Coming of Age: Developments in Digital-Born News Media in Europe

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We are particularly thankful for the input and support of our colleagues at the Reuters Institute for the Study of Journalism, especially for their comments on an early draft of this report. Thanks also to Francesca Barca and Emilie Prattico in Paris, Christiane Lötisch in Berlin, and Pedro Picon and Ricardo Neri in Madrid for their invaluable local help, and in particular to Leela Jacinto, Silvia Majó-Vázquez, Fernando Navarro Sordo, and Argemino Barro.

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Executive Summary

In this report, we examine 13 digital-born news media organisations across four European markets: France, Germany, Spain, and the UK. The organisations covered include a mixture of domestic for-profit, domestic non-profit, and international players. Building on our original report on this sector two years ago (Nicholls et al. 2016), we analyse both editorial and business strategy in order to understand the unique but shifting set of challenges faced by online news outlets without legacy operations.

Major findings include:

First, although the last two years have generally been difficult for ad-supported models, advertising remains vital as a source of revenue for digital-born outlets and some organisations have done well with this approach. At the same time, we see an increasing interest in subscription and membership models as long-term (but not difficulty-free) sources of revenue.

Second, despite some high-profile cuts and closures, digital-born news media are now a well-established part of the media landscape, subject to similar pressures to their legacy counterparts. The maturing sector is not characterised by winner-take-all economics, and news organisations are increasingly focused on establishing lean, sustainable funding models based on diverse revenue sources.

Third, digital-born news organisations have been faced with hard choices about which audiences to serve and how to reach them. We find that they continue to balance the risks and opportunities of working with platforms like Facebook and Google, though with an increasing drive for independence and direct traffic. The recent well-publicised changes to the Facebook algorithm hurt some outlets and provided a powerful reminder of the risks of overdependence, but digital-born media continue to engage because of the unique opportunities that platforms provide for reach and engagement. There is also continued interest in partnering with legacy media for increased reach and impact.

Fourth, we find some evidence of a flight to quality among digital-born media, in which the difficult funding landscape and desire to build paying audiences are driving an emphasis on quality rather than clicks. We also find increased interest in connecting with non-traditional audiences, partly as a response to the ongoing populist turn in politics (a priority also evident in many legacy outlets). These developments reflect the fact that digital-born media are deeply rooted in the professional culture of journalism.

Our more detailed analysis covers three related areas: funding models, distribution strategies, and editorial priorities.
1. Introduction

Digital-born news media are those developed from the outset to pursue a digital distribution model, without the legacy print or broadcast brands of most the best-known news outlets in the world. The category is wide and includes a diverse and growing range of organisations. These face substantial hurdles in weathering the financial challenges of online journalism without continuing revenue from legacy operations.

The ‘first wave’ of digital news start-ups, beginning in the 1990s, included many ad-supported aggregators who bundled together news from multiple sources – often as part of a ‘portal’ model which included search, weather, sports, etc., aiming to be general-purpose ‘start’ pages for the web. (The decade also saw a handful of niche sites producing original content, such as Salon, Slate, and Netzeitung). Today leading examples of the low-cost, high-traffic news portal model include Yahoo! News and Google News (launched in 2002).

What we consider ‘second wave’ digital-born news sites, launched from the mid-2000s onwards, produce their own content, rather than relying primarily on aggregation and wire copy. There is huge diversity among these organisations in terms of audiences, scale, funding model, and the types of news produced. The outlets in this report range from fairly large newsrooms pursuing mass audiences (e.g. HuffPost, El Español, and Mediapart) to boutique operations (e.g. Krautreporter, The Canary). They include commercially focused as well as non-profit operations.

What all of these organisations have in common are the core challenges of online journalism: producing news which serves the audience and mission they have identified, handling the problem of being found (discovery) and getting news into the hands of the target audience (distribution), and finding funding models which provide sufficient revenue to make the venture sustainable.

This last issue is particularly acute, as falling advertising rates are making precarious a previous generation of business cases built upon free content distribution funded by display advertising.

While the overall online advertising market continues to grow, it remains dominated by platform providers such as Google and Facebook. Competition is intense in the online news sector, and the last year saw high-profile closures and cuts amongst some of the biggest-scale ad-supported players. For example, Buzzfeed France and HuffPost South Africa have closed (Bordages et al. 2018; HuffPost South Africa 2018); Unilad, one of the most prominent viral publishers on Facebook in the UK, was recently bought out of administration by rival LADbible (BBC News 2018).

As Raphaël Garrigos of Les Jours told us, the last year has been particularly ‘noir’ for journalists working at digital-born outlets. While the challenges of online publishing as a business are hardly new, digital-born news media had benefited from being perceived as innovative outsiders, using venture capital to expand without the professional and business constraints of legacy media organisations. It is increasingly clear that they are subject to the same pressures as their legacy counterparts.

At the same time, some observers see signs of maturation in the adjustments digital-born news organisations have made. As Jack Riley of HuffPost said:

*I’d say the last 12 months has been when most progress has happened – a shift away from those kinds of algorithmic, black box optimisation channels of distribution and towards human relationships.*
The online news business continues to change, in response to shifting reader behaviour and advertiser strategies as well as the initiatives of platform companies who shape the digital environment in which media organisations operate.

Two years ago, we analysed a group of digital-born news organisations in France, Germany, Spain, and the UK, examining their editorial strategies, attitudes to offsite distribution, and funding models (Nicholls et al. 2016). This report revisits many of the same organisations, analysing how the challenges and opportunities for online news have changed, and highlighting how news organisations are adapting to meet these.

**Approach**

This report is based on interviews with senior business and editorial people at digital news organisations in the United Kingdom, France, Germany, and Spain. We have tried to cover as wide a range of the different approaches and business models as possible. In particular, we have tried to cover both broad-scale and niche sites, both local models and global players based in the United States, and both commercial and non-profit approaches. A list of interviewees is given at the back of this report.

This interview work is supported by analysis of secondary sources, including audience reach data and financial figures where available.

