guallar et al. (2021a), which analyses curation in Spanish media newsletters using the previously mentioned CAS analysis method; and the work of Silva-Rodríguez (2021), which studies the use of content curation in newsletters, from different countries, specialized in information on Covid-19.

### 3.2.5. Journalistic curation and algorithms

As we have mentioned before, another of the great fields of research on this discipline is the curation of journalistic content and algorithms. In this sense, studies stand out that have analyzed transparency as a key principle of the ethics of journalism from the context of algorithmic systems, algorithmic curation, automated writing and news bots (Diakopoulos and Koliska, 2017). Other reference research has also focused on the feasibility of creating a framework that allows the media to automatically curate the content to be published without having to contract with third-party editorial algorithms (Chakraborty et al 2018). Another outstanding work is that of Zubiaga (2019) focused on data mining and language processing for news gathering. And the study by Trielli and Diakopoulos (2019) that analyzed the enriched search results of Google Top Stories focused on news from online media.

Additionally, other works related to this discipline have focused on analyzing the perception that users have of algorithmic content curation (Thurman et al. 2019), on studying the Kakao news selection tool from the algorithmic point of view and on based on the DRI -Deep Read Indexing- (Lee and Kim, 2019) and from the point of view of automatic learning systems and the perception of users regarding the trust of said systems (Heuer and Breiter, 2020), to delve into the effect of algorithmic content curation across search engines, social networks, news aggregators (Haim, 2020), Google Top Stories enriched search results (Kawakami et al. 2020), and Apple News (Bandy and Diakopoulos, 2020).

### 3.2.6. Other matters: misinformation and media literacy

Another aspect upon which content curation studies have been focused is misinformation, notably the study of surplus information and its impact on readers based on a series of specific situations, by Song et al. (2017), and analysis of research on misinformation in the Latin American context from 2017 to 2020, which includes a section on curation work to tackle misinformation, by Guallar et al. (2020b).

Lastly, from a cross-cutting perspective, there have been some significant studies that focus on content curation and learning, which includes media literacy (Asrafal et al. 2018) and content "recovery" as a teaching tool.

Given the great wealth of subjects and studies on content curation, this systematic review proposal is intended to follow the approach of Guallar, Codina and Abadal (2020a), which is focused on general curation and here strictly applies to communication, while also expanding indicators, the time span of the search and the databases used.

## 3.3. Results of the interviews

The results of the semi-structured interviews appear below. To produce them, mixed qualitative analysis (manual and automatic) was used in which the answers to the questions asked were categorized according to the recurrent themes that emerged from the interviews.

We thus identified that interviewees recognize different areas in which they intervene and/or shape the definition of the concept of "content curation" (question 1). Examples are (1) tasks of the content curator, (2) needs for applying content curation (3) the professional profile of the content curator and (4) strategic needs of content curation in the journalism company.

Content curation in the journalism and digital communication sector can be defined as follows:

- It is professional work and involves a series of tasks consisting of the (re)distribution of credible and verified online content, from a variety of own or third-party sources.

-Said curation is a twofold process that entails both a selection of content on a subject and its organization, with a view to disclosing what matters and deliver, using digital platforms, a product that is differentiated and of interest to the audience.

-It is an editorial filter that guarantees the quality, truthfulness and rigour of the information while also adding value.

Content curation gives rise to a need to tackle the following three circumstances:

- (1) the existence of a large amount of raw, unfiltered and contextless data that cause a great deal of noise and make it difficult for audiences to find things that are meaningful and relevant to them,
- (2) the audience's demand for less content and,
- (3) current information disorders, which imply, among other things, misinformation and/or deception.

Content curators are nonetheless professionals, generally with a vocation, whose experience and considerable knowledge validate their curatorial choices and bring depth and context to selected material.

