






# Content syndication in news aggregators. Towards devaluation of professional journalistic criteria

La sindicación de contenidos en los agregadores de noticias: Hacia la devaluación de los criterios profesionales periodísticos

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## ABSTRACT

The growing expansion of Internet access and mass-scale usage of social networking platforms and search engines have forced digital newspapers to deal with challenges, amongst which are the need to constantly update news, the increasing complexity of sources, the difficulty of exercising their function as gatekeepers in a fragmented environment in which the opinions, biases and preconceptions of pundits, their followers, Twitter users, etc. has taken on a new and decisive weight and the mounting pressure to publish certain news items simply because they sell. They must also share audiences with aggregators devoted to the business of disseminating content produced by digital news publishers, blogs and RSS feeds, which is chosen on the basis of search engine algorithms, the votes of users or the preferences of readers. The fact that these computerized systems of news distribution seldom employ the criteria upon which journalism is based suggests that the work of gatekeeping is being reframed in a way that progressively eliminates journalists from the process of deciding what is newsworthy. This study of these trends has entailed a 47 point assessment of 30 news aggregators currently providing syndicated content and eight semi-structured interviews with editors of quality mass-distribution digital newspapers published in the U.S., Spain and Portugal.

## RESUMEN

La creciente expansión del acceso a Internet y el uso masivo de las plataformas de redes sociales y los motores de búsqueda han obligado a los medios digitales a enfrentarse a desafíos como la necesidad de actualizar constantemente las noticias, la creciente complejidad de las fuentes, la dificultad de ejercer su función de «gatekeeper» en un entorno fragmentado en el que las opiniones, los prejuicios y las ideas preconcebidas de los expertos y sus seguidores, los usuarios de Twitter, etc. han adquirido un peso nuevo y decisivo, y la creciente presión para publicar ciertas noticias simplemente porque venden. Tienen además que compartir audiencias con agregadores cuyo negocio consiste en difundir contenido producido por editores de noticias digitales, blogs y «feeds» RSS, que hacen la selección basándose en algoritmos de búsqueda, en los votos de los usuarios o en las preferencias de los lectores. El hecho de que estos sistemas computarizados de distribución de noticias rara vez tienen en cuenta criterios periodísticos sugiere que ese trabajo de selección se está replanteando de tal manera que se va eliminando progresivamente a los periodistas del proceso de decidir lo que tiene interés periodístico. Este estudio sobre las tendencias descritas se ha llevado a cabo mediante la evaluación de 47 parámetros en 30 agregadores de noticias que actualmente ofrecen contenido sindicado, y se ha completado con ocho entrevistas semiestructuradas con editores de medios digitales de calidad y de difusión elevada publicados en los EEUU, España y Portugal.

## KEYWORDS | PALABRAS CLAVE

News quality, news aggregators, media ecology, gatekeeper, journalistic ethics, digital journalism, robotics, smartphones, multiscreen society.

Calidad periodística, agregadores de noticias, ecología de medios, gatekeeper, ética periodística, periodismo digital, robótica, smartphones, sociedad multipantalla.



## 1. Introduction

Journalism today entails handling a constant flow of information, taking advantage of opportunities that arise, adapting to new ways of working using tools, techniques and assumptions that weren't even possible 10 years ago, "adapting to a world where the newsmakers, the advertisers, the start-ups, and, especially, the people formerly known as the audience have all been given new freedom to communicate, narrowly and broadly, outside the old strictures of the broadcast and publishing models" (Anderson, Bell, & Shirky, 2014), and figuring out ways to engage the highly fragmented audiences (Lee-Wright, Phillips, & Witschge, 2013; Pavlik, 2008) of the post-PC era in which "if you put something in the net it actually may be easier to manage, and the PC is simply a way station along that path" (Clark, 1999). For a very long time, media outlets and journalists wielded the undisputed power to influence how audiences mentally pictured the world around them (McCombs, 2006) via messages that succinctly conveyed what matters should be perceived by the public as having overriding importance. Both have routinely operated under the assumption that their primary mission was "to provide citizens with the information they need to be free and self-governing" (Kovach & Rosenstiel, 2014). Journalism has nevertheless evolved into a service rendered to an informed public (Jarvis, 2013) accustomed to accessing information via electronic devices that may function well as vehicles for delivering and accessing news content, but they also induce readers to spend more and more time in a commercially charged environment that reduces their capacity to reflect and think critically and whose potentially anesthetizing effect (Brottman, 2005) may even alter their cognitive processes (Carr, 2010).