**Questions**

We examine more than a dozen of these organisations across the four European markets to answer three sets of questions about how digital players are operating in late 2018:

- **Editorial:** What is the scope of activity of online news organisations and what kinds of journalism are they doing today?
- **Distribution:** What distribution channels and strategies do news providers currently favour? How are they addressing the changing ways readers discover the news – in particular the ongoing shift to accessing news via search and social intermediaries?
- **Funding:** What funding models are being tried for online-only journalism? What successes and difficulties have been seen with such disparate business models as crowdfunding, subscription (with and without paywalls), advertising-only, and foundation support?

This report has a comparative focus: we look at how the kinds of journalism produced and business models used vary between countries and between different organisations within each country, as well as how these have changed over time. It examines the different approaches to audience, distribution, and funding, and the lessons the various experiences can offer to online news providers as a whole.

This report focuses on digital-born news organisations, though it is informed by our ongoing comparative research into news producers and audiences around the world. In particular, other recent reports in this series from the Reuters Institute have focused on the online activities of public service broadcasters and private sector legacy news media.

**Countries and Cases**

The countries and organisations chosen as case studies in this report were chosen strategically in order to cover a range of sizes, approaches, and countries. We have aimed particularly to repeat
our coverage of those case-study organisations selected in 2016, in order to see how changes in
the external environment and internal priorities have affected digital-born news organisations
over time.

In September 2018, we met senior editorial and business staff at 13 media organisations founded
in the last 17 years in Europe. We spoke to operations in the UK, Germany, France, and Spain,
summarised in Table 1 below.

The country context is significant. France and Spain have large digital-born organisations
competing with traditional media (such as Mediapart and El Español), the United Kingdom has no
comparable digital newspapers but does have the most developed examples of US online imports
such as the HuffPost, while Germany is characterised by smaller niche digital-born players
operating in a very crowded media market. We have linked these variations to differences in the
legacy media environment in each country, coupled with different language communities having
different access to free sources of global news (particularly in English).

Table 1. Cases: by country

<table>
<thead>
<tr>
<th>Country</th>
<th>Organisation</th>
<th>Founded</th>
<th>Funding model</th>
<th>Journalists (change since 2016)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>Brut</td>
<td>2017</td>
<td>Native advertising</td>
<td>60 (n/a)</td>
<td>€10m investment by Xavier Niel and Renaud de la Kim.</td>
</tr>
<tr>
<td></td>
<td>Le HuffPost</td>
<td>2012</td>
<td>Advertising</td>
<td>35 (+5)</td>
<td></td>
</tr>
</tbody>
</table>
|               | Les Jours              | 2016    | Subscriptions                                        | 12 (+2)                       | Aiming to increase subscribers from 10,000 to 15,000 to break even.
|               |                       |         |                                                      |                               | Looking for minority investors.                                     |
|               | Mediapart              | 2008    | Subscriptions                                        | 46 (+6)                       | Revenue €13.7m in 2017, +20% since 2016. Net profit after tax was €2.2m. |
| Germany       | Correctiv             | 2014    | Foundations, individuals, project financing, business | 24 (+12)                      | Non-profit, with explicit disclosure of all donations >€1000.        |
|               |                       |         | (books etc)                                          |                               |                                                                      |
| Spain         | CTXT                  | 2014    | Subscriptions, advertising, events, foundations       | 4 (n/a)                       | Subscriptions 36% of revenue – 7,000 people pay €50 average.        |
|               | El Confidencial       | 2001    | Display advertising (plus programmatic, branded content | 150 (+50)                     |                                                                      |
|               |                       |         | and events)                                          |                               |                                                                      |
|               | El Español            | 2015    | Advertising                                          | 70 (-)                        |                                                                      |
|               | El HuffPost           | 2012    | Advertising                                          | 16 (+1)                       |                                                                      |
|               | The Canary            | 2015    | Advertising/membership                                | 8 (+3)                        | Owned by 3 co-founders, with a sizeable staff profit-sharing
|               |                       |         |                                                      |                               | mechanism (The Canary, n.d.).                                       |
|               | HuffPost UK           | 2011    | Advertising                                          | 49 (+9)                       |                                                                      |
It has not been possible to study every digital-born news organisation in Europe, and many interesting cases and countries are not included here. We have aimed to look in depth at a number of cases and draw valuable learning points from them, rather than to thinly review the entire sector. We covered internationally expanding cross-national outlets in more detail in our recent report *The Global Expansion of Digital-Born News Media* (Nicholls et al. 2017).

**The Bureau of Investigative Journalism, UK (2010)**

TBIJ was established in 2010 as a non-profit newsroom for investigative and data journalism along the lines of the US site ProPublica; two founders, an investigative journalist and her tech-entrepreneur husband, provided a £2 million start-up grant. TBIJ relies on a collaborative model to produce ‘public interest’ journalism meant to drive social change. With mainstream media partners, it has co-published over 50 front-page stories and TV packages on what the editors see as under-reported topics – such as its comprehensive reporting on drones, which it states ‘changed US policy and saved lives,’ or its current work on antibiotics resistance.

Its domestic arm, Bureau Local, was set up with funding by Google’s Digital News Initiative and Open Society Foundations and has won innovation prizes at the British Journalism Awards and the European Press Awards for its focus on increasing public interest in local stories. TBIJ has also advised other news non-profits, such as the German site Correctiv – another interviewee in this report. With 13 core investors, TBIJ is looking to diversify its current philanthropic and foundation-supported business model.

**Les Jours, France (2016)**

Created by *ex-Libération* journalists, the subscription-only site Les Jours focuses on in-depth reporting presented in a visually rich way, producing long-form articles on what editors describe as ongoing ‘obsessions’ such as fiscal evasion, billionaire media owners, and thyroid medicine scandals. The site drew wide notice when a book based on a series it published – *Les Revenants*, about French citizens who went to fight in Syria – won the Albert Londres prize (the French equivalent of the Pulitzer Prize).

