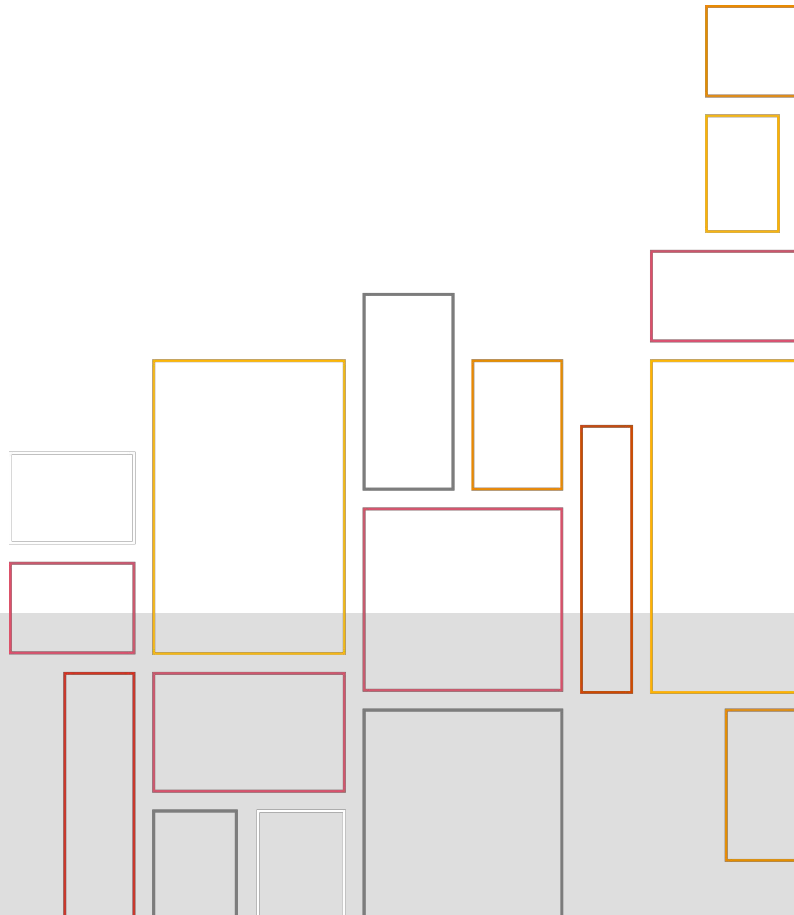




# Impact of Global Web Traffic on Revenue of *News Publishers*

April 2024



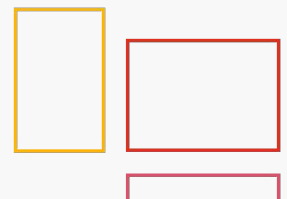
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# Important Notice from *PwC*



This report was commissioned by Google and produced by PricewaterhouseCoopers LLP (“PwC”). This report uses data and information collected by PwC US and the results reported are considered to be a reasonable measurement of web traffic impact on news publisher revenue.

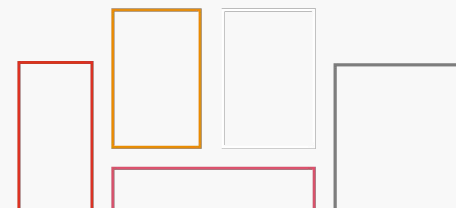
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# 1.0


## Executive *Summary*



The news publishing industry is facing an evolution in consumer behavior. In 33 of the 38 global markets included in this study, 70% or more of consumers now access news online.<sup>1</sup> This trend is prompting news publishers to reinvent their business models and monetization strategies. News publishers are also enhancing their use of digital technologies, recognizing that consumers access online news not only directly through news sites, but also through various referral channels such as social media, search tools and news aggregators. Accordingly, PwC market data revealed that global digital revenue for news publishers grew by an average compound annual growth rate (CAGR) of 7.5% from 2012-2022.<sup>2</sup>

Web traffic volume and quality, as well as publisher effectiveness at engaging with site visitors, can be key drivers of digital revenue for news publishers. To grow and monetize their digital presence, news publishers should invest in digital capabilities, alongside their content strategy. This assessment of the value of web traffic to news publishers has been commissioned by Google.

### Global Value of a Click (USD)

 **\$0.06 - \$0.08**

based on study of 218 publishers from 38 countries

To understand this relationship between news publishers and third-party online platforms, PwC conducted a global assessment of the value of web traffic, including referral traffic from online platforms, to news publishers.

The study revealed that in 2021 and 2022, an increase in total news publisher website traffic had a positive and statistically significant impact on total news publisher revenue. In other words, rising web traffic led to a rise in total revenue. Specifically, **the global value of a click (Voac) to a news publisher was between US\$0.06 - US\$0.08**, meaning that for each time a consumer clicked through to a news website, the publisher earned, on average, US\$0.06 - US\$0.08.