The popularization of the Internet and the public's extensive use of social networking platforms and search engines on a massive scale have forced digital newspapers to deal with the challenges posed by: the need to update content; the increasing complexity of sources; the difficulty of exercising their function as gatekeepers in a fragmented environment; and the mounting pressure to publish certain news items merely because they sell (Boczkowski, 2004; Deuze, 2006, 2007; Domingo, Quandt, Heinonen, Paulussen, Singer, & Vujnovic, 2008; Kapuscinski, 2005; Pavlik, 2001) in a fragmented and increasingly competitive market that everyone seems determined to enter (Holzer & Ondrus, 2011). Pavlik (2013) asserts that the survival of news agencies during this period of upheaval hinges on their commitment to innovation and rigorous adherence to four basic principles: intelligence or research, a commitment to freedom of speech, a dedication to the pursuit of truth and accuracy in reporting, and ethics, whereas other authors such as Kunelius (2006) or Kovach and Rosenstiel (2007) stress the importance of maintaining the self-critical perspective crucial to ensuring the content they offer continues to be relevant in the eyes of the public.

Given the impossibility of accurately predicting the mid- and long-term future of journalism, this study attempted to determine whether news aggregator apps used by readers to create smart, personalized magazines are useful or detrimental to the values of journalism (McBride & Rosenstiel, 2013; Kunelius, 2006; Kovach & Rosenstiel, 2003). Studies published about mobile devices have tended to approach them from technological angles (Lavin, 2015; Enck, Gilbert, Chun, Cox, Jung, ...Sheth, 2010; Aguado, Feijóo, & Martínez, 2013; Yang, Xue, Fang, & Tang, 2012; Falaki, Mahajan, Kandula, Lymberopoulos, Govindan, & Estrin, 2010; Canavilhas, 2009; Law, Fortunati, & Yang, 2006; Souza e Silva, 2006), but less scholarly attention has been paid to apps, which offer new opportunities but may or may not prove to be the silver bullet in terms of distribution that many have predicted they will be. Much of the research conducted on the impact that aggregator giants such as Google and Yahoo have had on journalism has focused on the "business-stealing effect" often associated with them (Lee & Chyi, 2015; Jeon & Nasr, 2014; Quinn, 2014; Dellarocas, Katona, & Rand, 2012; Isbell, 2010) and paid less attention to smaller sector players channelling syndicated content to millions of readers via apps-enterprises that are causing far fewer problems for the production end of the news industry and fall neatly in line with the theory of disruptive innovation developed at the Harvard Business School (Christensen, & Skok, 2012). The majority of these companies use software to scan and index Internet news systematically, and though a few also employ human editors, the content they vet is determined by algorithms (Diakopoulos, 2014).

These smaller news aggregators, whose approach has different characteristics from others of larger dimensions such as Google (Athey, Mobius, & Pal, 2017) or Facebook (De-Corniere & Sarvary, 2017), offer a transversal reading of the informative landscape of the internet that facilitates adaptation to different user profiles (Aguado & Castellet, 2015). And they select news by means of algorithms related to the search systems of the browsers with choice or voting by the users or by the customized thematic selection of the readers. They are not included in large groups such as Google News, Apple News, Snapchat Discover, Kakao Channel or Line News, but they are independent products from the business perspective (Newman, Fletcher, Kalogeropoulos, Levy, & Nielsen, 2017). They collect information from cyber media, blogs, and subscriptions to feeds (channels or RSS feeds) of

Twitter, Facebook, Google+, LinkedIn, Instagram, Flickr or YouTube, and their business consists of generating value among readers and media. However, as yet their financing model is unclear, and it is still rare for users to pay for access. They usually offer a link to the original article with the added advantage that they can sell that information and publicize themselves without having to produce their own content. At the same time, however, in many cases, they prevent those who produced the content from obtaining the corresponding benefits. Thus, they have a negative aspect: they can limit access to the original website by the aforementioned business-stealing effect, but there is also another positive aspect as they increase visibility and traffic exponentially through the market-expansion effect; and both can be calculated quantitatively using the number of visits by users (Nars & Jeon, 2014). Media ascertains that with this second effect, news traffic increases and, from the readers' perspective, there is a greater diversification of contents (De Corniere & Sarvary, 2017). If we look at the market substitution effect though, it can be shown that a large number of these readers never look at the original article, or they do not go into any depth (Chiou & Tucker, 2017), and consider the information in the aggregators to be sufficient, which then become unfair competitors of news producers and may even offer their content in a biased manner (Hamborg, Meuschke, Aizaba, & Gipp, 2017).

Jeon and Nasr factored an additional consideration drawn from a previous study conducted by Dellarocas, Katona and Rand (2016) into their analysis of the relative strengths of market expansion and market substitution effects, which was the way in which hyperlinking may raise or lower digital publications' incentives to produce quality content—an issue worth exploring given the possibility that the boon aggregators offer consumers may constitute a bane for content producers—. The difference between loyal, paying news consumers and others looking for free, quality con-