The nine co-founders of Les Jours own 70% of the site, which launched in 2016 with a campaign that crowdfunded €80,000 (via KissKissBankBank) and signed up 6,000 members. The project aims to break even by growing to 25,000–35,000 members within three years. Les Jours highlights its ad-free model and recently campaigned to add 5,000 more members to ensure independence and fulfil its mission of ‘giving back a sense of memory to the news’.
Krautreporter, Germany (2014)

The non-profit platform asked for a ‘leap of faith’ when it crowdfunded its launch with 17,000 German readers in 2014. Four years on, the journalism co-operative claims to have been successful in ‘changing the culture of journalism’, though its newsroom has been cut in half since 2016. Krautreporter specialises in long-form journalism and explainers. It is ad-free and co-operatively owned by 450 of its members, its so-called ‘expertise network’.

El Confidencial, Spain (2001)

With a target audience of higher earning ‘influencers’, El Confidencial was co-founded 17 years ago by three legacy journalists who cut their teeth working on the first democracy-era newspapers of the mid-1970s. The site remains Spain’s number one pure player, and fourth most-read news site after the top three dailies (El País, El Mundo, La Vanguardia). One year after it published the Panama Papers, El Confidencial stated that one in every third Spaniard with access to the internet clicked its pages (El Confidencial 2017).

El Confidencial publishes political and economic news; its separate society and lifestyle site, Vanitatis, competes with market leaders such as ¡Hola!. The site prides itself on its data and investigative journalism, citing the recent resignation of two ministers following its scoops. With branded content now accounting for one third of its income, and programmatic advertising falling, it is exploring new sources of revenue.
2. Funding Models for Digital News

The funding environment for digital news in general remains difficult, with news organisations across the sector continuing to search for sustainable business models. As noted in the introduction, the last year saw a number of high-profile failures, and the market appears to be consolidating – especially for sites with a volume focus.

However, none of our case-study organisations have closed since we published our initial report on them in 2016. On the contrary, several of the outlets featured have expanded their newsrooms (see Table 1). The international expansion of the HuffPost empire has slowed in the face of a difficult ad market and other challenges (Nicholls et al. 2017) but the editions we examine here (in France, Spain, and the UK) remain viable.

Sustainability and Success

In the early days of digital-born news, digital-born organisations were frequently called ‘start-ups’ and often invited parallels with investment-backed digital information ventures which aimed for geometric growth and high valuations. We challenged this view in 2016, observing the journalistic (rather than technological) roots of these initiatives and their focus on quality news and social impact.

It is now abundantly clear that the digital news business does not behave like digital markets characterised by network effects and easy returns to scale with low marginal costs. While serving the same content again is virtually free, keeping traffic levels up requires high volumes of material refreshed constantly. Rather than so-called winner-takes-all markets, we have settled into a world where ‘survival is success’ (Bruno and Nielsen 2012).

Our interviewees emphasised that this is not a world of outsized returns for savvy entrepreneurs, but a lifestyle business trying to build something sustainable and worthwhile. Sebastian Esser, publisher of Krautreporter, put it like this:

*It’s like we’re farmers. We have to produce stuff every day, go to the marketplace everyday, and attract people with good stories. So that’s not a scalable start-up business, but it’s a very steady, very sustainable, and very honest business based on relationships. And that’s a lot of fun.*

This is true even of media which are relatively successful in their fields, and especially for those working in languages other than English. Mediapart, the subscriber-backed French site constantly held up as a model for digital-born news ventures, note that endless growth is unlikely to be an option. ‘Every year we ask ourselves: “Will we grow again by 10,000 subscribers next year, and then the following year again?” Trees do not rise to heaven.’

It seems unlikely that this situation will change any time soon. Both digital-born and legacy scale players even in the English language have been forced into retrenchment by advertising rate challenges, and news markets are intensely place-specific with extensive work needed to adapt global content for local audiences (Nicholls et al. 2017).

In place of the possibility of exponential growth, we find continued work towards sustainable but lean business models for newsrooms based on a diversity of funding sources.
The Continued Importance of Advertising

Digital advertising revenue continues to expand as traditional and internet-based companies alike seek potential customers online. European digital ad spending has been reported as increasing to €48bn in 2017, essentially doubling over five years (IAB Europe 2018).

Nevertheless, ad-supported news outlets face a very difficult environment. Only a fraction of the online ad market is within reach, and ad rates are under constant downward pressure as advertisers can often reach their targets more efficiently through other channels. As Paul Ackermann, editor-in-chief, HuffPost France, bluntly put it, ‘the thing is that Google and Facebook are taking all the ads’.

Advertising remains the most important single source of revenue among digital-born news outlets, however, and eight of the organisations studied here rely on advertising as a major part of their funding strategy. This group is led by the three HuffPost sites, for whom delivering digital audiences at scale is a core competence. But it includes smaller sites with a mix of strategies as well, such as France’s Brut and Spain’s El Español and CTXT.

For digital-born media in 2018, subscription and ad-supported models are not seen as contradictory but can be pursued in parallel, just like in the print world. This is a relatively new development, at least in public rhetoric; earlier interviews found a sharp split between sites pursuing models based on free, ad-supported content at scale and those aiming for a smaller reach but greater sustainability through subscriptions.

Several of our interviewees reported looking ahead to increased revenue from video advertising, with Brut for instance focused on the in-video ad break as the next step to revenue. There remain regional challenges, though: El Confidencial noted that Spanish videos generated substantially less revenue per viewing than French ones, and less again than those in English. Although native advertising still came up as an important revenue stream, there was substantially less enthusiasm for it than we heard in 2016.

The long-run question is at what scale free, ad-supported models will turn out to be sustainable. Paul Ackermann, editor-in-chief of HuffPost France, described the dilemma: ‘I think there will always be a big place for free news. So now, the big question of the coming year is how the money’s going to come to pay for this news.’

Specific tensions around platform relationships are discussed in more detail in the section on distribution strategies.

