DIGITAL ADAPTATION IN LOCAL NEWS

JESSE HOLCOMB

Columbia
Journalism
School

Acknowledgments

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Introduction

More than a quarter century after the creation of the World Wide Web, nine in ten Americans get at least some news online. But in many ways, local news publishing is still adapting to the internet as a news medium. For many publishers, the internet is like an ill-fitting suit: functional, but not made for them.

On the whole, newspapers, broadcasters and digital-native publishers hold a few things in common: Most are online, serve advertising, and have a Facebook profile.

LOCAL OUTLETS AT VARYING STAGES OF DIGITAL ADAPTATION
% OF LOCAL NEWS OUTLETS THAT OFFER OR PROMOTE

Note: Based on data collected between September 2017-March 2018 on 1,808 local news outlets and their websites, including broadcast, print and digital-native publishers.
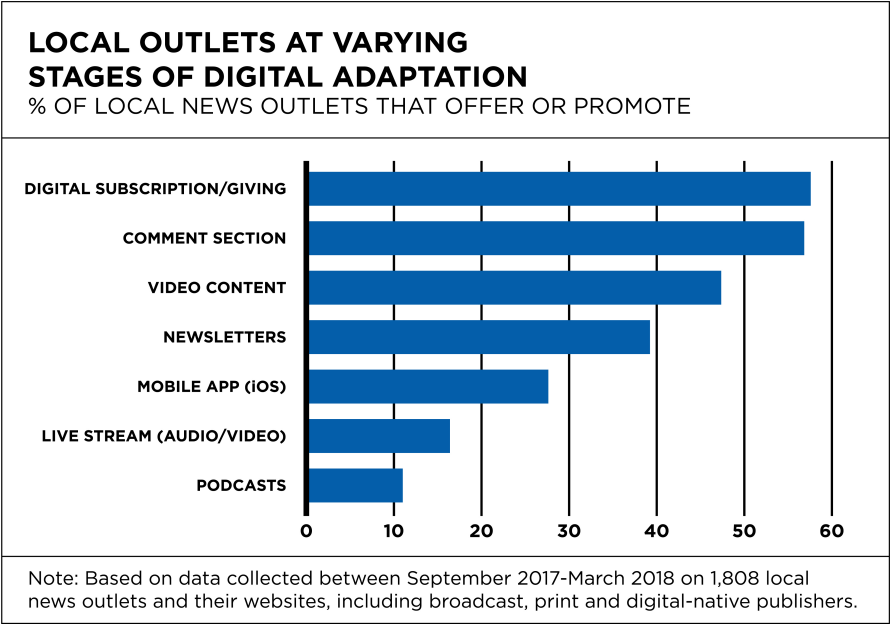
But not all share even those attributes. About one in ten local news outlets do not have a website. Some outlets do not have a presence on Facebook. And there are even some local news outlets that seem to have leapfrogged past web 1.0 and straight to social media.

In many other respects, the digital footprint of a local news outlet can be predicted by the identity of its legacy platform. Video and audio content makes an appearance on many local news websites, though mostly on those operated by broadcasters. Some local news outlets offer comment sections below their online news stories, but these skew heavily toward text-friendly newspaper websites, rather than those of television stations. Indeed, the

notion of platform convergence, at least in local news, is only partially realized.

Media attention to the 'duopoly' dominating the digital advertising market has focused more on Facebook than on Google. But the latter's many tentacles in the online local news space are striking. Not only are publishers indexed in Google's search engine and their pages' loading times optimized by Google's AMP project, but Google advertising services appear on many local news websites. Further, nearly half of all local news websites that offer online video host it on YouTube, which is owned by Google. It's a reminder of the degree to which the fortunes of local news are bound up in the whims of a few big technology companies.

Individual local media sectors find themselves in 2018 at varying stages of digital advancement. But the largest of these—community weekly papers—is in many ways lagging behind the rest. Weeklies are half as likely as their daily counterparts to offer digital video content and newsletters, and far less likely than dailies to offer an online subscription option. They're among the least likely of all local media to offer podcasts as well.

To be sure, not all online features are desirable or ultimately beneficial for news audiences. And different publishers serve communities with their own sets of technology habits and preferences. Digital offerings advisable for an online publisher in a large metropolitan area might not be advisable for a rural community weekly newspaper. Still, the widespread adoption of smartphones and usage of social media across nearly all sub-populations in the United States suggests that some common priorities for news publishers should be coming into focus.

And there are some signs that, at least on a basic level, publishers are seeing the writing on the wall and prioritizing accordingly. For example, only about a quarter of local news outlets maintain their own mobile app, which, with some exceptions, may simply not be worth the effort to build and update. But the vast majority offer a mobile browsing experience that is optimized for small screens—an important user experience feature. Individually hosted websites—as opposed to those hosted by Google's AMP service—continue to be slow-loading, however; a problem that risks losing audiences in today's highly mobile and competitive attention economy.

These are some findings from a study of the digital footprint of more

than 2,000 U.S. local news outlets. While many studies have explored digital transformation of newsrooms through direct interviews, case studies and ethnography, this report attempts to tell the story of that transformation by the numbers.[1] The study also offers comparative perspective between various sectors of local media—including radio and television broadcast, daily and weekly print, digital-native publishers and collegiate press.

Key findings from the report

- More than one in ten (12%) local news outlets do not have their own website; when outlets are accounted for that only offer a PDF of their recent content, that figure rises to 17%.
- Most local media are on social media. Nearly eight in ten local news outlets have their own Facebook profile. Even outlets without their own website are on the social networking site—fully one in three (34%).
- When it comes to mobile, responsive design is more common (84% of local news sites) than individual apps (27% of local news outlets). Fully 74% of local TV stations offer their own app.
- Overall, a slight majority of local news outlets (57%) offer an online pathway to subscription, donation or membership. This varies wildly depending on the sector, with broadcasters highly unlikely to do so, and daily newspapers highly likely.
- Local news websites are generally split when it comes to their commenting architecture—a small majority (56% of outlets) offer comment sections on their stories. (On local TV station websites, the share is just 29%).
- Just under half (47%) of local news outlets offer video on their site. Of those that do, 44% host their videos on YouTube.
- Links to live-streams of video or audio (16%) and podcasts (11%) are fairly uncommon among local news websites, though unsurprisingly, appear more frequently on sites operated by broadcasters.
- On average, daily newspaper and local TV station websites are the slowest to load, at more than 20 seconds each, by one measure. digital-native publishers, and community weeklies and magazines tend to load faster, at a rate of between 13-15 seconds each.