**Generally speaking, the aggregators analysed disseminate content via apps that allow them to offer a vast quantity of new items that they nevertheless fail to organize and prioritize in accordance with journalistic standards. In light of the quantitatively oriented content selections examined, which in certain instances fell into the category of superficial eye candy, we believe that their model of news distribution needs to be reoriented towards higher quality content and that gatekeeper competences in what is now a diverse and changing sector must be reformulated.**

tent via aggregator sites should also be taken into account. As the number of people cruising the Internet for free news content continues to grow, and the number of individuals demanding quality grows with it, aggregators may need to adjust their strategies in order to satisfy readers in search of both quantity and quality (Rutt, 2011). Authors who have found the market-expansion effect to be the most pervasive have concluded that news aggregators complement the news sources they draw content from (Athey & Mobius, 2017; Chiou & Tucker, 2012). Others have observed that, in the context of two-sided media markets, the presence of news aggregators drives up the number of multi-homing readers, and overall sector advertising revenues tend to be lower in environments in which a large percentage of news consumers are single-homing readers (George & Hogendorn, 2012, 2013). Jeon and Nasr have also focused on the dynamics of two-sided markets (2014).

Perhaps, the real clash between aggregation and journalism lies not only in the work of one or the other, nor in the possibility that each one defines the other as a kind of pathological doppelgänger, but also in the type of elements with which they build their stories and in the criteria they use for fact-checking Anderson (2013) and “the great conflict over journalism may be centred around the things of journalism in addition to the work of journalism or their definition”. This is, beyond questions related to audience share and dominant models of consumption, there is the pressing need to determine the validity of assertions made by authors such Mills, Egglestone, Rashid and Vaastäjä (2012) that the trivialization of news is becoming progressively more evident. The fact that journalistic criteria play no part in the processes by which most aggregators select and display news content leads one to suspect that journalism's role as the gatekeeper of news is being seriously compromised or may already be a thing of the past. As

Christensen and Skok (2012) have pointed out, BuzzFeed has started to produce its own branded content. Gatekeeping has long been a critical part of journalism's identity (Bordieu, 2005), and journalists have always claimed to have a unique responsibility and capacity for deciding what constitutes news—a longstanding notion that soon may need to be renegotiated given the shaky foundations on which it currently stands—(Vos & Finneman, 2016). In any case, the competitive relationship between news producers and aggregators needs to be examined in depth, for as Lee and Chyi (2015) have pointed out, “content aggregation is here to stay”.

## 2. Material and methods

In light of the complexity of the situation described above, we posed the following research questions concerning the smaller app-driven aggregators serving the market today: Q1: Do they organize the content they offer in terms of established journalistic practice or in a way that may confuse readers?; Q2: Are the selection criteria that they employ transparent, or do they correspond to marketing interests?; Q3: Do they employ journalists as fact-checkers or curators, or do they shun the role of gatekeeper?

The primary objective of the research reported here is to gauge if the expansive contribution of these aggregators offers a professionalized journalistic selection of the news, or does it have a merely quantitative approach. This is important to understand given the pressing need to defend models of journalism based on excellence against the encroachment of others that place a higher value on traffic over the relevance of content published. In journalistic and academic fields, it is already considered that a growing emphasis on audience capture is one of the main factors contributing to the gradual decline in the quality of news content so evident today, but “pleasing the audience might be compatible with producing excellent journalism” (Costera, 2013) and the entrance of the aggregators raises a new academic and professional discussion. There are ethical parameters such as linking to the original material, attributing the content to the author, verifying information and providing added value (Buttry, 2012). Others stress that responsible aggregation should not confuse readers, but it should identify the origin, link to the publisher and include only a paragraph to encourage the search for the original (Friedman, 2014). There are also positive opinions that consider them a way to achieve higher quality content (Jeon & Nars, 2016), and others that distinguish between symbiotic aggregators and parasites, using four evaluative elements: attribution, limited use, added value and right of rejection by the publishers (Bailey, 2015).

In this context, we posed two hypotheses: 1) App-driven aggregators deliver vast quantities of content that they nevertheless fail to organize and prioritize in a manner that could be considered professional from a journalistic point of view. 2) Aggregators would have a greater value for the increasing well-informed and demanding reader-users of today if they placed a higher priority on the quality of the content they offered instead of focusing all their energy on identifying audiences most likely to be best targets in terms of monetization.

To carry out the research on these new proposals, quantitative and qualitative aspects have been taken into account, which are reflected in the analysis sheet that has been applied to each of the selected samples and we have compiled different models of aggregator apps that seem stable at the moment, but assuming the impossibility of offering an exhaustive list since some have a short life, new ones emerge immediately and many act from the web and do not have an app. There are different types of horizontal or generalist social bookmarkers to store and share information in different languages, frequently operating from their own website and some are inspired by the Anglo-Saxon “Digg” (2004), which we selected for study as besides being a pioneer in this field it offers news and has an app. Other examples are “Delicious” (2003), “Blogmarks” (2003), “Menéame” (2005), “Bitácoras” (2010) and “StumbleUpon” (2010). Vertical and specialized social bookmarking systems include the video-sharing site “Vimeo” (2004); “TechCrunch” (2005), which offers tech news; “Mktfan” (2009), specializing in marketing and digital technology; “Imgur” (2009), a photo sharing site chosen for the study sample; “Tech News Tube” (2011); “Divúlgame” (2011); “iGeeky” (2011), which is focused on RSS feeds; “Tech News by Newsfusion” (2012), which offers news about Apple, Facebook and startups; “AppyGeek” (2012), a highly popular tech news app; “Product Hunt” (2013), which focuses on new tech products; and “TechPort” (2013), which also offers tech-focused content.