“The study revealed that in 2021 and 2022, an increase in total news publisher website traffic had a positive and statistically significant impact on total news publisher revenue. In other words, rising web traffic led to a rise in total revenue.”

These findings are based on holistic market research and a study of **218 publishers from 38 countries**, including publishers that vary in business model and readership demographics. An econometric model was leveraged to isolate the impact of web traffic on news publisher revenue, and results were validated through a top-down analysis of news publisher market revenue and web traffic, data, pulling from PwC market-level insights and industry specialist interviews.

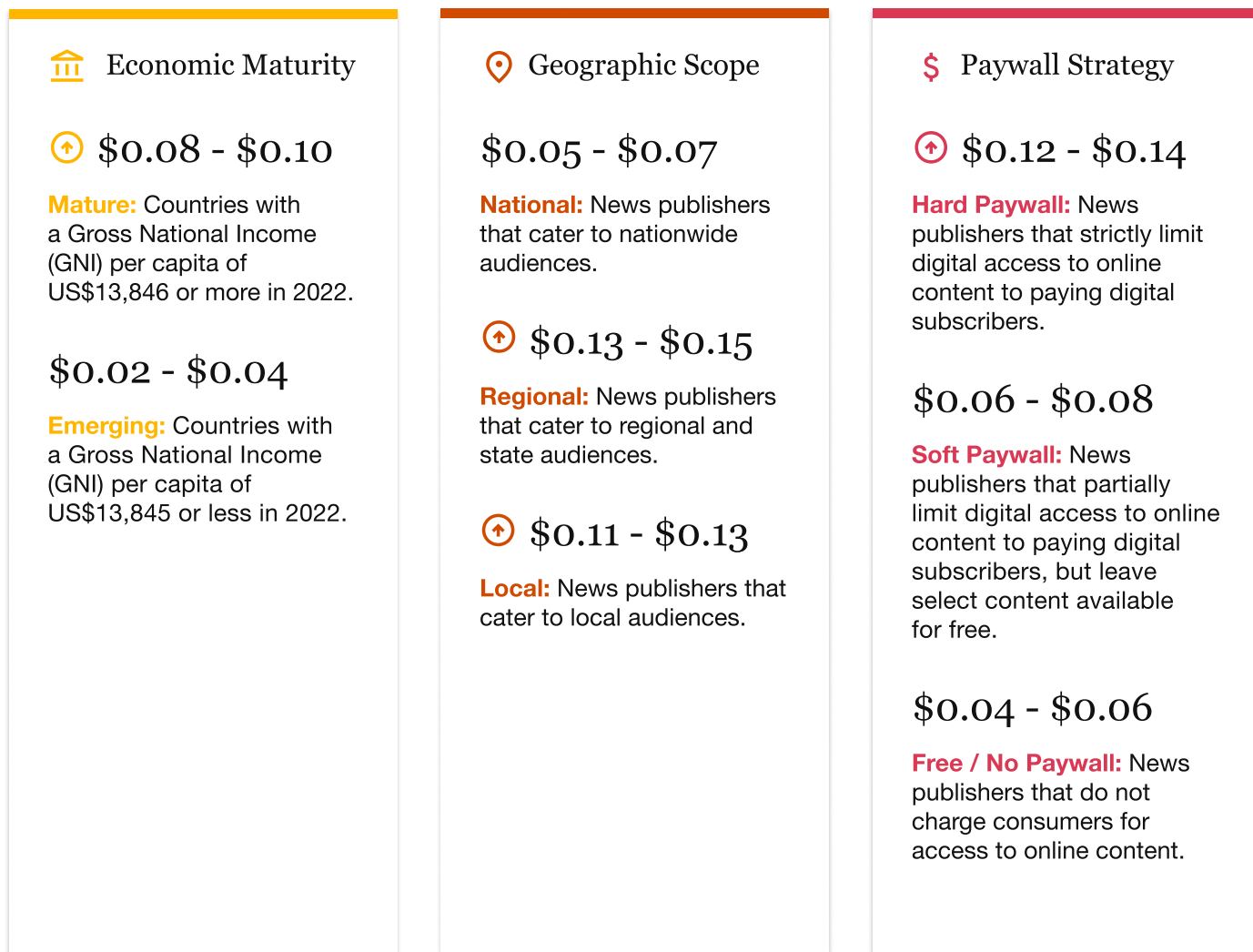
<sup>1</sup> Nic Newman, with Richard Fletcher, Kirsten Eddy, Craig T. Robertson, and Rasmus Kleis Nielsen, Reuters Institute Digital News Report 2023 (Oxford: Reuters Institute for the Study of Journalism, 2023), <https://reutersinstitute.politics.ox.ac.uk/digital-news-report/2023>. Please note that New Zealand news source data is not available.