- Only about a quarter (23%) of local news websites redirect to a secure version. Overall, about four in ten (39%) local news outlets offer or promote a newsletter product on their website. Daily newspapers (65%) and digital-native publishers (57%) lead the way here.

This study was conducted using several different methods between Fall 2017 and Spring 2018. A random sample of local news publishers was drawn from a database of outlets prepared by the News Measures Research Project, based off of the Cision Media Database.[2] A range of digital attributes were coded manually by a team of researchers. An additional set of attributes were collected programmatically by Tow Center staff. More details on the methodology can be found below.

Methodology

Digital Adaptation in Local News is a study of the digital attributes of local news publishers in the United States. The study was designed in August 2017, with data collection taking place between September 2017 and March 2018.

Sample

The sample of local news outlets used in this project was drawn randomly from a large database of local publishers created by the News Measures Research Project based in turn on data from the Cision Media Database. The Cision database, while imperfect, is described by the NMRP authors as "the best available commercial database for identifying media outlets and media workers in the U.S.[3]" While the Cision database is updated daily, the list of outlets for this project was extracted in 2016.

The research team further cleaned the NMRP data to eliminate a small number of duplicates and irregularities. This resulted in a dataset of 11,804 local news publishers. Each outlet was assigned a random digit using a random number generator, after which a 20% sample was drawn. While the dataset generally reflects the broader local media landscape, it is limited in some respects. Certain media sectors are likely under-represented in total population, particularly, digital-native publications and collegiate press.

This sample resulted in a total of 2,361 local news outlets. During the process of analyzing those outlets, a number of publishers were deemed to be closed, dormant or not related to local news. (For purposes of this study, an outlet was considered 'local' if it covered affairs in a single neighborhood, municipality, metropolitan area, and in some cases even state affairs, though few outlets fell into this latter category; publishers such as *The Bitter Southerner* were removed given their broad regional coverage.) These were eliminated from the dataset, resulting in a more refined sample of 2,072 outlets.

Of the 2,072 local news outlets studied, a total of 1,814 were found to have a website (following which, six outlets were eliminated due to hard paywalls that prevented any in-depth analysis). The final list of 1,808 sites were studied and evaluated for each of the attributes in the coding protocol.

Manual attribute classification

A coding protocol was developed and refined between two members of the research team (see Appendix B). Inter-coder reliability was tested on 50 local news outlets, with the following results (reported using Krippendorff's alpha; calculations conducted with ReCal):

Paywall present: .77
Comment section present: .85
Video on the web: .84
Offers/promotes newsletters: .67
Offers/promotes podcasts: 1.00
Offers live video or audio stream on site: 1.00
Offers digital subscription/donate/membership: .93
Has a mobile app (iOS): .82
Offers mobile/responsive site: .90

A score of .67 is generally considered acceptable using this measure.

Two researchers analyzed the sample of outlets during the months of September 2017 through March 2018.

Programmatic attribute classification

A separate analysis was conducted using the 1,808 local news outlets with valid websites in the sample, to glean more information about the sites' digital security, ad tech, social media profiles, and load time. This analysis resulted in valid data for 1,102 of those sites, or 61%.

This analysis was conducted using Google's Lighthouse tools for developers [i].

i. For more information about how website speed was measured, see https://developers.google.com/web/tools/lighthouse/audits/consistently-interactive. GitHub repository is available here: https://github.com/GoogleChrome/lighthouse

Mobile news offerings

News publishers are rightly concerned about how to best reach news audiences on mobile devices, given that the vast majority of the public are now engaging with news on their cell phones.[4] Some in the profession have moved into exploration of chat apps such as WeChat and WhatsApp as a point of intersection with news consumers.[5] In the U.S., major non-local publishers such as CNN got on board early when it came to Snapchat Discover, though now local broadcasters are finding a home on the app as well.[6]

**MOST LOCAL BROADCASTERS
STILL OFFER MOBILE APPS**
% OF _____ THAT OFFER A MOBILE APP IN iOS
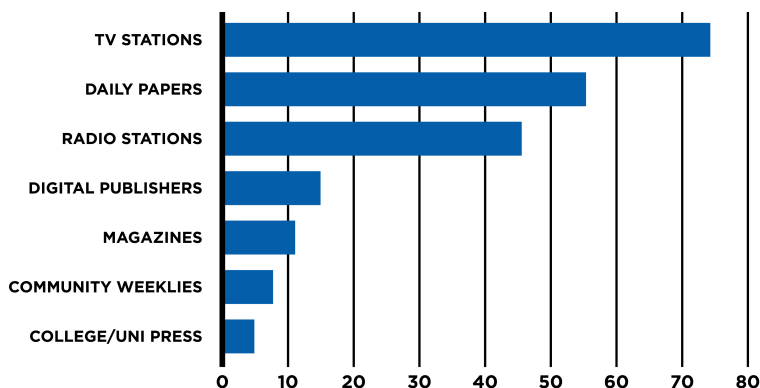
Note: Based on data collected between September 2017-March 2018 on 1,808 local news outlets and their websites, including broadcast, print and digital-native publishers.

While there are many possible ways to measure how local newsrooms are applying a mobile content strategy, this study offers two vantage points: mobile apps (in iOS) and responsive website design for mobile browsers.

Apps

Relatively few local news outlets offer their own mobile app, but the numbers vary widely from media sector to media sector. Overall, about a quarter (27%) of local news outlets offer an app in the Apple operating system (the Android platform was not evaluated for this project).

WGEM Mobile Site
A direct link to WGEM's mobile web site, m.wgem.com, which is optimized for viewing on web-capable phones.

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What is the difference between the mobile web (WAP) and an app?

Is my phone a smartphone?

Most local news outlets offer a mobile version of their website.

Apps are more common for broadcast outlets and in daily newspapers, but less so for smaller digital operations and community publications. Fully 74% of local TV stations, many of them supported by an owner with resources to scale, have their own app. In addition, some stations are offering niche products, such as weather apps.[7] Nearly half of radio stations (46%) have a mobile app, and slightly more than half of daily newspapers (55%) do as well.