Personalized social magazines make up another large group of aggregators that offer news and social network content in a magazine format that users can customize and which are active or passive depending on the levels of selection allowed to the reader. Their business is based on monetizing user data, which is not sold to third parties but is used in processes related to advertising, and they accept both conventional and sponsored advertising. Aggregators of this type include “Feedly” (2008), “NewsBlur” (2009), “Flipboard” (2010), “Reeder 3” (2010), “Inoreader” (2012), “News App” (2012), and “Play Kiosko” (2013). Others, which tend to pursue a paid content

model, work with syndicated content services, include “Popurls” (2005), “Newsify” (2012), “LinkedIn Pulse” (2013), “Feed Wrangler” (2013), “Unread” (2014) and “News Republic” (2014). “Fark” is launched in 1999 that released an app in 2012 that was most recently updated in 2017. A more recent generation that has improved the concept includes “Scoop.it!” a Web curation platform launched in English in 2011 that has since added Spanish; “Smart News” (2012); “Blendle” (2013), a Dutch pay-as-you-go news platform described as “iTunes for news”; “Paper.li” (2009), an app that reconfigures Twitter and Facebook streams into a newspaper format; “News360” (2010), a personalized news aggregator app that “learns” to detect content of interest to users; and “UpDay” (2015), an app developed by Axel Springer and Samsung. Others are “Inkl” (2015), which offers a curated selection of news content; “Feedbin” (2015); “NewsBot” (2015), originally named Telme John; “Mosaiscope” (2012), a comprehensive news aggregator/reader; “Readzi” (2016); “Nuzzle” (2016), a personalized news app classified as one of best apps of 2016 and “Read Across the Aisle” (2017), an app designed to help readers escape from their personal filter bubbles. Other options worth noting are “Reddit” (2005); “Pocket” (2007) that is useful for storing website content; “Instapaper” (2008), which was acquired by Pinterest in 2016; “JimmyR” (2006), which could be considered more of a mashup; “Diigo” (2014); “Revoat” (2015), which is similar to Reddit but offers more opportunities for user engagement and is less strict about politically incorrect content; website aggregator “Netvibes” (2005) and “StumbleUpon” (2001), a discovery engine acquired by eBay in 2007 that searches for and recommends news and other types of content of interest to users. Some of these can be considered fusions between bookmarking services and aggregators.

For the purposes of this study, we examined a sample of thirty aggregator apps selected from the almost endless list being marketed today. Data related to the business model is not what we consider most relevant, and if taken into account, it can be seen that, for the most part, they are not journalistic companies nor is their purpose quality of information. They rely on technology to generate traffic and a volume of unknown users who do not generate advertising revenue or subscribers and which hurt publishers. Although our main inclusion criterion was that an app is devoted entirely (or at least partially) to news content, we also took into consideration other points such as the size of their user bases, level of interactivity, user-friendliness, novelty and the frequency with which they were updated. In light of the fact that newspapers generate the content aggregators use, in addition to working with data obtained from an analysis of this sample, we also conducted a series of semi-constructed interviews with the editors of “The Washington Post”, “The Wall Street Journal” (U.S.), “El País”, “El Mundo”, “ABC”, “El Confidencial” (Spain), “Público”, and “Jornal de Noticias” (Portugal). In order to better examine the structure and models of the aggregators selected for the study sample, once our review of the existing literature was complete, we prepared an analysis sheet containing 47 evaluation parameters related to four key areas of inquiry (see Table 1).

### 3. Results

**Description:** They are companies that never exceed 50 employees, and with free apps that have paywalls. They

Description	1. Name 2. Developer 3. URL 4. Type of company 5. No. of employees 6. Year of launch and date of latest version 7. Free/paid (price) 8. System/platform 9. Language 10. Usable offline?
Navigation and structure	1. Description of user tasks 2. Does it offer multi-window navigation? 3. Description of content hierarchy 4. Ease of use 5. Accessibility 6. Presence of staff journalists 7. Automatic selection 8. Selection by journalists 9. Selection by others 10. Selection criteria.
Contents	1. Homepage 2. Fixed/variable. 3. Does it feature a “front page”? 4. No. of news stories/no. of pages 5. Direct links to original sources 6. Sections 7. Updating frequency 8. No. of links per section 9. Types of links (conventional media, social networking sites, public and other entities, etc.) 10. Archive 11. Does it offer exclusive content? 12. Is content prioritized? If so, according to what criteria?
Interactivity	1. Identification 2. Topic selection system 3. Possibility of posting comments 4. Content sharing option 5. Options for uploading one’s own content 6. Possibility of displaying content on a personal social networking profile 7. Privacy 8. Legal notice 9. Search engine? 10. Possibility for users to curate content 11. Possibility of posting comments 12. Possibility of creating a user account 13. Push notifications for breaking news on topics that readers have indicated 14. Geolocation 15. Access via various types of devices.

usually publish in English but also in other languages. There are two categories: a) Aggregators with a predominance of marking feeds based on the preferences of users and which focus investment on technological development in order to make an automatic selection using algorithms. They have between two and five employees; b) Aggregators with editing teams that select information for more personal consumption, employing from ten to fifty people.