<sup>2</sup> “Global Entertainment, Media & Telecommunications Outlook 2023–2027,” PwC, accessed September 27 2023, <https://www.pwc.com/gx/en/industries/tmt/media/outlook.html> for 2018 - 2022 data; “Global Entertainment & Media Outlook 2015” for 2012 - 2017 data. Please note that each PwC Outlook edition is updated each year and assumptions may vary between historical data points.

Within the news industry, there are unique factors that impact a publisher's ability to monetize web traffic, such as the economic environment, reader base and digital subscription strategy. In addition to the global estimate, these dimensions were evaluated to provide refined and relevant VoaC estimates tied to each publisher archetype. The results of this analysis are highlighted below, with additional details on the methodology and archetype trends outlined later in this report.

VALUE OF A CLICK (USD) ESTIMATES, SEGMENTED BY MARKET & BUSINESS MODEL ARCHETYPES\*

 Greater than global average



\*These estimates are based on PwC Analysis. These values should be viewed independently of one another and not in combination. For the purposes of this study, these values are meant to give directional guidance on how the value of a click changes based on each archetype dimension, holding all else equal.

Please see **Appendix Table 6.2** for the countries included in this study, segmented by mature and emerging markets, and **Appendix Table 6.4 and 6.5** for the sample size of each archetype segment.

“Successful news publishers now embrace the need to evolve their business model to drive digital news site engagement, boost digital advertising and subscription revenue and develop robust market offerings that build on their print operations.”

### Key findings include

#### Economic Maturity

The value of web traffic varied between mature and emerging markets, with publishers in mature markets seeing an average VoaC of **US\$0.08 - US\$0.10**, reflecting more established digital advertising sectors and the higher disposable income of consumers in these markets.

#### Geographic Scope

Regional and local publishers benefit significantly more from web traffic gains, with an average VoaC of **US\$0.13 - US\$0.15** and **US\$0.11 - US\$0.13**, respectively, versus **US\$0.05 - US\$0.07** for publishers with national reach. This may reflect the relatively lower brand recognition of local and regional publishers, which increases the relative value they derive from each individual website visit – particularly those coming from referral sources.

#### Paywall Strategy

Traffic increases are especially beneficial for publishers with hard paywalls, which see an average VoaC of **US\$0.12 - US\$0.14**, compared to **US\$0.04 - US\$0.06** for publishers that offer their content for free. This highlights the importance of capturing digital subscription revenue and demonstrating consumer engagement to attract advertisers.

“As publishers around the world evolve their offerings, adapt to changing consumer preferences and embrace digital transformation, web traffic - including traffic referred from third party platforms - remains a key driver of revenue growth.”

These findings provide important context when considering the relationship between technology companies and news publishers, and the specific value that individual news publishers realize from web traffic, in the face of declining overall publisher revenue.<sup>3</sup> Successful news publishers now embrace the need to evolve their business model to drive digital news site engagement, boost digital advertising and subscription revenue and develop robust market offerings that build on their print operations.

From AI-enabled dynamic paywalls that can help recommend subscription options in real time, to features such as podcasts, online games and specialized content, publishers have found ways to boost digital revenue by elevating the value they offer to consumers. Simultaneously, new digital-only publishers are building sustainable businesses at both the national and regional level by investing in capabilities to target younger audiences, diversify revenue streams and deliver engaging content.<sup>4</sup>

As publishers around the world evolve their offerings, adapt to changing consumer preferences and embrace digital transformation, web traffic – including traffic referred from third party platforms – remains a key driver of revenue growth.

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<sup>3</sup> PwC, “Global Entertainment, Media & Telecommunications Outlook 2023–2027.”

<sup>4</sup> Project Oasis, “A research project on the trends, impact and sustainability of independent digital native media in more than 40 countries in Europe,” 18 April 2023, <https://projectoasiseurope.com/wp-content/uploads/2023/04/Project-Oasis-PDF-April-17-2023.pdf>.

## 2.0

# Report Introduction and *Objectives*



The objective of this research report is to help quantify the value of web traffic to news publishers. Building on a 2019 report<sup>5</sup> on the impact of web traffic on traditional newspaper revenue in France, Germany, Spain and the UK, this study describes the current state of the news publishing industry and estimates the value of total web traffic to news publishers in 38 countries across the Americas (AMER); Europe, the Middle East and Africa (EMEA); and Asia-Pacific (APAC) across the 2021-2022 time horizon.