Aside from broadcasters and dailies, most local publishers do not offer mobile apps. For instance, fewer than one in ten (8%) community weeklies have one. And it's entirely possible this indicates a wise allocation of resources: Priya Ganapati, head of audience product at Vox Media, made the case back in 2015 that unless an outlet a large, leading brand, the cons outweigh the pros when it comes to mobile app development: too much hassle for a product that most of your audience will not use.[8]

Responsive design

Instead, Ganapati and other strategists make the case for publishers improving their users' mobile browser experience. One way to do that is by adopting a responsive design. According to Google's Pete LaPage, responsive web design "responds to the needs of the users and the devices they're using. The layout changes based on the size and capabilities of the device."[9]

To gauge whether local publishers are adopting responsive design for mobile phones, researchers for this study evaluated a smaller, random subset of the larger sample—200 websites. Of this sample, the vast majority (84%) offered a mobile responsive version of their website.

Generating revenue online

With few exceptions, local news publishers are still struggling to build a sustainable online business model. It is now widely accepted that revenue from digital advertising will never approach the kind of money generated in the salad days of print. That acceptance has moved many newspaper publishers to pursue digital subscription models that place some of their content behind paywalls. Meanwhile, news outlets of all types, including broadcast television and radio, do what they can to generate some ad revenue online, though sometimes through means that degrade the user experience.

MOST LOCAL PRINT OUTLETS
OFFER PATHWAYS TO PAY ONLINE
% OF _____ THAT OFFER DIGITAL SUBSCRIPTION, DONATION OR MEMBERSHIP OPTIONS

Note: Based on data collected between September 2017-March 2018 on 1,808 local news outlets and their websites, including broadcast, print and digital-native publishers.
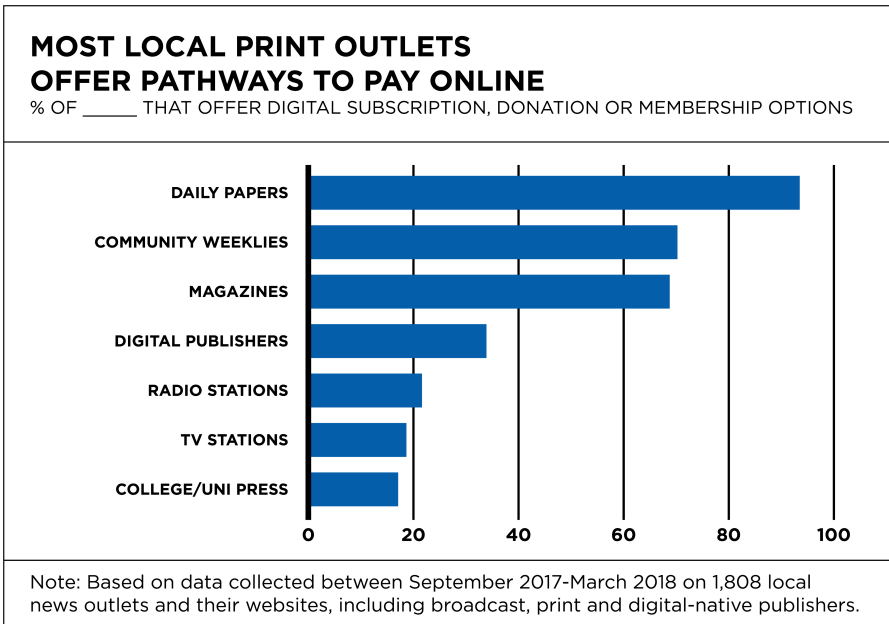
While there are many potential revenue streams for news publishers, and many variants on the common ones, three basic indicators offer a baseline sense of what local news outlets are trying to do: subscription or membership pathways; paywalls; and advertising.

Online pathways to subscribe, donate or join

This analysis finds that overall, a slight majority of local news outlets (57%) offer an online pathway to subscription, donation or membership. This differs substantially depending on the type of outlet, however.

Print outlets (daily, weekly and magazine publishers) are most likely to offer a pathway to pay. Broadcast outlets (radio and TV) and collegiate media are least likely to offer one.

When it comes to print, daily publications and those that publish less frequently differ as well. Fully 94% of daily newspapers studied here offer an option to subscribe online. Yet little more than two-thirds of community weeklies (69%) and community magazines (68%) offer such an option on their websites.

Why the disparity among print outlets? There may be a couple of reasons. First, daily papers may simply have more advanced digital operations than other local print outlets, including pathways to pay. Second, daily papers may rely on subscription revenue more than these other types of publishers do, and thus prioritize it online. Circulation revenue is growing for the industry overall, but, the data suggest that as advertising continues to wither as a primary source of local journalism revenue, these weekly and monthly publications will have more ground to make up in the race to create direct financial relationships with subscribers.

This is a problem that will seriously affect digital-native community publishers, who according to other research have been chiefly driven by advertising.[10] This study funds that just one-third (34%) of these types of publishers offer an opportunity for a reader to contribute by donation, subscription or membership.

Commercial radio as well as local and network and television are historically almost entirely dependent on over-the-air advertising for their revenue (a recent exception for local TV is the rise of retransmission fees as a minor but growing source of cash).[11] Thus it is no surprise that a minority of broadcasters offer online subscription, membership or donation options (21% of radio stations and 19% of TV stations). It is likely that almost

all of those that do offer such options are public broadcasters, who rely on memberships and other types of donations for ongoing support.

Paywalls

Other studies have extensively documented the adoption of paywalls on newspaper websites. One report from 2016 found that 78% of large U.S. newspapers (those with circulation of at least 50,000) have some kind of online paywall.[12]

This study does not duplicate that work, but rather takes a closer look at community weeklies—a large if sometimes overlooked segment of the newspaper world that has historically been less reliant than dailies on circulation revenue. About one-in-three (28%) of these types of papers gate at least some of their content.

In most cases, community weekly paywalls operate with a metered approach. A very small portion post a hard paywall, which means that all or nearly all content is accessible only to subscribers.

Among other types of local publishers such as digital-native outlets and broadcasters, paywalls are quite rare.

Advertising

The vast majority of local news publishers serve digital advertising of one kind or another, though with the exception of some digital-native publishers, this revenue accounts for a small share of the bottom line.