Increasing Interest in Subscription and Membership Models

We observe a general turn to reader revenue that parallels ongoing moves by legacy newspapers. In 2016, almost no digital-born news media organisations used pay models (Cornia et al. 2017), but things are changing. Six of our case-study organisations are aiming for substantial income from reader revenue.

Two distinct models of paying for news have emerged among digital-born outlets. These are broadly ‘subscriptions’, with some form of paywall and the sense of paying money for access to a product (as well as to support the news organisation involved), and ‘memberships’, which are strictly voluntary and reflect a desire to support the media without the carrot of exclusive access. In the wider media world, these are respectively the approaches taken by the New York Times and the Guardian.
Relying on subscription income is certainly not considered to be an easy option. Even at Mediapart, co-founder Edwy Plenel describes the pressure to grow and renew subscription as ‘ruthless’. El Español noted the difficulties of drawing new subscribers given the prevalence of free news in Spain.

A common thread amongst the four Spanish interviewees for this report was the lack of maturity in the market in terms of willingness to pay for news. For Vanessa Jiménez, managing editor of CTXT, ‘When I was head of digital at El País, we had more than 50,000 paying subscribers – but the number of pages fell so much that the paywall was a public failure, because it happened during an advertising boom, and we lost our entire brand in Latin America.’ El Confidencial wants to experiment with subscriptions, perhaps through business newsletters, but cannot see asking readers to pay for the core offering today – especially given the imperative to reach enough people to have social impact. Alberto Artero, executive director, said ‘We’ve been working 17 years for this. If you decide to make people pay for your content, you’re losing that kind of ideal world in which El Confidencial contributes to a better society. You’re losing by making people pay.’

However, pressure in the advertising market is pushing sites committed to the model to consider other revenue sources. At Brut, Guillaume Lacroix says: ‘Maybe in the near future, we will ask our audience “Do you want to stop the ads? In which case you must subscribe.” There is no other way of making money.’

Sites which rely on subscriptions have to divide their efforts between retaining the existing readership and growing the base. Sebastian Esser, publisher of Krautreporter, noted, ‘memberships didn’t renew by themselves. We had to go back and ask everyone.’ Les Jours, also four years old, faces the same problem – between June and October, they ran an intense social media campaign to get 5,000 more subscribers to be able to break even and ‘stay independent’. Augustin Naepels, co-founder and CFO: ‘We don’t want to ask you for €20 or €50. We want you to be faithful subscribers and stay with us. We hope our business model will be sustainable but we still have to prove it.’

The challenge of attracting and retaining support obeys a dynamic very familiar in legacy media: whether under a subscription or membership model, it is excellent and consistent content which drives payment. Interviewees were exceptionally clear on this point. As Marie-Hélène Smiejan, co-founder and director general, Mediapart, put it: ‘you cannot find subscribers willing to pay for information they can find for free elsewhere’. David Schraven, publisher of Correctiv, noted that there is a virtuous feedback loop between excellent reporting and membership numbers: ‘Mostly we see growth when we publish a good story. Good story, people join.’

News organisations are experimenting with price differentiation to maximise payments from readers with different income levels. This is true even when the base product is free and the incentives are relatively small. Such models are not new: public media in the United States have operated donation-based fundraising with token incentives for many years. Nancy Mendoza, director of communications and membership, The Canary, observed:

\[\text{We have various levels of membership and people get some small benefits in return. They don’t get an awful lot, to be honest – it’s really a case of our members wanting to support us financially.}\]

This sense that readers want to pay for news is a significant change from two years ago. Mediapart notes that most of its subscribers were willing to voluntarily jump from €9 to €11 a month. Whereas rhetoric in 2016 also reflected the importance of paying for news to ensure quality and

\[^1\] See Arrese (2016) for more on this.
independence, there is a growing sense in some markets that the time is now right. Rachel Oldroyd, managing editor at The Bureau of Investigative Journalism, on the introduction of individual membership: ‘The public is starting to get the sense that they have to pay for news and information. I’m really very positive and hopeful.’

This is backed up by the experience of running membership models that readers will give money if they are asked. Just as the Guardian has established a robust membership income stream, CTXT, Correctiv, and The Canary each commented that readers had been willing to stand behind the news organisation when called to do so.

Nevertheless, the note of hope expressed by interviewees needs to be taken with a certain amount of caution. Survey data from the 2016 and 2018 Reuters Institute’s Digital News Report suggests that, while a substantial minority of readers may be prepared to pay or donate, only around 10% are currently paying for news and that this has changed little over the last two years (Table 2).

**Table 2. Paying for online news: by country**

<table>
<thead>
<tr>
<th>Country</th>
<th>Readers paying for online news (change since 2016)</th>
<th>Readers donating towards online news</th>
<th>Readers potentially willing to pay</th>
<th>Readers potentially willing to donate</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>11% (-)</td>
<td>1%</td>
<td>17%</td>
<td>17%</td>
</tr>
<tr>
<td>Germany</td>
<td>8% (-)</td>
<td>1%</td>
<td>13%</td>
<td>19%</td>
</tr>
<tr>
<td>Spain</td>
<td>11% (+1)</td>
<td>2%</td>
<td>15%</td>
<td>28%</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>7% (-)</td>
<td>1%</td>
<td>12%</td>
<td>18%</td>
</tr>
</tbody>
</table>


**Paywalls**

Three of our cases are running a paywall-based subscription strategy, with the receipt of subscription income tied in with ideas of sustainability and independence. In France, Mediapart and Les Jours both operate fairly strict paywalls, while Krautreporter in Germany also depends on a paywall-based strategy. National context appears to be important, with the ready availability of free digital news (especially in English) making paywall models more difficult to sustain in the UK and Spain than in countries with a longer tradition of paying for news online.

There are signs that paywalls are becoming increasingly viable, as online subscription models become more mainstream. As Marie-Hélène Smiejan, director-general, Mediapart, put it: ‘Maybe it’s related to the fact that young people are now used to paying for services like Deezer, Spotify, or Netflix’.