In addition to significantly expanding the geographic focus of the 2019 report, this study deploys a new methodology to:

- Reflect updated market conditions, with digital revenue increasing in share of total publisher revenue in 37 of 38 countries between 2021 and 2022
- Improve accuracy and applicability of value of a click (Voac) estimates to help determine market and news publisher business model impacts

Compared to the 2019 report, PwC uses a similar but expanded methodology and econometric model, enabling meaningful comparisons between 2019 and 2024 while also enriching the scope and granularity of the analysis. Notable updates include:

- The analysis of both desktop and mobile web traffic data to reflect increased use of mobile devices to access news
- The inclusion of online-only and digitally native publishers in the study sample, reflecting the industry's increasingly varied business models
- The addition of qualitative analysis of news publisher types to supplement Voac estimates
- Refinements to the econometric model, including the deployment of a mixed effects model and the adjustment of variables to better fit the global sample and mix of publishers

For the purposes of this study:

- **News publishers** are defined as, 1) print newspapers that also have an online news site, and 2) online-only news websites. This analysis excludes other digital sources of news such as broadcast news provider websites and email newsletters.
- **Total web traffic** includes both direct web traffic to a news publisher's website and referral web traffic from third-party sources such as search, social media or other news aggregators. Web traffic is estimated based on total web visits, not individual page views, and is inclusive of desktop and mobile website traffic but excludes app traffic.

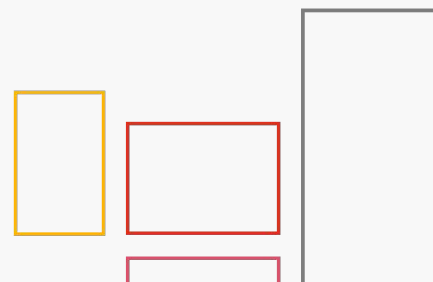
Further details on the methodology, the data employed and the results obtained from econometric modeling are outlined in the Methodology and Appendix sections later in this report.

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<sup>5</sup> Deloitte. "The impact of web traffic on revenues of traditional newspaper publishers: A study for France, Germany, Spain and the UK." September 2019. <https://www2.deloitte.com/content/dam/Deloitte/es/Documents/financial-advisory/The-impact-of-web-traffic-on-revenues-of-traditional-newspaper-publishers.pdf>.

## 3.0

# News Publishing Market *Trends*



To contextualize the value of a click (VoaC) ranges presented in this study, it is important to understand the challenges and opportunities publishers experience as they monetize their digital news sites.

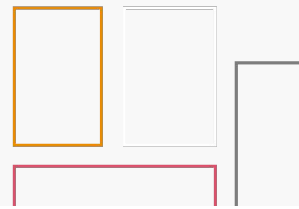
These include:

- Consumer preferences for third-party channels and declining engagement with news
- The need to invest in business model innovation in order to unlock new revenue streams and go-to-market offerings
- Demand for sophisticated first-party data capabilities to support new subscription models and enable more personalized and relevant consumer experiences
- Increased competition for ad spend from emerging digital channels, exacerbated by projected slow-downs in ad spend growth rate

Of note, while generative AI is expected to impact both online platforms and the news publishing industry, its effect on news consumption and news publisher digital monetization is still unknown and not meaningfully present in this research given the time horizon. Such impacts are therefore not explored in depth as part of this research.

## 3.1

# Consumer *Preferences*



“Consumers, particularly younger consumers, typically access news via search tools, online news aggregators and social media.”

Shifting consumer behaviors can create significant challenges and opportunities as news publishers seek to monetize their digital presence. These include:

- **Preference for third-party channels.** Consumers, particularly younger consumers, typically access news via search tools, online news aggregators and social media. Research shows that 22% of consumers still mainly access news through a publisher’s website or app, while 30% mainly access news through social media and 25% mainly access news via search tools.<sup>6</sup> It is worth noting that within the sample collected for this study, direct traffic made up 41% of total web traffic to news publishers in 2021 and 42% of total web traffic in 2022, demonstrating the continued importance and significance of direct web traffic.
- **News mistrust.** Overall trust in news across markets continues to trend downward, with only 40% of people saying they trust most news most of the time, representing a drop of 2 percentage points during 2022.<sup>7</sup>
- **News avoidance and lower engagement.** Driven by news fatigue and broader shifts in online behavior, consumer engagement with news is declining. Recent research found that almost half (47%) are now “passive consumers” who do not post, share or comment on news online.<sup>8</sup> In the US and the UK, active engagement with news fell more than 10% between 2016 and 2022.<sup>9</sup> Research further indicates high levels of selective news avoidance, with 36% of consumers avoiding news sometimes or often.<sup>10</sup>

Web traffic to news publishers was on the rise between 2019 and 2021, but is showing signs of a slowed growth rate.<sup>11</sup> In this context, news publishers must fight even harder to drive traffic to their news sites, enabling them to reach and retain consumers and convince them to pay for digital news content. According to PwC industry specialist interviews, business model innovations can help large news publishers to maintain substantial direct web traffic and engagement even in the face of changing consumer behaviors.<sup>12</sup> Referral traffic, on the other hand, remains crucial for smaller publishers and those in emerging markets, which typically lack the organic reach of their larger and well-resourced counterparts.<sup>13</sup>

<sup>6</sup> Newman, Reuters Institute Digital News Report 2023.