But what kinds of ads are served? Most of the time, it's display ads, coming in the form of banners and still, sometimes, pop-ups. (Some local publishers are also experimenting with native advertising.)[13]

This study set out not to evaluate the entire range of digital advertising served by local publishers, but a specific subset of that: the viral ad tech that has found itself the subject of criticism lately. These content recommendation services—particularly Taboola and Outbrain—have put some publishers in a bind: Many journalists consider the material promoted by these services to be low-quality clickbait. Yet, for the last few years at

least, publishers have generated a solid base of revenue in exchange for allowing content recommendation service widgets to appear on their websites.

To get a sense of how common it is for local publishers to use these services, once again we turned to a smaller random sub-sample of 200 local news websites. Of those sites, we found that only a small portion (17%) have the Outbrain or Taboola content widget on their home page. Contrast that to the presence of Google/Doubleclick ad tech on local news sites—a service that appears in 58% of local news websites.

Engagement with online audiences

There are many opportunities and platforms today through which local news publishers can foster meaningful engagement with their communities. Some are in person, such as events, meetups and community listening sessions. Others are primarily digital and include a variety of touchpoints such as texting, Facebook groups, Slack channels and message boards. To arrive at a basic measure of how local news outlets are doing when it comes to online engagement with their audiences, this study measured two values: the presence or lack of comment sections under news stories, and the presence or absence of social platforms attached to the publisher's brand.

Comment sections

Comment sections on news websites are sometimes treated by the journalism community with a mixture of tolerance and contempt. "Don't read the comments" is the often-heard refrain coming from editors and reporters who have, well, spent time reading comments on their websites and have subjected themselves to toxic doses of trolling and general incivility. On the other hand, comment sections offer an opportunity, primitive as it may be, for audiences to discuss the content they are reading, and perhaps even interact with a brave journalist.[14]

The vast majority of local news outlets (78%) have a presence on Facebook.

This analysis found that local news websites were generally split when it came to their commenting architecture—a small majority (56% of outlets) offer comment sections on their stories. The rest do not.

Across media sectors, the practice seems to vary dramatically. Digital-native publishers (80%) and collegiate press (87%) are most likely to offer comment sections under their stories, with daily newspapers not far behind,

at 76%. However, just one-in-three local TV stations (29%) studied here offer comment sections at the end of their stories.

Social media

Research has shown that social media is a pathway to community news for many.[15] But social platforms such as Facebook, Twitter and Instagram offer community members an opportunity to interact with stories and journalists through "likes," emojis, comments, shares and other metrics.

This study offers a limited but revealing look at how local news outlets around the U.S. are utilizing social media, by accounting for whether a local outlet operates a Facebook or Twitter profile.

Looking across all local media, a solid majority are on Facebook (78%), while just over half (54%) are on Twitter.

A look at individual media sectors suggests it is smaller community newspapers—of which there are many—that account for a good portion of the publishers that do not have a social media presence. About two-thirds of these papers (67%) are on Facebook, and just a quarter (24%) are on Twitter. By contrast, large majorities of other types of local news outlets have Facebook accounts, and in most cases, the lion's share have Twitter accounts as well. In some cases, such as with local TV, one would be hard pressed to find a station that is not also active on the social web, a finding underscored by a 2018 Knight Foundation report on the state of local TV.[16]

What's more, even local news outlets without their own websites are sometimes found on Facebook, perhaps suggesting a leapfrog effect; after all, it is easier to create a social media profile than to wrangle a WordPress template. Fully 34% of those "offline" publishers have an active Facebook page.

Audio & video: Not just for broadcasters

Local news outlets, and television broadcasters in particular, face something of a dilemma when it comes to choices around digital video. Broadcasters are surely aware that the audience for their legacy platform remains in decline, even as it continues to dominate other platforms.[17] At the same time, mirroring print, legacy revenue streams continue to account for the lion's share of local news intake; for local television, over-the-air advertising far overshadows digital advertising in sheer dollars.[18]

Further complicating matters, while there is evidence that the public is turning in droves to streaming services for television consumption, news is not an overwhelming part of that mix.[19] Indeed, as of 2013, just 36% of U.S. adults reported watching online news video, a number that had only risen 10 points from 2007 levels, while other forms of video consumption have risen much more dramatically.[20] As of 2016, people who prefer to watch their news (as opposed to reading or listening to it) overwhelmingly chose television over the internet as their viewing platform of choice.[21] The overhyped and quickly lamented "pivot to video," it seems, sent publishers—especially national digital ones—chasing at great cost an audience that never materialized.

Still, many local news outlets and their owners have decided that video should be a part of their digital offerings, even if audience interest is tepid and substantial revenue opportunities have yet to appear. This analysis found that across all local media sectors (including print, broadcast and digital-native publishers), nearly half (47%) offered video on their website.

YouTube plays an outsize role when it comes to hosting digital news video for local news outlets. The websites with video offerings were split in terms of how those videos were hosted: Just over half the sites (51%) self-hosted news videos. The majority of the rest embedded video through a third-party hosting service, almost exclusively YouTube (44%).

The inclusion of digital video was evident across a wide range of media sectors, but especially in broadcast. Perhaps unsurprisingly, nearly every local television station studied (96%) offered some form of video on their website. Yet video made an appearance on a solid majority of daily newspaper websites as well (66%). Other print sectors including community newspapers and magazines were less interested in video, as were digital-native community publishers.

Most of the video found on local news websites was pre-recorded, in many cases repurposed from television broadcasts. But a small portion of websites (16%) also featured live streams of video or audio content. Unlike pre-recorded video, in these cases radio had the edge with fully 81% of news radio websites offering a live stream of their audio broadcasts. A little more than half (55%) of local TV news websites offered a live stream, often of the morning or evening newscast as it occurred. In other forms of media, live streams were nearly absent: among print, digital and collegiate press sectors, 5% or less featured a live stream of any kind.

Podcasting

Podcasting has been around for decades, but in the last few years has enjoyed a renaissance in the journalism world as organizations such as NPR and startups such as Gimlet Media have produced breakthrough hits that embrace the medium and offer compelling, fact-based storytelling. To judge the extent to which local news publishers have jumped on board the podcasting bandwagon, this study examined their websites for evidence of any kind of podcast promotion or link.

This analysis suggests that podcasting has not achieved critical mass in the local news world, with just one in ten (11%) of local news outlets promoting or linking to a podcast on their website. Leading the way are radio broadcasters, which include a mix of commercial radio stations and public radio stations. Half of these (50%) offer podcasts. Other local media sectors lag behind. One-fifth of digital-native community publishers and college or university newspapers offer podcasts. Among print media, just 11% of daily papers, 2% of community weeklies and 4% of magazines offer podcasts. Among TV stations, it was just 12%.