Even in the most receptive environments, success with a paywall model demands constant maintenance, especially to deal with subscriber churn. In France, Mediapart has been building its pay model for more than a decade, and declares recurring subscriptions to be ‘no one shot – it’s like a boat with a hole. It’s all very well to have 150 subscribers a day, but to survive, we need 250.’

As noted, organisations in Spain and the UK have to compete against a larger number of sites providing free content. The situation may be changing, however; El Español notes that, when the market matures and some regional Spanish media get paywalls, this will make their own paywall strategy easier to execute.
3. Platforms, News Discovery, and News Distribution

In order to achieve their financial and journalistic goals, media organisations need to build reliable audiences. This involves hard choices about who to serve, and how to reach them. A basic split exists between media organisations that are scale-orientated, generally relying on advertising-based funding models, and niche publishers who are aiming to achieve impact and sustainability through more specialised coverage supported in many cases by some form of direct payment (and in some cases by charitable foundations).

These differences in strategy shape distribution models and in particular the approach taken by news organisations to platform distribution via Facebook and other social media networks.

Facebook and its Algorithm Changes

Facebook is the dominant social media platform, and drew widespread attention in 2018 for reducing the prominence of news stories in its users’ primary ‘News Feed’ – one of a number of steps taken in response to intense pressure to combat the spread of online misinformation on the platform. Like similar changes in previous years, the well-publicised adjustments to Facebook’s algorithm (Mosseri 2018) have affected news organisations differently, but broadly highlighted the difficulties of being dependent on a large external company for visibility and traffic.

Our interviews offered evidence that the impact of the algorithm changes has been substantial. A number of outlets reported traffic losses, with Spanish sites especially hard hit: both El Español and El HuffPost say they lost 50% of traffic. Guillermo Rodríguez, El HuffPost editor-in-chief, notes: ‘The last 6 months was a debacle with Facebook. We played with fire.’

However, the changes affected some outlets more than others. For instance, both Les Jours and El Confidencial told us they didn’t notice an impact. In sharp contrast to other digital-born sites in Spain, El Confidencial said overall traffic ‘grew by about 60%,’ with traffic from Facebook specifically going up from February to September – a result they took as evidence that only ‘viral’ content was suppressed by the algorithm tweak. The Canary continue to get close to 80% of their traffic from Facebook.

To gain additional perspective, we analysed Facebook reach and interaction data from CrowdTangle, focusing on how things have changed for our case organisations over the last 12 months. The results cannot be definitively attributed to the algorithm changes, but they validated the sense gained from interviews that the impact has been broad but variable. The average number of content views per person who has liked a given outlet’s Facebook page – a good proxy for their core audience on the network – is down by about a third overall, with some news organisations down by 90% on this measure. We also found substantial though smaller reductions in total interactions and views per post.2

At the same time, the apparent effects of the changes varied across our case organisations, and a few have done well. For instance, the French site Brut followed the general trend of fewer interaction per person, but also more than doubled the number of people liking the page in the past 12 months; as a result, overall views and interactions are up impressively.

For many of our informants, the challenge of understanding and responding to the latest changes

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2 Data compare September 2017 with September 2018, for the main Facebook pages of each of our case study organisations.
highlighted difficulties that have always existed when working within the Facebook ecosystem. Laura Sanz, director of product development, El Español:

The traffic from Facebook was always very poor, you are in your feed and you want to leave your feed as little as possible. So, even if we get the click, it is a click with a high bounce rate, because users don't want to keep reading other news, they want to go back to what they were doing on Facebook.

Some observers read the latest episode as further justification for the shift from advertising- to subscriber-based models. (Notably, in contrast to previous years, Facebook Instant Articles were not held up as a key route to readers by any of the people we interviewed this year.) Marie-Hélène Smiejan, co-founder and director-general, Mediapart:

It's wrong to say 'I can launch my advertising-funded project' while we see a growing impact on the amount of readers controlled by a listing by Facebook, Google SEO [search engine optimisation], or SEO by Apple. It's like saying 'I give Facebook the opportunity to say if I will survive or if I have to disappear.' It's not acceptable. Facebook's part is becoming too important.

Despite this, none of our case organisations are abandoning the platform. As noted, some fared well and see continued opportunity – including for ad-supported models. Brut relies heavily on social media, and predicts that Facebook’s Ad Break will replace native advertising as its main source of revenue in a year. Guillaume Lacroix told us, ‘The two huge game changers for us in terms of scale and monetisation are Watch and the Ad Break, which will be possible to monetise, while losing less than 2% of our audience. It’s very good news for us.’

Handling Platform Risks and Leveraging Platform Opportunities

The range of responses to the latest algorithm changes offers further confirmation that digital-born media have a keen awareness of the potential downsides involved with offsite distribution, particularly through powerful, non-news-focused intermediaries like Facebook and Google. Our interviews for this report and over the previous two years have consistently shown a nuanced understanding of the unique opportunity for reach platforms present as well the substantial risks that must be balanced against it.

As a result, contrary to analyses that see news organisations blindly chasing Facebook reach then falling back when the social media giant changes direction, we see news organisations making difficult decisions they know to be calculated risks. While the recent declines in Facebook traffic were unwelcome, they were not entirely unforeseen – in previous rounds of interviews people were clear that they were taking a range of bets in order to mitigate this possibility. As Laurent Lucas, editor-in-chief, Brut, put it: ‘platforms have evolved – and we evolve with platforms’.

One way of managing platform risk is diversification, with many news organisations spreading their bets across a range of social media vehicles. For instance, HuffPost’s global strategy embraces a variety of different platforms, tailored by country – YouTube (especially in France), Instagram Stories (primarily in Spain), Twitter, and Pinterest. Jack Riley noted that HuffPost Brazil gets two-and-a-half times as much traffic from Flipboard as from Facebook. Patterns of usage are contextual and locally vary (see Nicholls et al. 2017).