<sup>7</sup> Newman, Reuters Institute Digital News Report 2023.

<sup>8</sup> Newman, Reuters Institute Digital News Report 2023.

<sup>9</sup> Newman, Reuters Institute Digital News Report 2023.

<sup>10</sup> Newman, Reuters Institute Digital News Report 2023.

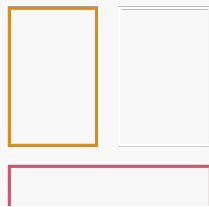
<sup>11</sup> Winik, Molly, “Benchmarks for Digital Publishers & News Sites,” Similarweb Blog, September 20, 2023.

<sup>12</sup> PwC Industry Specialist Interviews.

<sup>13</sup> PwC Industry Specialist Interviews.

## 3.2

# Business Models and Revenue *Streams*



“Globally, the most successful news publishers have embraced the need to reinvent their business models to re-engage readers, adapt to a rapidly evolving competitive landscape and reduce their dependence on print revenue.”

Globally, the most successful news publishers have embraced the need to reinvent their business models to re-engage readers, adapt to a rapidly evolving competitive landscape and reduce their dependence on print revenue. Effective innovations include podcasts, games, specialized content and exclusive membership offers. In Greece, for example, one major publisher now offers podcasts to create a new digital revenue stream and combat declining print revenue.<sup>14</sup> In the United States, meanwhile, a national news publisher acquired a hit online game, and in some periods now gains more new digital subscribers for its specialized offerings (including recipes and product reviews) than for its core news content.<sup>15</sup>

While regional and local news publishers may have an engaged digital consumer base, they often lack the resources to scale digital innovation and compete with national brands for consumer attention and advertising dollars. This vulnerability has driven significant consolidation under national brands. In the US, as of 2022, less than one-third of weekly newspapers were locally owned and operated.<sup>16</sup>

“By learning from these success stories, and the business innovation imperative they embody, stakeholders have an opportunity to foster resilience and prepare the publishing industry for continuing transformation and enduring future growth.”

Overall, many news publishers are finding ways to thrive amidst disruption, using consolidation and other strategies to manage innovation opportunities and consumer demands. By learning from these success stories, and the business innovation imperative they embody, stakeholders have an opportunity to foster resilience and prepare the publishing industry for continuing transformation and enduring future growth.

<sup>14</sup> PwC, “Global Entertainment, Media & Telecommunications Outlook 2023–2027.”

<sup>15</sup> Marc Tracy, “The Times hits its goal of 10 million subscriptions with the addition of The Athletic,” New York Times, February 2 2022, <https://www.nytimes.com/2022/02/02/business/media/nyt-earnings-q4-2021.html>.

<sup>16</sup> PwC, “Global Entertainment, Media & Telecommunications Outlook 2023–2027.”

## 3.3

# Digital Subscription and Advertising *Innovations*

While publishers explore new business models and revenue streams, their efforts remain underpinned by two primary monetization strategies: paid subscriptions and advertising. Both strategies have long been key drivers of print revenue, but are evolving in new directions as publishers adapt them to their fast-changing digital offerings.

### Digital Subscriptions

In many markets, revenue growth from digital subscriptions is outpacing digital advertising. In the APAC region, for instance, digital circulation revenue is expected to grow at a 9% CAGR through 2027, versus a 5.3% CAGR for digital advertising revenue.<sup>17</sup> Some publishers in mature markets have now secured substantial online followings: several UK-based publications have attained more than 1m digital-only subscriptions, for instance, while one North American publisher boasts over 10m global online subscribers.<sup>18</sup>

“...customer data is a key resource, helping publishers to boost digital subscription revenue...”

Despite these successes, persuading consumers to pay for online news remains a key hurdle for publishers. One study found that consumers who read print newspapers pay for news at more than double the rate than those who access content online through a news website or app.<sup>19</sup>

In the face of such challenges, customer data is a key resource, helping publishers to boost digital subscription revenue by fine-tuning paywall, pricing and content strategies and delivering personalized consumer experiences. For example, a Canadian publisher uses first-party data to power a dynamic paywall engine, automatically tailoring content and payment options to optimize engagement and revenue.<sup>20</sup> In Colombia, meanwhile, a national news publisher has partnered with an Indian publisher and a global tech platform to develop AI tools that help predict which content will likely generate subscriptions.<sup>21</sup>

News publishers are also seeking to boost digital engagement, and ultimately subscriptions, by experimenting with new media formats, including repackaging text-based articles as podcasts or videos.<sup>22</sup> In addition, publishers are testing alternate subscription methods, such as donation-based models, to incentivize consumers to pay for news and increase reader loyalty.<sup>23</sup>

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<sup>17</sup> PwC, “Global Entertainment, Media & Telecommunications Outlook 2023–2027.”