It is certainly possible and perhaps even likely that some outlets offer podcasts but simply do not promote them on their website, for one reason or another. For that reason, it's wiser to consider the data here as reflective of a minimum rather than maximum share of publishers in the podcasting space.

The user experience in online local news

Longtime journalism entrepreneur and current CEO of Spirited Media Jim Brady once wrote that the need for more page views and ad impressions in local news "led to what can only be described as the excruciating user experience of most local news sites."[22]

TEXT-DRIVEN LOCAL MEDIA MOST LIKELY TO OFFER NEWSLETTERS
% OF _____ THAT PROMOTE NEWSLETTERS ON THIER WEBSITES
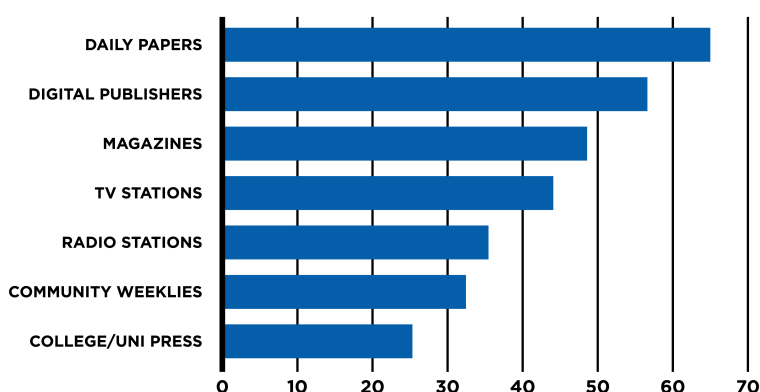
Category	%
DAILY PAPERS	65
DIGITAL PUBLISHERS	56
MAGAZINES	49
TV STATIONS	44
RADIO STATIONS	36
COMMUNITY WEEKLIES	32
COLLEGE/UNI PRESS	25

Note: Based on data collected between September 2017-March 2018 on 1,808 local news outlets and their websites, including broadcast, print and digital-native publishers.

Brady's litany of local new sins includes slow website load times, pop-up ads, autoplay video and slideshows, with their pagination designed to drive users to click on more pages.

Here we consider, first, whether local news publishers have any web presence at all. Beyond that, load time is analyzed, as well as two other offerings related to user experience: alternative news delivery platforms and digital security.

In order for an online news consumer to have a positive user experience there must be a user experience to begin with. In light of that, it is striking to note that more than one in ten (12%) local news outlets do not have a website at all.

Furthermore, some local outlets are only online in the strictest technical sense. Of the 1,814 outlets with a website, 93 offered content only in the form of a static e-reader such as a PDF (5% of all outlets with a website).

In total, fully 17% of all local news outlets limit their digital offerings to a PDF version of their news, or have no discernable online presence at all.

Website speed

For local news outlets that have a website, one of the key user experience questions is how "bulky" their site is, or how slowly it loads. Others have deftly covered this ground, noting how slow local news outlets are in comparison to other websites in general. Matthew Hindman of The George Washington University showed how website speed affects audience growth.[23] Barrett Golding of the Reynolds Journalism Institute found that U.S. daily newspaper website load times were bogged down by multiple requests (often from website add-ons such as image files scripts), resulting in a heavy page weight.[24]

A new analysis of load times on local news websites suggests that things have not necessarily improved when it comes to speed, and that there are disparities between local media sectors, with digital-native community publishers leading the way in optimal load times.

On average, local news websites are taking about 17 seconds to fully load, according to research conducted using Google's Lighthouse tools. The slowest sites tend to be those operated by local TV stations (26 seconds on average) and daily newspapers (22 seconds). Both types of publisher offer large volumes of content and present lots of advertising on their pages. digital-native publisher websites load in 13 seconds on average, and community magazines (14 seconds) and community weeklies (15 seconds) are not far behind.

While this is one of many different possible measures of website performance and should not be considered the only verdict, it suggests that local news publishers continue to struggle with websites that are weighed down with digital baggage, and that this harms the audience experience of those websites.

Secure sites

The security of a news website may not immediately affect how a user experiences the site, but it sends a message about how well the publisher values the user's safety from malicious use of its product, and how well it protects its advertisers from fraud. It also serves as a signal of active technology administration—indicating that there is someone at the controls, trying to keep up with the industry's best practices. Organizations such as Freedom of the Press Foundation are offering grade-level evaluations of the security of news websites.[25] One way to get a hint about how secure a local news website is comes by noting whether the site offers an encrypted version (https) or not (http). [ii]

Local news outlets have a long way to go when it comes to basic digital security for their users: Less than a quarter (23%) of local news websites offer a redirect to an https encrypted version. This low rate is consistent across multiple local media sectors, though is especially low among local radio websites, just 14% of which offer https.

Newsletters

Another way for local publishers to enhance their users' experience is to consider and utilize other opportunities outside the website to reach them with news and information. E-mail newsletters have experienced something of a renaissance in recent years, as publishers have rediscovered the inbox as a critical touchpoint with their audiences.

Have local news outlets adopted newsletter products as well? To get a sense of this, we scoured the websites of local news outlets to identify any links or sign-up sections or advertisements for newsletters. While not a perfect metric, it nevertheless offers a general sense of how widespread these products are in the world of local news.

Overall, about four-in-ten (39%) of local news outlets offer or promote a newsletter product on their website. Of all the media sectors studied, there are only two for whom a majority of publishers are offering newsletters:

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ii. For this study, we noted whether a site's unprotected URL redirects to an encrypted version.

daily newspapers (65%) and digital-native publishers (57%). About half of community magazines (49%) offer newsletters.

Among the least likely to promote newsletters, besides college papers (25%) which are typically under-resourced for these kinds of alternative products, were community weeklies. Just one-third (32%) of these papers offer email newsletters to their audiences.