It is worth noting that not only scale-focused sites but also niche and payment-driven outlets rely on social media platforms to build audiences. Edwy Plenel, editorial director at Mediapart, called social media platforms ‘both partners and enemies’ to the site. Marie-Hélène Smiejan explained
that social media are one of Mediapart’s four pillars to keep the readers engaged – together with an in-house subscription service, a moderation service, and the editors for the ‘Le Club’ blog network. At the same time, she is explicit about the limits of the relationship:

_We are absolutely not dependent on the impact of advertising or even SEO, on Google and Facebook. If we are present on all these media it’s because it’s another way to share news today._

**A Drive for Traffic beyond Social Media**

Despite the continued importance of social media networks for building news audiences, we also observe digital-born outlets placing a higher premium on direct traffic in 2018. As noted, the latest interviews revealed little interest in the alternative of fully distributed delivery, such as Facebook’s Instant Articles.

Several outlets, including The Bureau of Investigative Journalism and Les Jours, stressed that Google search traffic had become increasingly important as a source of readers. El Español also reported more traffic from the search engine and noted that Google referrals spent longer on the site than others. This attention to ‘side-door’ traffic may reflect diminishing Facebook referrals, but also ties in with the increased focus on finding sources of memberships and subscriptions.

As a result, a key question is how search and social media traffic can be effectively converted into the kinds of committed readers digital-born sites increasingly want to attract. Interviewees repeatedly described social media in terms of an ‘engagement funnel’ – as Nacho Cardero of El Confidencial put it, the challenge is in ‘trying to seduce a lot of audience that is outside of our environment and try to convert them into a funnel, into becoming our loyal audience’. Jack Riley of HuffPost said the organisation sees social media as ‘an engine of loyalty for us, which stands against conventional wisdom that social is not about loyal traffic and that you need registration for that’.

**Wider News Partnerships for Distribution and Impact**

A third route to building audiences is by partnering with existing news organisations, both legacy media and other digital-born outlets, to get a story out. In France, for example, both Mediapart and Les Jours have teamed up with Brut to increase the impact of investigative stories.

The purest form of this kind of collaboration comes from two non-profit news organisations, Correctiv in Germany and The Bureau of Investigative Journalism in the UK. These outlets routinely use media partners as their main channel to reach the public, and maintain their own websites as an archive and signpost as much as a means of generating views. (Bureau Local, TBIJ’s 18-month-old local journalism offshoot, is advising Correctiv on its local roadmap and business model.)

Still, not all audiences can be reached by traditional media, and partnering brings its own distribution difficulties. Rachel Oldroyd, managing editor of The Bureau of Investigative Journalism, noted that the Bureau Local project tries to work closely with local papers, but that local papers don’t always have the reach that is wanted. And by not focusing on their own publishing platform, she admitted, TBIJ also make it more difficult to build a community of contributors to support their work.

Finally, Brut relies on external media partnerships as not only a distribution channel but also a revenue source: The site sells white label material to be rebranded by other media organisations. Clients for this service have included traditional media, such as France Télévisions, as well as marketing platforms such as the ClearChannel portfolio of street-side advertising screens.
4. Editorial Priorities for Digital News Organisations

The case-study organisations we highlight here have a variety of audiences and specialise in different kinds of journalism. Brut, for example, is strongly video-focused; The Canary publishes political news and ‘campaigning journalism’ from a broadly left-wing perspective; and Mediapart offers general coverage as a boutique online version of the print newspaper tradition. None of the outlets we review has made major changes in format or topic since our initial report two years ago.

Nevertheless, we notice a series of smaller, parallel shifts in both rhetoric and practice for individual organisations that, taken together, highlight the role that core journalistic values are playing as the sector seeks sustainability.

A Flight to Quality

Specifically, we see signs of what could be called a ‘flight to quality’ amongst digital-born news media as they weather challenging circumstances. Our previous research stressed – in contrast to a common critique of the sector as dominated by ‘clickbait’ – that digital-born outlets are generally rooted in the culture of professional journalism, with the occupational norms and aspirations to ‘quality journalism’ implied by that (Nicholls et al. 2016).

These impulses have only been heightened by the current headwinds facing volume-focused ad-supported media, and the increasing focus on subscription and donation models which arguably reward quality reporting rather than stories that rack up impressions. ‘Our main bet and our main goal is quality journalism’, Nacho Cardero, editor-in-chief, El Confidencial, told us.

This is a sentiment echoed throughout our interviews in 2018, even among outlets that have pursued a high-traffic strategy. Polly Curtis from HuffPost UK said she was proud of moving away from a purely volume-driven strategy, noting that ‘the journalism we invest the most in is consistently amongst the most read’.

It is important to acknowledge that shifts in rhetoric tell us only so much. But as noted previously, the last two years have tempered the most unrealistic expectations for the sector and highlighted the challenges shared with legacy media. In this environment digital-born outlets increasingly stress common values and techniques across the field. Guillaume Lacroix, co-founder and CEO of Brut, complained, ‘we have a lot of TV experience, and I’m sometimes wounded when traditional media want to give us lessons in journalism’. Miguel Mora, co-founder and editor-in-chief at CTXT said,

We do the journalism that El País did 10 years ago, or we try to do so. We need to explain to our readers that we’re journalist-led – 1% has to pay so 99% can read it for free. We’re on the clock, and they’re on the click. The way of doing that sustainably is, as we’ve clearly seen, to diversify the ways of income.

To compete in this environment, interviewees suggested, requires being focused rather than scattershot and creating content that serves particular, defined audiences. Several highlighted the problems of over-reliance on article metrics as a guide to editorial decision-making, and the need to remain focused on maintaining a brand and a reputation for quality rather than simply pursuing volume. Several have recently commissioned reviews of audience and distribution figures (HuffPost UK, TBJ) or wider strategy documents (Mediapart, The Canary).
In some cases, digital-born outlets see themselves fulfilling a traditional mission which legacy media abandoned. Vanessa Jiménez, managing editor, CTXT, had a sharp critique for established print and broadcast news outlets in Spain:

> The problem of the press in Spain doesn’t have to do with the Internet. It has to do with a crisis that makes the media stop behaving properly – that their proprietors stop being people committed to information and democracy, and have become companies and banks that see journalistic companies in terms of profitability, not of social impact or of public service.