<sup>18</sup> PwC, “Global Entertainment, Media & Telecommunications Outlook 2023–2027.”

<sup>19</sup> Mason Walker, “Who Pays for Local News?” Pew Research Center, September 12, 2019, <https://www.pewresearch.org/short-reads/2019/09/12/who-pays-for-local-news-in-the-u-s/>.

<sup>20</sup> PwC, “Global Entertainment, Media & Telecommunications Outlook 2023–2027.”

<sup>21</sup> PwC, “Global Entertainment, Media & Telecommunications Outlook 2023–2027.”

<sup>22</sup> Newman, Reuters Institute Digital News Report 2023.

<sup>23</sup> PwC, “Global Entertainment, Media & Telecommunications Outlook 2023–2027.”

## Advertising

Slowed internet advertising spending and continued macroeconomic uncertainty make it challenging for news publishers to accurately forecast and grow digital advertising revenue. Global internet advertising growth fell to 8.1% in 2022 from 30.8% in 2021 as the industry normalized following the COVID-19 pandemic and advertisers scaled back spending. Growth is expected to ease further with a CAGR of 6.5% between 2022 and 2027.<sup>24</sup>

At the same time, news publishers are experiencing increasing competition for digital ad spend from companies with broader media breadth and user targeting capabilities, including social media, retail media, connected TV and streaming and gaming.<sup>25</sup> To attract advertisers and compete effectively, a major news publisher in Brazil is investing in direct sold advertising capabilities to better match advertising to news content, increasing the likelihood of site visitor ad engagement.<sup>26</sup> Many news publishers are investing in similar capabilities to grow digital ad spend.

Video, inclusive of social video, is a key driver of display advertising growth. In EMEA, for example, it is the fastest growing segment of the display advertising market, with a 10% CAGR expected between 2022 and 2027.<sup>27</sup> Recognizing the importance of these shifting advertising dynamics, a Romanian national news publisher is prioritizing investments in video advertising capabilities to remain competitive.<sup>28</sup> While video advertising innovation may lower the barrier to entry, news publishers currently have limited scope to compete at scale.

The global spread of modern privacy regulations and the ongoing cross-industry shift away from the use of third-party data is placing increased pressure on publishers to invest in first-party data collection to support effective ad targeting. One success story comes from a news publisher alliance in the United Kingdom that built a digital advertising platform and pooled high-quality data to increase ad revenue by 61% in 2022.<sup>29</sup> In Germany, publishers are taking a similar approach to pool customer data and share insights.<sup>30</sup>

The ad landscape remains challenging. Understanding consumer engagement will likely be key as news publishers seek to secure ad spend. News publishers should also focus on enhancing the consumer experience by matching ads to reader interests and avoiding ad formats that disrupt user interactions with their core content.

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<sup>24</sup> PwC, “Global Entertainment, Media & Telecommunications Outlook 2023–2027.”

<sup>25</sup> PwC Industry Specialist Interviews.

<sup>26</sup> PwC Industry Specialist Interviews.

<sup>27</sup> PwC, “Global Entertainment, Media & Telecommunications Outlook 2023–2027.”

<sup>28</sup> PwC Industry Specialist Interviews.

<sup>29</sup> PwC, “Global Entertainment, Media & Telecommunications Outlook 2023–2027.”

<sup>30</sup> PwC Industry Specialist Interviews.

## 3.4

# Regional News Publishing Market *Trends*

It is important to consider the likely impact of unique regional market dynamics on the value of web traffic to news publishers around the world. This study evaluated the news publisher and advertising markets, comparing geographic and economic nuances across the Americas (AMER); Europe, the Middle East and Africa (EMEA); and Asia-Pacific (APAC) regions.

### Americas Regional Summary

The newspaper market for the Americas was valued at US\$27.9bn in 2022, with a CAGR of -4.7% between 2012 and 2022.<sup>31</sup> The regional market has grown more complex as news publishers have sought to adapt to evolving consumer preferences, reinvent their businesses and experiment with new monetization strategies.

### North America

The North American news publishing market has experienced declining revenue as a result of losses in the print sector, but has nonetheless seen success in the digital news movement. Publishers across the globe are looking to emulate the success of their North American counterparts in adapting to new technologies, the preferences of younger consumers and an increasingly competitive news environment.