Regional variation in digital practice

Not all trends in journalism and technology are evenly distributed. Some communities enjoy full broadband penetration while others have more limited internet access.[26] Some states appear to benefit from more local journalists per capita than others.[27] And there's also some evidence that large, dense metropolitan areas differ from smaller communities in public habits when it comes to news engagement, for instance in their populations' higher likelihood to use digital technology to consume local news.[28]

LITTLE REGIONAL VARIATION
IN DIGITAL FEATURES OF LOCAL NEWS
% OF LOCAL NEWS OUTLETS THAT OFFER OR PROMOTE

Note: Based on data collected between September 2017-March 2018 on 1,808 local news outlets and their websites, including broadcast, print and digital-native publishers.
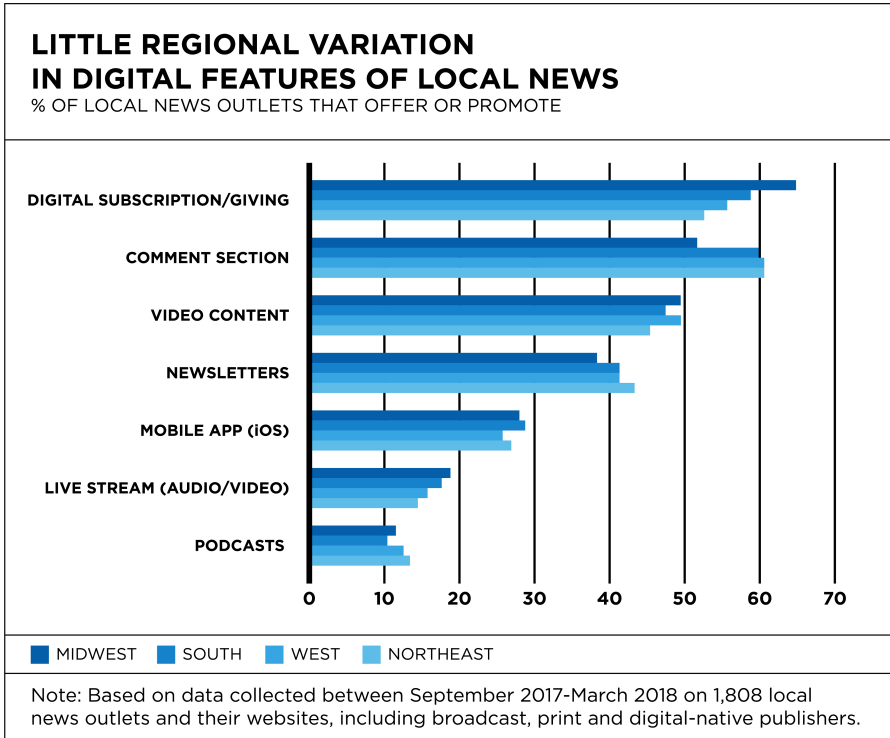
There is little variance in many of these trends across geographic regions in the U.S. In particular, video hosting and live-streaming, newsletter and podcast promotion, and maintenance of a mobile app are all areas where little to no variation across geographic regions surfaces.

When it comes to other features, some modest differences stand out. For instance, local news outlets in the Midwest (63%) are somewhat more likely than those in the Northeast (51%) to offer online pathways to subscription,

membership, or donation. Conversely, local news outlets in the Midwest (50%) are about ten points less likely than those in other regions of the country to offer comment sections in their online stories.

It's possible that even these differences might be attributable to disparities in the composition of media types from region to region. But the fact that these broad regional differences are not all that dramatic should not foreclose the notion that other kinds of differences exist between communities. For instance, rural and urban communities, and poor and rich ones may differ when it comes to the digital qualities of the local news they receive. Differences might reveal themselves between states, as well. Future research using this very data set might reveal such differences.

The rich and varied fabric of American society reminds us that community information needs differ from one neighborhood to the next. And yet the consolidation of local media ownership leads to more one-size-fits-all tech and product solutions. In a media system where both independent and corporately owned local media coexist, the challenge is two-fold, and consists of finding ways to support the innovations and experiments in independent local news publishing, while also encouraging nimbleness in large firms that include local outlets in their holdings.

Appendix A: Summary tables

Summary data (based on 1,808 news outlets with accessible websites)

Attribute	Frequency 'yes'	% 'yes'	Frequency 'no'	% 'no'
Website's stories have comment sections	1013	56	795	44
Website offers video	842	47	966	53
Website promotes newsletters	712	39	1096	61
Website promotes podcasts	206	11	1602	89
Website offers live video or audio	298	16	1510	84
Website has a subscribe or donate section	1030	57	778	43
Outlet has a mobile app (iOS)	487	27	1321	73

Note: Of the 1814 outlets with a website, 93 had content limited to simply a PDF (5% of all outlets with a website). That leaves 1721 outlets with a website consisting of more than a PDF of the week's news content, or 83% of all local news outlets. Of the outlets that do not have a website, some nevertheless have an active social media presence. Of the 258 outlets with no website, 87 had an active Facebook page (posting content in the previous month). That amounts to 34% of all offline local news outlets.

Local news outlets with an online presence

Type of outlet	Number of outlets	% of outlets
Outlets with a website	1814	88
Outlets with no website	258	12
Total	2072	100

Note: Of the 1814 outlets with a website, 93 had content limited to simply a PDF (5% of all outlets with a website). That leaves 1721 outlets with a website consisting of more than a PDF of the week's news content, or 83% of all local news outlets. Of the outlets that do not have a website, some nevertheless have an active social media presence. Of the 258 outlets with no website, 87 had an active Facebook page (posting content in the previous month). That amounts to 34% of all offline local news outlets.

Online video

Video platform	Frequency	% of total outlets with video
Native/unclear	428	51
YouTube	368	44
Other news companies (CNN, News Corp.)	22	3
Vimeo	12	1
Facebook	6	1
Mix of multiple platforms	5	1
Twitter	1	<1

Note: Numbers may not add up to 100% due to rounding.

Data by sector

Media sector	Frequency	% of total
digital-native publisher	56	3
College newspaper	113	6
Community newspaper	920	51
Daily newspaper	263	15
Magazine	47	3
Radio station	196	11
TV station	213	12

Note: based on Cision classification; some categories collapsed for analysis purposes.

Attribute (digital-native)	Frequency 'yes'	% 'yes'	Frequency 'no'	% 'no'
Website's stories have comment sections	45	80	11	20
Website offers video	22	39	34	61
Website promotes newsletters	32	57	24	43
Website promotes podcasts	11	20	45	80
Website offers live video or audio	3	5	53	95
Website has a subscribe or donate section	19	34	37	66
Outlet has a mobile app (iOS)	8	14	48	86

Note: Numbers may not add up to 100% due to rounding.