**Connecting with Non-Traditional Audiences**

Just as the rise of populist movements has provoked public bouts of self-reflection by many of the best-known traditional news organisations, often criticised as part of an isolated media and political elite, there is increased concern amongst digital-born media about social divides visible in the landscape of news consumption.

Concrete steps are being taken to bring newsrooms and the audiences they serve closer together. HuffPost UK opened a pop-up newsroom in Birmingham for a weekend, sending their journalists across the city to explore what they should be reporting on. Polly Curtis said that had led to a substantial and sustained increase in the site’s West Midlands audience. For the same reason, she explained, the site has begun hiring journalists outside London:

> It feels radical when you’re a digital brand that was born on aggregation, and didn’t start with a tradition of people leaving the office to go and report. . . . It’s about breaking out of those bubbles. I think digital just created a massive bubble, because reporters left their offices less. And they looked at Twitter too much and didn’t listen to their audience enough.

Interestingly, social media are seen as one vehicle to close the gap. Facebook groups were mentioned as a useful tool by many interviewees – Les Jours, Correctiv, TBIJ, The Canary – for the community component it brings to stories. ‘It probably had a role in the fact that we sustained our growth of audience in Birmingham,’ says Polly Curtis – ‘the group there grew 500 members in a week. We’ve also turned some of those groups into WhatsApp groups – like our parenting group in the West Midlands. Digital is at its best when it’s as close to its audience as possible.’

Correctiv sees public engagement as a core mission, and aims to get members of the public directly involved in journalistic investigations. The Bureau of Investigative Journalism have made similar efforts through their Bureau Local initiative, a collaborative network of journalists and citizens ‘who want to participate in the act of accountability’ (Megan Lucero, director of Bureau Local).

In the same vein, several organisations mentioned efforts to produce stories that are appealing and accessible to those who are not strongly connected with the news. The Canary, for example, expressly aims to serve wider audiences. Nancy Mendoza, director of communications and membership, said ‘considering that the average reading age in the UK is nine, we really wanted to produce something that was a bit more accessible’. Jack Riley at HuffPost also noted that they were attempting to speak to un-newsed groups.

The sense remains, though, of a disconnect between news organisations and the wider citizens they serve. David Schraven, publisher, Correctiv, noting that the media as a whole have lost a lot of connection to real people, set this out most vividly:
Essen is a town in the rust belt of Germany. It is divided into a rich part in the south and a poor part in the north. There’s a common newspaper for all of them. It is not that people in the north do not read newspapers – but the reporters don't live in the north of Essen. They live in the south of Essen. So, they go to the newsroom. They call some people in the northern part of Essen. Maybe they meet some people in the north. But then in the evening they go back to the south. The problems that they encounter in their talks at the schools or on the football pitch are the problems of the people in the south. This is what they are talking about in the evenings with their friends and family. This is what matters to them personally. The north is just a job.

As payment models become increasingly important, one concern is the extent to which they rest on – and ultimately cater to – the relatively deep pockets of the well-off. Schraven acknowledged that their supporters are ‘mostly well-educated, pretty wealthy, and from the political view not left or right, but centrist’. Likewise with HuffPost’s readers: Polly Curtis, editor-in-chief, HuffPost UK, observed ‘they tend to be degree educated, which advertisers like, but I want to be more inclusive to people of all backgrounds. There are enough exclusive brands, the HuffPost tradition is about inclusivity.’

A Drive for Social Impact

Finally, the ambitions of the digital-born media highlighted here do not end with building sustainable online news businesses. A strong sense of mission has been prevalent from the start (Nicholls et al. 2016) and many of our interviewees spoke eloquently and at length about their aims to have a broader impact on the world.

This is particularly clear in the case of investigative news organisations such as The Bureau of Investigative Journalism and Correctiv, for whom impactful investigative work in the public interest is expressly the point. It is also true of other sites, however, both in the traditional sense of holding power to account, and in the goal of sites like The Canary and HuffPost to influence the public conversation.

This concern can extend beyond the journalism sites produce directly. For instance, both Mediapart and The Canary are investing revenues in journalism funds, the former to support the freedom of the press (with Infolibre in Spain, and two regional papers in France) and the latter for the creation of an investigative journalism fund.
5. Conclusions

Digital-born news outlets in Europe constitute a diverse and growing sector of the news media, despite the challenges of building sustainable funding models in a difficult online environment.

Although advertising-based models are having a particularly challenging period, advertising remains a critical part of online revenue and some digital-born organisations are doing well with an ad-supported approach.

In common with the rest of the media world, we see an increasing interest in subscription and membership models. These sources of revenue face their own difficulties – growing and renewing subscriptions is a constant challenge – but are seen as models that can support independent, high-quality journalism in the longer term.

Overall, we emphasise again that the pressures facing digital-born news media are similar to those of their legacy counterparts. These digital outlets are now a well-established part of the media landscape and, despite some high-profile cuts and closures, appear increasingly stable. Early fears that the digital-born arena would be dominated by a handful of massive scale players have not come to pass. Instead, there is a vibrant ecosystem of smaller organisations employing a range of funding models.

We also highlight the difficult choices faced by digital-born news organisations in trying to distribute their work. Recent changes to Facebook’s News Feed algorithm have provided a powerful reminder of the risks of overdependence on platforms. Contrary to some accounts, however, we see ongoing evidence that these outlets understand well the trade-offs entailed in relying on intermediaries to build reach and engagement, and take steps to claim the opportunity while mitigating risks.

At the same time, although all of the digital-born outlets studied here continue to engage with platforms, our interviews suggest a renewed emphasis on building direct traffic by converting search and social media referrals. We also see several organisations making partnerships more broadly with other media outlets, sharing or co-producing journalism in pursuit of reach and impact. We understand these efforts as part of a deliberate strategy of diversification.