Navigation and structure: Those that select based on the of users votes have a linear, minimalist, scroll structure with information in steps for an unbroken visualization. Others, such as “Flipboard” or “Feedly”, are Custom Social Journals with a design similar to that of printed magazines, very visual and with page flipping. In the majority the user personalizes and determines the list of media, the user experience is usually easy, and they are very intuitive, with exceptions such as “Mosaiscope”.

Contents: The presentation of information is done as on the web, without covering and ranking the latest news, except “Flipboard”. There is no daily edition, the number of items of news is updated continuously, and the number of links is also undefined. Most are horizontal and connect with conventional media, but others use social networks, entities, and blogs vertically. The selection is based on the date of entry, the relevance of the contacts or thematic selection; and content is added by vote of the users and the frequency of feeds and algorithms of the site.

Interactivity: There are many similarities with minimal differences. The technological tools are practically similar in all the apps, and they vary in functionalities, such as giving opinions, commenting or contributing, which are usually done through Facebook or Twitter. All have the option of sharing and including profiles on social networks.

The Table 2 provides data for the primary objectives of this study.

Findings indicate that the content selection processes employed by most app-based aggregators are algorithmically driven, quantitatively oriented and unprofessional from the perspective of journalistic standards. The newspaper editors and executives interviewed for this study all complained that aggregators make unfair use of the content they produce, and they believed that a more equitable arrangement needed to be negotiated. All of them reflect, with the exception of “El Confidencial”, two attitudes: they assume that they must inevitably accept the new situation but, at the same time, they state that aggregators do not support or favour news publishers without whom their business would cease to exist. If these platforms bring them more readers, they are not against them. But they consider that the current model means they will lose profitability and that if an adequate method of collaboration is not reached, audiences may assume that information is free when the reality is that it requires good professionals, ethical and deontological guarantees and considerable economic investment.

Emilio García-Ruiz, managing editor of “The Washington Post”,

Apps	Languages	Hierarchy criteria	Staff journalists	Automated selection
AppyGeek	46	No/ Determined by user	No	Yes
Blendle	3	Sections/ Determined by user	Yes	Only “partners”
Digg	English	Quantitative	Yes	Yes
Fark	English	Date	No	Yes
Feedbin	English	Date/ # of Clicks	No	Yes
Feedly	English	By category (in Today section only)	Yes	Yes
Flipboard	12	Yes	Yes	Yes
Google Play	47	Google suggestions	Yes	Yes
Imgur	English	Date/ # of Clicks	No	Yes
Inkl News	English	Yes/ user filters	Yes	Yes
Inoreader	English	Date/ # of Clicks	No	Yes
Mosaiscope	English	Date/ Determined by user	No	Yes
Netvibes	English	Date	No	Yes
News 360	2	Determined by user	No	Yes
News App	10	Date	No	Yes
NewsBlur	13	Determined by user	No	Yes
NewsBot	3	Date	No	Yes
News Explorer	English	Filters/Determined by user	No	Yes
Newsify	English	Determined by user	No	Yes
News Republic	37	Sections/Determined by user	No	Yes
Nuzzel	31	# of shares/Hourly	No	Yes
Popurls	34	Most recent feeds	No	Yes
ProductHunt	English	Date	No	Yes
Reeder 3	English	Determined by user	No	Yes
Reddit	English	Determined by user	No	Yes
ReadAcross	5	Date	No	No. Based on user preferences
Scoop.it	English	Determined by user	No	Yes
SmartNews	2	Media algorithm-driven	No	Yes
Snatz	English	Algorithm-driven	Yes	Yes
Unread	English	Most recent	No	Yes

asserted that everything has changed; and refusing to work with Google is bucking a revolution. While he has no problem with small-scale aggregators that generate new readers, he considers their prospects dim in a sector in which only enterprises capable of attracting mass audiences survive. Constance Mitchell-Ford, a veteran “The Wall Street Journal” editor, asserted that digital newspapers who are unhappy with the fact that aggregators provide free content need to develop similar distribution mechanisms that readers are willing to pay for. “There are many readers who just want to read headlines and general, superficial news and don’t ask for anything more. They get that for free. But there are lots of others that expect quality and need analysis and coverage that requires investigative work, which is something that must be paid for. Free news is a really nice idea, but somebody along the line has to pay what it costs to produce it”.