Attribute (TV stations)	Frequency 'yes'	% 'yes'	Frequency 'no'	% 'no'
Website's stories have comment sections	61	29	152	71
Website offers video	205	96	8	4
Website promotes newsletters	93	44	120	56
Website promotes podcasts	26	12	187	88
Website offers live video or audio	117	55	96	45
Website has a subscribe or donate section	41	19	172	81
Outlet has a mobile app (iOS)	157	74	56	26

Note: Numbers may not add up to 100% due to rounding.

Attribute (radio stations)	Frequency 'yes'	% 'yes'	Frequency 'no'	% 'no'
Website's stories have comment sections	78	40	118	60
Website offers video	69	35	127	65
Website promotes newsletters	68	35	128	65
Website promotes podcasts	98	50	98	50
Website offers live video or audio	159	81	37	19
Website has a subscribe or donate section	41	21	155	79
Outlet has a mobile app (iOS)	90	46	106	54

Note: Numbers may not add up to 100% due to rounding.

Attribute (magazines)	Frequency 'yes'	% 'yes'	Frequency 'no'	% 'no'
Website's stories have comment sections	26	55	21	45
Website offers video	12	26	35	74
Website promotes newsletters	23	49	24	51
Website promotes podcasts	2	4	45	96
Website offers live video or audio	0	0	47	100
Website has a subscribe or donate section	32	68	15	32
Outlet has a mobile app (iOS)	5	11	42	89

Note: Numbers may not add up to 100% due to rounding.

Attribute (daily papers)	Frequency 'yes'	% 'yes'	Frequency 'no'	% 'no'
Website's stories have comment sections	200	76	63	24
Website offers video	173	66	90	34
Website promotes newsletters	170	65	93	35
Website promotes podcasts	30	11	233	89
Website offers live video or audio	7	3	256	97
Website has a subscribe or donate section	246	94	17	6
Outlet has a mobile app (iOS)	145	55	118	44

Note: Numbers may not add up to 100% due to rounding.

Attribute (community papers)	Frequency 'yes'	% 'yes'	Frequency 'no'	% 'no'
Website has a paywall	256	28	664	72
Website's stories have comment sections	505	55	664	72
Website offers video	295	32	625	68
Website promotes newsletters	298	32	622	68
Website promotes podcasts	17	2	903	98
Website offers live video or audio	10	1	910	99
Website has a subscribe or donate section	632	69	288	31
Outlet has a mobile app (iOS)	77	8	843	92

Note: Numbers may not add up to 100% due to rounding.

Attribute (college papers)	Frequency 'yes'	% 'yes'	Frequency 'no'	% 'no'
Website's stories have comment sections	98	87	15	13
Website offers video	66	58	47	42
Website promotes newsletters	28	25	85	75
Website promotes podcasts	22	19	91	81
Website offers live video or audio	2	2	111	98
Website has a subscribe or donate section	19	17	94	83
Outlet has a mobile app (iOS)	5	4	108	96

Note: Numbers may not add up to 100% due to rounding.

Attribute	Digital native (%)	College paper (%)	Community paper (%)	Daily paper (%)	Magazine (%)	Radio station (%)	TV station (%)
paywall	N/A	N/A	28	N/A	N/A	N/A	N/A
comments	80	87	55	76	55	40	29
video	39	58	32	66	26	35	96
newsletter	57	25	32	66	26	35	96
podcasts	20	19	2	11	4	50	12
livestream	5	2	1	3	0	81	55
subscribe	34	17	69	94	68	21	19
mobile app	14	4	8	55	11	46	74

Note: Numbers may not add up to 100% due to rounding.

Data by region

Metric	NE (freq)	NE (%)	S (freq)	South (%)	MW (freq)	MW (%)	W (freq)	W (%)	Total
Outlets w/ no website	33	13	89	34	98	38	38	15	258
Offline outlets w/ FB presence	7	8	31	36	41	47	8	9	87
Total outlets	351	17	750	36	592	29	379	18	2072

Note: 'Total outlets' number for each region includes outlets that were shelved from the main portion of the study due to impenetrable paywalls. Numbers may not add up to 100% due to rounding.

Metric	NE (%)	W (%)	S (%)	MW (%)
comments	59	59	58	50
video	44	48	46	48
newsletter	42	40	40	37
podcasts	13	12	10	11
Live stream	14	15	17	18
Subscribe	51	54	57	63
Mobile app	26	25	28	27

Note: Numbers may not add up to 100% due to rounding.

Metric (Northeast) N = 317	Frequency 'yes'	% 'yes'	Frequency 'no'	% 'no'
Website has a paywall	50	16	267	84
Website's stories have comment sections	187	59	130	41
Website offers video	140	44	177	56
Website promotes newsletters	133	42	184	58
Website promotes podcasts	41	13	276	87
Website offers live video or audio	45	14	272	86
Website has a subscribe or donate section	163	51	154	49
Outlet has a mobile app (iOS)	82	26	235	74

Note: Numbers may not add up to 100% due to rounding.

Metric (West) N = 340	Frequency 'yes'	% 'yes'	Frequency 'no'	% 'no'
Website has a paywall	55	16	285	84
Website's stories have comment sections	201	59	139	41
Website offers video	162	48	178	52
Website promotes newsletters	137	40	203	60
Website promotes podcasts	41	12	299	88
Website offers live video or audio	52	15	288	85
Website has a subscribe or donate section	182	54	158	46
Outlet has a mobile app (iOS)	85	25	255	75

Note: Numbers may not add up to 100% due to rounding.

Metric (South) N = 659	Frequency 'yes'	% 'yes'	Frequency 'no'	% 'no'
Website has a paywall	148	22	511	78
Websites stories have comment sections	380	58	279	42
Website offers video	305	46	354	54
Website promotes newsletters	261	40	398	60
Website promotes podcasts	68	10	591	90
Website offers live video or audio	110	17	549	83
Website has a subscribe or donate section	375	57	284	43
Outlet has a mobile app (iOS)	185	28	474	72

Note: Numbers may not add up to 100% due to rounding.

Metric (Midwest) N = 492	Frequency 'yes'	% 'yes'	Frequency 'no'	% 'no'
Website has a paywall	120	24	372	76
Websites stories have comment sections	245	50	247	50
Website offers video	235	48	257	52
Website promotes newsletters	181	37	311	63
Website promotes podcasts	56	11	436	89
Website offers live video or audio	91	18	401	82
Website has a subscribe or donate section	310	63	182	37
Outlet has a mobile app (iOS)	135	27	357	73

Note: Numbers may not add up to 100% due to rounding.