The United States saw an uptick in online news consumption and subscription rates for major news publishers between 2021 and 2022. The Canadian market, by contrast, experienced decreased trust scores and consumption declines across channels.<sup>32</sup>

Despite significant headwinds, including heavy print revenue losses leading to layoffs and newspaper closures, North American industry leaders are innovating in expectation of achieving future digital growth. In the US, a daily newspaper amassed 10m global digital subscribers by leaning into premium content and games, including the acquisition of a popular online news outlet in 2022. In Canada, news publishers have similarly explored new business models, with a widely-read weekly newspaper implementing a machine learning tool to enable data-driven decision making and create dynamic, personalized paywalled news feeds for users.<sup>33</sup> Monetization models including subscriptions, metered paywalls and premium content are increasingly important drivers of digital revenue. Tailoring such models to align with customer preferences remains critical to success.

While the North American market has seen substantial digital revenue growth in recent years, it has evolved into a “winner takes most” environment. Many smaller regional and local publishers have been forced to scale down their offerings, close altogether or consolidate under the largest national news chains.<sup>34</sup>

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<sup>31</sup> PwC, “Global Entertainment, Media & Telecommunications Outlook 2023–2027” and “Global Entertainment & Media Outlook 2015.”

<sup>32</sup> Newman, Reuters Institute Digital News Report 2023.

<sup>33</sup> PwC, “Global Entertainment, Media & Telecommunications Outlook 2023–2027.”

<sup>34</sup> PwC, “Global Entertainment, Media & Telecommunications Outlook 2023–2027.”

### Latin America

Internet and mobile use has increased in Latin America, but the region's news publishing industry remains print-dominated. A slow but ongoing shift to digital has so far been unable to arrest the region's downward trend in publisher revenue.<sup>35</sup>

Consumers across Latin America increasingly access news online, via both news publishers' sites and social media. In the Latin American markets included in this study, 77% or more of consumers now access news through digital channels.<sup>36</sup> At the same time, consumer trust in news has declined in recent years across all Latin American countries included in this study, due in part to political unrest in nations such as Peru and Brazil. As a result, consumption of news, even online, has declined.<sup>37</sup>

In face of these challenges, major publishers are experimenting with innovative paywall strategies to engage consumers online, increase digital revenues and compete directly with emerging digital-only publications. For example, publishers in Argentina have fine-tuned paywall strategies and leveraged consumer data to better understand reader content preferences and maximize conversions, driving a 55% increase in digital subscribers for one leading publisher in 2021.<sup>38</sup> Similarly, some Colombian publishers with national reach are using AI to deliver targeted content and convert site visitors into digital subscribers.<sup>39</sup>

Latin American publishers are seeing slow digital growth, and the long-term viability of print-focused business models remains uncertain. Still, opportunities exist across the region for publishers to adapt to consumer preferences and attract new audiences to accelerate digital subscription growth.

### EMEA Regional Summary

The newspaper publishing market in Europe, the Middle East and Africa (EMEA) was valued at US\$26.9bn in 2022, having decreased by a CAGR of -6.9% since 2012 amidst declining print revenue.<sup>40</sup> There has been growth in digital news media, however, with digital subscriptions and readership growth significantly outpacing other segments of the market.

### Europe

In the majority of European markets analyzed for this study, newspaper market revenue declined between 2021 and 2022. Revenue is expected to continue to decline, with digital growth not fully offsetting declines in print revenue.<sup>41</sup>

Digital growth is driven in part by a strong consumer preference for accessing news online.<sup>42</sup> However, trust varies significantly across the region, impacting news publishers' ability to attract digital consumers.

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<sup>35</sup> PwC, "Global Entertainment, Media & Telecommunications Outlook 2023–2027."

<sup>36</sup> Newman, Reuters Institute Digital News Report 2023.

<sup>37</sup> Newman, Reuters Institute Digital News Report 2023.

<sup>38</sup> PwC, "Global Entertainment, Media & Telecommunications Outlook 2023–2027."

<sup>39</sup> Newman, Reuters Institute Digital News Report 2023.

<sup>40</sup> PwC, "Global Entertainment, Media & Telecommunications Outlook 2023–2027" and "Global Entertainment & Media Outlook 2015."

<sup>41</sup> PwC, "Global Entertainment, Media & Telecommunications Outlook 2023–2027."

<sup>42</sup> PwC, "Global Entertainment, Media & Telecommunications Outlook 2023–2027."