Referring to the love-hate relationship that exists between newspapers and aggregators, Bernardo Marín García, deputy director of digital operations at “El País”, reflects, “It’s true that they cherry pick our work. But they also allow us to reach many more readers”. “El Mundo’s” deputy director Rafael Moyano is less optimistic. “We are now in their hands”, he laments. “Newspapers do the work, and they take a free ride. For the moment they need us, and they’re beginning to realize that they can’t go on doing what they’re doing indefinitely”. Montserrat Lluís, deputy director of “ABC” feels that the methods app-based aggregators use to select news content are rigged to “rob us of the greatest number and best news stories possible”. From her perspective, “This is a travesty driven by an obsession with winning an ever-greater slice of a readership pie that should be more equally distributed between aggregators and newspapers so as to ensure the quality of journalism going forward. Letting the public become accustomed to the notion that news is free and professional and ethical standards are irrelevant is dangerous”. Nacho Cardero, the editor of “El Confidencial”, who takes the position that aggregators allow his paper to reach a larger audience, describes them as “our allies, not our enemies”. As far as he is concerned, the problem lies with editors “who haven’t yet learned how to monetize their newspapers or stubbornly cling to bloated, completely anachronistic operational structures”.

While Domingos de Andrade, executive director of “Jornal de Notícias”, worries that aggregators could well be the death sentence for newspapers, he also recognizes that without them newspapers would find it harder to connect with audiences. According to him, “The question is how we newspapers can become profitable on the basis of the simple fact they are using content we produce”. As Amílcar Correia, the executive editor of “Público”, sees it, “Aggregators are unjustifiably distributing free content to more and more readers and they should be paying to do that. They may have funded research projects in Europe to clear their conscience, but even the smallest of them siphon off-market segments that could be crucial to given news publications. In any case, newspapers are free to prevent them from aggregating their content”.

#### 4. Discussion and conclusions

News aggregation is a complicated and competitive business in which very few players manage to survive, and most have only short-term viability. It is equally controversial in the light of assertions made by newspapers in numerous countries that aggregators should have to pay for the snippets of news articles they feature. Good journalism is expensive to produce, and without the quality content that newspapers generate, news aggregators would have nothing of value to “sell”. Although these businesses may be competing with newspapers, and despite the fact that they make their money from the content they do not produce themselves, the two must coexist and eventually arrive at some mutually acceptable *modus vivendi*.

Aggregators have various points in their favour: a) They make a vast quantity of news and information easily accessible and offer a high level of personalization; b) They allow busy, active users interested in staying constantly up to date to set their own personal news agendas; c) They allow local and specialized publications that would otherwise remain below the radar to reach vast new audiences; d) They dramatically improve the national and international visibility of and access to a broad spectrum of digital publications and their content; e) They open up new business opportunities for news organizations that generate rapid revenue for those that learn how to exploit them successfully.

They nevertheless have their downsides as well: a) As it is impossible to wade through the vast volume of content they offer, and this unmediated surfeit of news can quickly devolve into a dearth of information, users must spend time learning how to organize their feeds and reduce their sources to a manageable number if they don’t want to be perpetually overwhelmed; b) Aggregators’ methods of content selection, most of which are focused on automated, random searches and based on user preferences and advertising considerations, are not professional

from a journalistic perspective; c) Their modus operandi disrupts the relationship between readers and news organizations; d) The proliferation of these increasingly technologically advanced platforms is causing ever-deeper fractures in a saturated market in which fragmented audiences use various products simultaneously.

Findings support our starting hypotheses. Generally speaking, the aggregators analysed disseminate content via apps that allow them to offer a vast quantity of new items that they nevertheless fail to organize and prioritize in accordance with journalistic standards. In light of the quantitatively oriented content selections examined, which in certain instances fell into the category of superficial eye candy, we believe that their model of news distribution needs to be reoriented towards higher quality content and that gatekeeper competences in what is now a diverse and changing sector must be reformulated. Aggregators would have a higher value for the increasing well-informed and demanding readers of today if they used journalistic methods of content selection and prioritization instead of focusing their energy on identifying which audiences are likely to be the best targets in terms of monetization. Although these services offer easy access to a wide range of news stories and a high level of personalization, their failure to organize content professionally contributes to fragmentation that impedes users from localizing specific sources and gaining a comprehensive understanding of issues and events. All should, therefore, make a more significant effort to impose a hierarchy on the content they offer. It is also time to bring our concept of what a gatekeeper is and needs to do in line with the circumstances of today's technology, journalistic practices, communications, and current news models.