Programmatically Collected Web Data

A total of 1,102 websites from the broader sample of 1,808 were analyzed programmatically for a number of additional indicators.

Attribute	Frequency 'yes'	% 'yes'	Frequency 'no'	% 'no'
Has Facebook account	864	78	238	22
Links to Twitter	599	54	503	46
Secure site (HTTPS)	255	23	847	77

Note: within the 847 outlets with no https redirect, one was a blank entry that was recoded as no. Facebook and Twitter data combine both programmatically collected information as well as information appearing in the original Cision dataset. Numbers may not add up to 100% due to rounding.

Attribute (digital-native)	Frequency 'yes'	% 'yes'	Frequency 'no'	% 'no'
Has Facebook account	27	87	4	13
Has Twitter account	28	90	3	10
Secure site (HTTPS)	6	19	25	81

Note: Note: Facebook and Twitter data combine both programmatically collected information as well as information appearing in the original Cision dataset. Note: Numbers may not add up to 100% due to rounding.

Attribute (TV Stations)	Frequency 'yes'	% 'yes'	Frequency 'no'	% 'no'
Has Facebook account	118	93	9	7
Has Twitter account	124	98	3	2
Secure site (HTTPS)	25	20	92	72

Note: Facebook and Twitter data combine both programmatically collected information as well as information appearing in the original Cision dataset. Numbers may not add up to 100% due to rounding.

Attribute (Radio Stations)	Frequency 'yes'	% 'yes'	Frequency 'no'	% 'no'
Has Facebook account	94	81	22	19
Has Twitter account	60	52	56	48
Secure site (HTTPS)	16	14	100	86

Note: Facebook and Twitter data combine both programmatically collected information as well as information appearing in the original Cision dataset. Numbers may not add up to 100% due to rounding.

Attribute (Magazines)	Frequency 'yes'	% 'yes'	Frequency 'no'	% 'no'
Has Facebook account	31	91	3	9
Has Twitter account	22	65	12	35
Secure site (HTTPS)	8	24	26	76

Note: Facebook and Twitter data combine both programmatically collected information as well as information appearing in the original Cision dataset. Numbers may not add up to 100% due to rounding.

Attribute (daily papers)	Frequency 'yes'	% 'yes'	Frequency 'no'	% 'no'
Has Facebook account	176	88	25	12
Has Twitter account	173	86	28	14
Secure site (HTTPS)	49	24	152	76

Note: Facebook and Twitter data combine both programmatically collected information as well as information appearing in the original Cision dataset. Numbers may not add up to 100% due to rounding.

Attribute (community papers)	Frequency 'yes'	% 'yes'	Frequency 'no'	% 'no'
Has Facebook account	344	67	171	33
Has Twitter account	126	24	389	76
Secure site (HTTPS)	128	25	378	73

Note: Facebook and Twitter data combine both programmatically collected information as well as information appearing in the original Cision dataset. Numbers may not add up to 100% due to rounding.

Attribute (college papers)	Frequency 'yes'	% 'yes'	Frequency 'no'	% 'no'
Has Facebook account	74	95	4	5
Has a Twitter account	66	85	12	15
Secure site (HTTPS)	23	29	55	71

Note: Facebook and Twitter data combine both programmatically collected information as well as information appearing in the original Cision dataset. Numbers may not add up to 100% due to rounding.

Attribute	Digital native (%)	College paper (%)	Community paper (%)	Daily paper (%)	Magazine (%)	Radio station (%)	TV station (%)
Has Facebook account	87	95	67	88	91	81	93
Has Twitter account	90	85	24	86	65	52	98
Secure site (HTTPS)	19	29	25	24	24	14	20

Note: Facebook and Twitter data combine both programmatically collected information as well as information appearing in the original Cision dataset. Numbers may not add up to 100% due to rounding.

Attribute	Digital native	College paper	Community paper	Daily paper	Magazine	Radio station	TV station
Average load time (in seconds)	13	16	15	2	14	20	26

Appendix B: Classification & coding protocol

The following is a summary of attributes with definitions and rules, which were used to classify a range of digital indicators for local news outlets. For all attributes, researchers studied a minimum of three stories per outlet, and evaluated about, subscribe, and contact sections. In addition, keyword searches for the following attributes were applied to websites.

Comment section in stories: Y/N. Select Y if stories offer the option to comment below text section.

Ad tech: List the content recommendation services and advertising service brands occupying space on the home page (i.e., Google, Taboola, Outbrain). Note where custom local advertising appears as well.

Digital video hosting platform: Leave blank if no video; list the platform if video is present (i.e., YouTube, Vimeo). If hosting company is not identified, mark as native/NA.

Newsletters offered: Y/N. Scan and search the home page to identify whether or not the publisher promotes or links to its email newsletter(s). May also appear in subscribe or contact section of website. Select Y if publisher offers email alerts or updates on daily or weekly news items.

Podcasts offered: Y/N. Scan the home page to identify if the publisher promotes or links to its podcast. (Note: absence of a link or promotion of podcast does not indicate the publisher does not offer one, but rather that they do not promote a podcast on their website.)

Video/Audio live feed: Y/N. Scan the home page to identify if the publisher promotes or links to a live video or audio feed.

Donation/subscribe link: Y/N. Scan the home page and other relevant pages (subscribe, give, join, and so on) to identify if the publisher promotes or links to an opportunity to subscribe or donate to the outlet.

Mobile app: Y/N. Scan the home page (as well as other relevant pages, such as about or subscribe) to identify if the publisher promotes or links

to its own app. In addition, search Apple App Store for the name of each individual publisher.

Mobile-responsive home page: Y/N. Use a smartphone to load home page and record observation. A responsive design for mobile renders in such a way that text and images automatically fit to the mobile screen. A non-responsive website will render in such a way that text and images must be manually expanded or dragged to view.

Paywall: Y/N. Site is considered to have at least a soft paywall if it is indicated via home page message, or else, when researcher selects an article and the article is unavailable (or if the website warns that a limited number of articles may be accessed before reaching limitknown as metered pay wall). Visit at least three articles to determine whether soft meter is in effect. In addition, review subscribe section to observe whether publisher describes expanded content benefits available with digital subscription.

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