Finally, we find evidence of a ‘flight to quality’, where the incentives around audience-building and the opportunities of subscription and membership income are driving an increased focus on quality instead of scale. Relatedly, digital-born news outlets are placing greater emphasis on reaching non-traditional audiences, mirroring concerns in the news media as a whole. These developments underscore that digital-born media are deeply rooted in the professional culture of journalism, and that their efforts to establish sustainable business models must be understood in that context.
References


## Appendix: List of Interviewees

Positions held at the time of the interviews

### FRANCE

<table>
<thead>
<tr>
<th>Publication</th>
<th>Positions</th>
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<tbody>
<tr>
<td>Brut</td>
<td>Guillaume Lacroix, co-founder and CEO&lt;br&gt;Laurent Lucas, co-founder and editor-in-chief (@lorentlucas)</td>
</tr>
<tr>
<td>Le HuffPost</td>
<td>Paul Ackermann, editor-in-chief (@paulac)</td>
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<tr>
<td>Les Jours</td>
<td>Raphael Garrigos, co-founder and co-director of news (@Garriberts)&lt;br&gt;Augustin Naepels, co-founder and chief financial officer (@AugustinN)</td>
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<td>Mediapart</td>
<td>Edwy Plenel, co-founder and editorial director (@edwyplenel)&lt;br&gt;Marie-Hélène Smiejan-Wanneroy, co-founder and director-general</td>
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### GERMANY

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<tr>
<td>Correctiv</td>
<td>David Schraven, publisher (@David_Schraven)</td>
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<td>Krautreporter</td>
<td>Sebastian Esser, publisher (@sebastianesser)</td>
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### SPAIN

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<tr>
<td>CTXT</td>
<td>Miguel Mora, co-founder and editor-in-chief (@mikelemora)&lt;br&gt;Vanessa Jiménez, managing editor (@vijimenez)</td>
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<td>El Confidencial</td>
<td>Alberto Artero, executive director&lt;br&gt;Nacho Cardero, editor-in-chief (@nachocardero)&lt;br&gt;Ángel Villarino, senior editor (@anvillarino)&lt;br&gt;Alejandro Laso, head of technology, product and innovation (@alejandrolaso)</td>
</tr>
<tr>
<td>El Español</td>
<td>María Peral, deputy editor (@Maria_peral)&lt;br&gt;Laura Sanz, product director (@lsangar)</td>
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<tr>
<td>El HuffPost</td>
<td>Guillermo Rodríguez, editor-in-chief (@guirodi)</td>
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### UNITED KINGDOM

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<tr>
<td>The Bureau of Investigative Journalism</td>
<td>Rachel Oldroyd, managing editor (@Raooldroyd)&lt;br&gt;Megan Lucero, director of Bureau Local (@Megan_Lucero)</td>
</tr>
<tr>
<td>The Canary</td>
<td>Nancy Mendoza, director of communications and membership (@NancyWMendoza)</td>
</tr>
<tr>
<td>HuffPost UK</td>
<td>Polly Curtis, editor-in-chief (@pollycurtis) (NB She left her post as HuffPost UK editor-in-chief after our interviews but before the publication of this report)&lt;br&gt;Jack Riley, commercial and audience development director (@_JackRiley)</td>
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**RISJ DIGITAL NEWS PROJECT PUBLICATIONS**

The Future of Voice and the Implications for News  
Nic Newman  

Digital News Report 2018: Turkey Supplementary Report  
Servet Yanatma  

Private Sector News, Social Media Distribution, and Algorithm Change  
Alessio Cornia, Annika Sehl, David A. L. Levy, and Rasmus Kleis Nielsen  

Digital News Report 2018  
Nic Newman, Richard Fletcher, Antonis Kalogeropoulos, David A. L. Levy, and Rasmus Kleis Nielsen  

The Digital Transition of Local News  
Joy Jenkins and Rasmus Kleis Nielsen  

Public Service News and Social Media  
Annika Sehl, Alessio Cornia, and Rasmus Kleis Nielsen  

The Global Expansion of Digital-Born News Media  
Tom Nicholls, Nabeelah Shabbir, and Rasmus Kleis Nielsen  

Bias, Bullshit and Lies: Audience Perspectives on Low Trust in the Media  
Nic Newman and Richard Fletcher  

Digital News Report 2017: Turkey Supplementary Report  
Servet Yanatma  

Going Digital: A Roadmap for Organisational Transformation  
Lucy Küng  

Francis Lee, Michael Chan, Hsuan-Ting Chen, Dennis K.K. Leung, Antonis Kalogeropoulos, and Rasmus Kleis Nielsen  

Developing Digital News Projects in Private Sector Media  
Alessio Cornia, Annika Sehl, and Rasmus Kleis Nielsen  

Mapping Online News Discovery for Computer Users in the UK  
Nic Newman and Antonis Kalogeropoulos  

‘I Saw the News on Facebook’: Brand Attribution when Accessing News from Distributed Environments  
Antonis Kalogeropoulos and Nic Newman  

Virtual Reality and 360 Video for News  
Zillah Watson  

Developing Digital News Projects in Public Service Media  
Annika Sehl, Alessio Cornia, and Rasmus Kleis Nielsen  

Beyond the Article: Frontiers of Editorial and Commercial Innovation  
Kevin Anderson  

Digital-Born News Media in Europe  
Tom Nicholls, Nabeelah Shabbir, and Rasmus Kleis Nielsen  

News Alerts and the Battle for the Lockscreen  
Nic Newman  

The Rise of Fact-Checking Sites in Europe  
Lucas Graves and Federica Cherubini  

Private Sector Media and Digital News  
Alessio Cornia, Annika Sehl, and Rasmus Kleis Nielsen  

The Future of Online News Video  
Antonis Kalogeropoulos, Federica Cherubini, and Nic Newman  

What Is Happening to Television News?  
Rasmus Kleis Nielsen and Richard Sambrook  

Public Service News and Digital Media  
Annika Sehl, Alessio Cornia, and Rasmus Kleis Nielsen  

Editorial Analytics: How News Media are Developing and Using Audience Data and Metrics  
Federica Cherubini and Rasmus Kleis Nielsen  

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