Lastly, curation has key strategic value within journalism companies, as these human-led organizations compete both with online platforms that use algorithms to curate content, and with one another in the form of speed-driven journalism (Lee, 2015), because content curation helps journalists to do this work thoroughly while properly contextualizing the content they publish. Content curation in a digital media ecosystem is therefore an ongoing process, as new content is being generated all the time.

As regards the main impact of content curation on current and future journalism, we have detected a growth in three specific effects: trust and credibility, audience loyalty, and the struggle against unreliable algorithmic curation.

In relation to trustworthiness and credibility, interviewees agree that journalism, through content curation, helps to combat misinformation by shedding light on false information sources. It also helps to restore some of the credibility and authority that the media have lost in recent years. They do, however, acknowledge that content curation alone is not sufficient and that it is also very important to produce original content that reveals what otherwise would go unnoticed. In short, journalism must necessarily continue to act as an essential element of democracy. Content curation provides another tool with which to do so.

With reference to audience loyalty, the researchers interviewed consider that content curation is establishing new more direct ways of reaching the audience whose loyalty is sought through personalization and intense specialization by, for example, creating very specific informational products. The goal of this is to provide service to user segments and niches whose information needs are not covered widely enough. Curation can therefore offer personalized information adapted to different pre-established profiles and turn general information into personalized content for these profiles.

Lastly, the interviews confirm a need to counteract unreliable and/or opaque algorithmic curation, first because it cannot be explained by itself and, second, as it sometimes acts as an obstacle to popular content among minorities because content-based algorithmic curation systems focus primarily on watch time and popularity. Human-curated content is therefore valuable as it provides, among other items, meaningful explanations of why certain content was recommended rather than other content, irrespective of the indicators used by the algorithms (likes and watch time).

The following are examples of media cited by the interviewees for good quality curatorship. The results show mainly specific content curation websites, online media newsletters and distribution lists, and the specific curation systems of journalism companies.

**Table 6. Examples of good curation practices**

<b>Specific websites focused on content curation</b>	
1	Buzzfeed.com
2	Forum.eu (currently missing)
3	Huffpost.com
4	Mashable.com
5	Rivva.de
6	thescienceportal.co.uk
7	NYT Picks system

<b>Media outlets that perform good news curation</b>	
ID	Example
1	BBC News
2	eldiario.es
3	Mediapart
4	Observador
5	The New York Times
6	The Week
7	ZDF (German public broadcasting service)
<b>Newsletters and distribution lists</b>	
1	Theguardian.com/commentisfree/series/smarttakes
2	The New York Times: US morning Briefing, and Books Review and Books Update from the Books section
3	The weekly newsletters of The Atlantic
4	The newsletter "Continental Breakfast" of Repubblica
5	The Syllabus by Evgeny Morozov
6	The Axios newsletters
7	The O Meio newsletter
8	The newsletter Al día of eldiario.es
9	The Newtral newsletter
10	OZI daily news mailing lists
11	e-flux mailing lists
12	Inside XR mailing lists
13	The Vilaweb newsletter
14	The Nació Digital newsletters
15	The Ara.cat newsletters
16	Kloshletter

Lastly, the researchers interviewed point to some key aspects regarding the medium- and long-term future of curation in journalism and communication.

They confirm that content curation can be a key differentiator in the battle for people's attention because, first, it helps users to distinguish among the many available options that detract from real journalism; and second, it represents progress in preparing the differentiated and quality product that journalism needs to continue establishing ways with which to convince audiences that it is worth paying for what they consume; and, third, it helps to broaden sources of information and familiarize the public at large with them.

The results of the interviews confirm that future journalism cannot exist without content curation. They also establish that content curation will account for one of the main tasks of journalists in digital newsrooms, which will include specific curation products such as newsletters or specialized playlists on any given topic, and their use in other formats such as podcasts, and general use as a support for news published in the media.

#### 4. Discussion and conclusions

This study presents an overview of academic publications on content curation in the media and is accompanied by interviews with experts in the field. As far as the sources consulted are concerned, more articles about this field were found in Scopus than in Web of Science, and of these, most focus on curation, journalism, and social media.