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### References

- Aguado, J.M., Feijóo, C., & Martínez, I.J. (2013). *La comunicación móvil*. Madrid: Gedisa.
- Anderson, C., Bell, E., & Shirky C. (2014). *Post-Industrial journalism. Adapting to the present*. Columbia University Library. Series: Tow Center for Digital Journalism Publications. <https://doi.org/10.7916/D8N01JS7>
- Anderson, C.W. (2013). What aggregators do: Towards a networked concept of journalistic expertise in the digital age. *Journalism* 14(8), 1008-1023. <https://doi.org/10.1177/1464884913492460>
- Athey, S., Mobius, M., & Pal, J. (2017). *The impact of news aggregators on Internet news consumption*. Working paper 3353. Graduate School of Stanford Business. <https://stanford.io/2QVYyhj>
- Bailey, J. (2015). A brief guide to ethical aggregation. *Plagiarism Today*. <https://bit.ly/1Q1lg9l>
- Boczkowski, P. (2004). *Digitizing the news. Innovation in online newspapers*. Cambridge, Massachusetts: The MIT Press. <https://doi.org/10.7551/mitpress/2435.001.0001>
- Bourdieu, P. (2005). The political field, the social science field, and the journalistic field. In R. Benson, & E. Neveu (Eds.), *Bourdieu and the journalistic field* (pp. 29-47). Cambridge: Polity Press.
- Brottman, M. (2005). *High theory / Low culture*. New York: Palgrave MacMillan. <https://doi.org/10.1057/9781403978226>
- Buttry, S. (2012). Aggregation guidelines: Link, attribute, add value. *The Buttry Diary*. <https://bit.ly/1C1qa1T>
- Carr, N. (2010). *The shallows: How the Internet is changing the way we think, read and remember*. London: Atlantic Books.
- Castellet, A., & Aguado, J.M. (2015). Innovar cuando todo cambia. El valor disruptivo de la tecnología móvil en la industria de la información. *Sur le Journalisme, About Journalism, Sobre Jornalismo*, 3(2), 26-39. <https://bit.ly/2PG9Epi>
- Chiou, L., & Tucker, C. (2012). Copyright, digitization, and aggregation, discussion paper. *NET Institute Working Paper*, 11-18. <https://doi.org/10.2139/ssrn.1864203>
- Chiou, L., & Tucker, C. (2017). Content aggregation by platforms: The case of the news media. *Journal of Economics Management Strategy*, 26(4), 782-805. <https://doi.org/10.3386/w21404>
- Christensen, Clayton & Skok, David (2012). Be the disruptor. *Nieman Reports*, 66(3). <https://bit.ly/2Eshh1l>
- Clark, D. (1999). *Post-PC Internet*. MIT Computer Science and Artificial Intelligence Laboratory. Talk at the LCS 35th celebration, April 13. <https://bit.ly/2UOUdyV>
- Costera, I. (2013). Valuable journalism: A search for quality from the vantage point of the user. *Journalism*, 14(6), pp. 754-770. <https://doi.org/10.1177/1464884912455899>
- De Corniere, A., & Sarvary, M. (2017). Social media and the news industry. *NET Institute Working Paper*, 17-07. <https://doi.org/10.2139/ssrn.3049358>
- Dellarocas, C., Katona, Z., & Rand, W. (2012). Media, aggregators and the link economy: Strategic hyperlink formation in content networks. *NET Institute Working Papers* 10-13. <https://doi.org/10.1287/mnsc.2013.1710>
- Deuze, M. (2006). O jornalismo e os novos meios de comunicação social. *Comunicação e Sociedade*, 9(10), 15-37. [https://doi.org/10.17231/comsoc.9\(2006\).1152](https://doi.org/10.17231/comsoc.9(2006).1152)
- Diakopoulos, N. (2014). Algorithmic accountability. Journalistic investigation of computational power structures. *Digital Journalism*, 3(3), 398-415. <https://doi.org/10.1080/21670811.2014.976411>



- Domingo, D., Quandt, T., Heinonen, A., Paulussen, S., Singer, J.B., & Vujnovic, M. (2008). Participatory journalism practices in the media and beyond. *Journalism Practice*, 2(3), 326-342. <https://doi.org/10.1080/17512780802281065>
- Enck, W., Gilbert, P., Chun, B.G., Cox, L., Jung, J., ... Sheth, A. (2014). TaintDroid: An information-flow tracking system for realtime privacy monitoring on smartphones. *ACM Trans. Comput. Syst. (TOCS)* 32(2), 5. <https://doi.org/10.1145/2619091>
- Falaki, H., Mahaja, R., Kandula, S., Lymberopoulos, D., Govindan, R., & Estrin, D. (2010). Diversity in smartphone usage. *MobiSys '10. Proceedings of the 8th International Conference on Mobile Systems, Applications and Services* (pp. 179-194). San Francisco. <https://doi.org/10.1145/1814433.1814453>
- Friedman, A. (2014). We're all aggregators now. So we should be ethical about it. *Columbia Journalism Review*. May, 23. <https://bit.ly/2EpH7Cq>
- George, L., & Hogendorn, C. (2012). Aggregators, search and the economics of new media institutions. *Information Economics and Policy*, 24(1), 40-51. <https://doi.org/10.1016/j.infoecopol.2012.01.005>
- Hamborg, F., Meuschke, N., Aizawa, A., & Gipp, B. (2017). Identification and analysis of media Biasin News Articles. In M. Gäde, V. Trkulja, & V. Petras (Eds.), *Everything changes, everything stays the same? Understanding information spaces. Proceedings of the 15th International Symposium of Information Science (ISI 2017)* (pp. 224-236). Berlin, 13th-15th March 2017. Glückstadt: Verlag Werner Hülsbusch. [https://doi.org/10.1163/9789004319523\\_015](https://doi.org/10.1163/9789004319523_015)
- Holzer, A., & Ondrus, J. (2011). Mobile application market: A developer's perspective. *Telematics and Informatics*, 28, 22-31. <https://doi.org/10.1016/j.tele.2010.05.006>
- Jarvis, J. (2013). *There are no journalists. Buzz machine*. <https://bit.ly/2fWEoX>
- Nasr, N., & Jeon, D.S. (2014). News aggregators and competition among newspapers in the Internet. *TSE*, 12-20. <https://doi.org/10.2139/ssrn.2164396>
- Kapuscinski, R. (2005). *Los cinco sentidos del periodista*. Colombia, Spain: Fundación Nuevo Periodismo Iberoamericano, Asociación de la Prensa de Madrid.
- Kovach, B., & Rosentiel, T. (2014). *The elements of journalism*. New York: Three Rivers Press. Crown Publishing Group. Random House LLC.
- Kunelius, R. (2006). Good journalism. *Journalism Studies*, 7(5), 671-690. <https://doi.org/10.1080/14616700600890323>
- Lavin, A., & Gray, S. (2016). Fast algorithms for convolutional neural networks. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. <https://doi.org/10.1109/cvpr.2016.435>
- Law, P., Fortunati, L., & Yang, S. (2006). *New technologies in global societies*. River Edge, NJ, USA: World Scientific Publishing. <https://doi.org/10.1142/9789812773555>
- Lee, A., & Chyi, H. (2015). The rise of online news aggregators: Consumption and competition. *The International Journal on Media Management*, 17(1), 3-24. <https://doi.org/10.1080/14241277.2014.997383>
- Lee-Wright, P., Phillips, A., & Witschge, T. (2013). *Changing Journalism*. USA: Routledge.
- McBride, K., & Rosentiel, T. (Eds.) (2014). *The new ethics of journalism: A guide for the 21st century*. Los Angeles: SAGE.
- McCombs, M. (2006). *Estableciendo la agenda. El impacto de los medios en la opinión pública y el conocimiento*. Barcelona: Paidós.
- Mills, J., Egglestone, P., Rashid, O., & Väätäjä, H. (2012). MoJo in action: The use of mobiles in conflict, community and cross platform Journalism. *Continuum*, 26(5), 669-683. <https://doi.org/10.1080/10304312.2012.706457>
- Nasr, N., & Jeon, D.S. (2014). News aggregators and competition among newspapers in the Internet. *TSE*, 12-20. <https://doi.org/10.2139/ssrn.2164396>
- Newman, N., Fletcher, R., Kalogeropoulos, A., Levy, D., & Nielsen, R. (2017). *Reuters Institute digital news report 2017*. Oxford: Reuters Institute for the Study of Journalism. <https://bit.ly/2R3kNVS>
- Pavlik, J. (2013). Innovation and the future of journalism. *Digital Journalism*, 1(2), 181-193. <https://doi.org/10.1080/21670811.2012.756666>
- Pavlik, J. (2008). *Media in the digital age*. New York: Columbia University Press.
- Pavlik, J. (2001). *Journalism and new media*. New York: Columbia University Press. <https://doi.org/10.7312/pav11482>
- Rosentiel, T., Jurkowitz, M., & Ji, H. (2012). *The Search for a new business model*. Pew Research Center. Journalism & Media. <https://pewrsr.ch/2R0TOdD>
- Rutt, J. (2011). Aggregators and the News Industry: Charging for access to content. *NET Institute. Working Paper*, 11-19. <https://doi.org/10.2139/ssrn.1958028>
- Souza-e-Silva, A. (2006). Mobile technologies as interfaces of hybrid spaces. *Space and Culture*, 9(3), 261-278. <https://doi.org/10.1177/1206331206289022>
- Stivers, C. (2012). *Aggregated assault. Whose work is it, anyway? A plea for standards*. *Columbia Journalism Review*, may-june. <https://bit.ly/2rGwX90>
- Vos, T.P., & Finneman, T. (2017). The early historical construction of journalism's gatekeeping role. *Journalism*, 18(3), 265-280. <https://doi.org/10.1177/1464884916636126>
- Yang, D., Xue, G., Fang, X., & Tang, J. (2012). Crowdsourcing to smartphones: Incentive mechanism design for mobile phone sensing. *18th Annual International Conference on Mobile Computing and Networking*, August 22, 2012 / August 26, 2012, Istanbul, Turkey, pp. 173-184. <https://doi.org/10.1145/2348543.2348567>