Relating the results obtained in this work with previous research, in particular with the bibliometric study of Guallar, Codina and Abadal (2020a), it can be noted that this article provides a greater insight into the characteristics of content curation research applied to communication and journalism. It is something that was only shown at a more superficial level, being its most extensive object of study (content curation in general). In this sense, this work has made it possible to show in some detail the characteristics of this investigative subgroup within the broader one of curation, and to appreciate both some points in common between both groups (such as, for example, the importance in both cases of curation in social media or the tension between human and algorithmic curation), as well as their differences, such as the greater presence of algorithmic curation in the works of other disciplines, such as Computer Science. On the other hand, in relation to the literature on content curation in communication, this work provides a global view of its academic production, something that did not exist as such.

There follows a recap of the objectives of this research and an assessment of how far they have been achieved:

O1: The scoping review made it possible to establish the main features of academic production on content curation in the media, which includes major research topics and methodologies used, etc. Five major research areas can be identified in this field (1) conceptualization of content curation in the context of the media, (2) content curation and new formats, (3) content curation in social media, apps, and news aggregators, (4) content curation and algorithms, and (5) content curation and misinformation.

In this sense, we can point out that there are interesting relationships between curation and other disciplines, such as aggregation, but not identity, so a study that explores the relationships between the two would be justified, but it would be one of the possible future investigations.

The most widely used methodologies meanwhile refer mainly to case studies, content analysis and interviews with experts. More experimental methodologies are also used, particularly regarding studies on content curation and algorithms.

O2: Through the Scoping review it was also possible to identify the bibliometric characteristics related to academic research on content curation. A greater number of documents were found in Scopus, although in the document bank there are more academic articles in WoS. In both databases, Digital Journalism was the journal that published the most articles on content curation, followed by Journalism Practice and Profesional de la Información. The authors with the greatest scientific production are Diakopoulos, Guallar, Schneider and Bruns. The United States, Spain, Australia, and the Netherlands are the countries that published the most about this discipline.

Although some content curation studies, particularly those associated with algorithms, are mainly concerned with computer technology, the studies identified were generally published in journals on social science and, more specifically, the field of communication.

Furthermore, a growth was confirmed in 2020 of the study and citation of content curation research. There were over 310 citations in the Scopus and 220 in the WoS document banks.

O3: The semi-structured interview format was found to yield some very significant results with respect to what content curation is, and what its present and future impact are and will be on journalism companies. It also generated some good examples of content curation as recommended by the interviewed specialists.

The responses obtained enabled us to define content curation and to acknowledge different areas that are involved in and/or shape this definition. We were also able to identify that trustworthiness and credibility, audience loyalty and countering unreliable algorithmic curation are and will be three of the most important impacts of content curation in current and future journalism.

The authors interviewed also identified a series of content curation projects in benchmark journalism, which were categorized as: specific content curation websites, media known for good curation in their products, and newsletters and distribution lists.

Lastly, the results of the interviews coincide with the need to curate content within the journalism sector. This will be a strategic element of major significance for the success of journalism both in the medium- and long-term future.

About the limitations of this work we can point out that we have used academic materials. Probably, it would be convenient in new research to explore the gray literature because it can provide other results, of a more operational type, although we do not expect them to be conceptually different or contradictory. In any case, it is a possible future line.

In short, content curation has become an essential process for disseminating information and generating brand image, and part of the commercial strategy of the media. Study is therefore required, among other aspects, of its application and the consequence of its use.

## 5. Specific contributions of each author

Contributions	Author
Work conception and design	Author 1, Author 2
Documentary search	Author 1, Author 3
Data Collect	Author 1, Author 4
Critical analysis and interpretation of data	Author 1, Author 2, Author 3
Drafting, formatting, revision and approval of versions	Author 1, Author 2, Author 3, Author 4

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