### 3.4 | REGIONAL NEWS PUBLISHING MARKET TRENDS

For example, Greece has the lowest trust score across the markets included in this study, with just 19% of consumers expressing trust in the news, whereas Sweden has one of the highest scores, with 50% of consumers having confidence in news media.<sup>43</sup>

News publishers across Europe are seeing varying levels of success in digital transformation and converting online readers to paying digital subscribers. For example, while relatively few French consumers pay for news compared to other markets, those who do pay for news often pay for multiple news subscriptions, whereas, in the UK and Portugal, consumers have proven reluctant to pay for digital subscriptions.<sup>44</sup>

Publishers are also experimenting with different paywall strategies to engage digital readers. In Germany, these efforts have paid off, with major newspapers seeing 30%+ increases in digital subscriptions in 2021.<sup>45</sup> In Poland, meanwhile, metered paywall strategies are helping major newspapers to drive enough digital growth to fully offset declines in print revenue – something seen in just four of the 38 markets analyzed in this study.<sup>46</sup>

In addition to a general decline in revenue, the European news publishing industry has seen significant recent turbulence. In Central and Eastern Europe, the war in Ukraine contributed to a brief spike in news consumption in select countries and news avoidance in others, while both large and small news publishers have struggled with layoffs, rising newsprint prices and cuts in ad spending.<sup>47</sup> In Western Europe, meanwhile, several news publishers now have over 1m digital subscribers, validating digital growth models for other publishers across the region.<sup>48</sup>

#### Middle East and Africa

While digital growth led the way in Europe in 2022, print remained dominant in the Middle East and Africa (MEA). The region's news publishing industry faces similar challenges to those seen in other major markets, but also has great potential for digital growth. While digital accounts for only a small share of the news publishing market, steep print declines – such as those seen by one of South Africa's biggest daily newspapers, which lost 89% of its print circulation between 2011 and 2021 – could force publishers to increase their focus on digital news.<sup>49</sup>

While print newspaper deliveries remain relatively popular with older South African readers with disposable income, consumers are increasingly accessing online news via mobile devices instead of purchasing print newspapers from street sellers or agents.<sup>50</sup> In fact, 90% of South African consumers now access news online, forcing news publishers to shift their focus to online content delivery and revamp digital subscription models to find new ways of generating revenue.<sup>51</sup>

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<sup>43</sup> Newman, Reuters Institute Digital News Report 2023.

<sup>44</sup> Newman, Reuters Institute Digital News Report 2023.

<sup>45</sup> PwC, “Global Entertainment, Media & Telecommunications Outlook 2023–2027.”

<sup>46</sup> PwC, “Global Entertainment, Media & Telecommunications Outlook 2023–2027.”

<sup>47</sup> Newman, Reuters Institute Digital News Report 2023.

<sup>48</sup> PwC, “Global Entertainment, Media & Telecommunications Outlook 2023–2027.”

<sup>49</sup> PwC, “Global Entertainment, Media & Telecommunications Outlook 2023–2027.”

<sup>50</sup> PwC Industry Specialist Interviews.

<sup>51</sup> Newman, Reuters Institute Digital News Report 2023.

### 3.4 | REGIONAL NEWS PUBLISHING MARKET TRENDS

In South Africa, local and community-focused strongholds have successfully resisted consolidation, offering free print editions to build devout audiences.<sup>52</sup> In Turkey, meanwhile, consumers access news via social media at higher rates than print, and some news publishers are experimenting with short form video content to capitalize on this trend.<sup>53</sup>

In many MEA countries, press freedom and independence remains a major challenge for news publishers. In Turkey, for instance, a disinformation law enacted in 2022, which gave the government power to imprison journalists who intentionally publish misleading information, has stirred public debate on whether it limits press or internet freedom.<sup>54</sup>

#### APAC Regional Summary

The Asia-Pacific (APAC) newspaper publishing market was valued at US\$31bn in 2022. In keeping with global trends, it decreased by an average CAGR of -5.0% between 2012 and 2022.<sup>55</sup> News publishing markets across the APAC region show great variability, with mature, advanced economies such as Taiwan and South Korea existing alongside emerging, high-growth markets such as Indonesia and Malaysia. As such, country-specific dynamics, including consumer preferences and advertising trends, play a relatively larger role in the region.

Across APAC as a whole, print accounted for 91.8% of circulation revenue and 77% of advertising revenue in 2022; by 2027, these figures are projected to fall to 86% and 69.1%, respectively.<sup>56</sup> Even as consumers shift to accessing news online, print readership remains strong in key markets such as India, where 40% of consumers still read print newspapers.<sup>57</sup> In Japan, where print accounts for over 90% of total newspaper market revenue, print circulation is expected to decline as the country's aging population begins to embrace digital offerings.<sup>58</sup> So far, however, Japanese news publishers have been relatively slow to adapt.

Digital is also expected to build momentum in markets such as Indonesia, the Philippines and Malaysia as consumers migrate away from print newspapers. Already, digitally native publishers are gaining traction and building loyal audiences. In Malaysia, for example, newspapers now face robust competition from a new digital-only news provider.<sup>59</sup>

As consumers migrate online and access news through social media, concerns about misinformation are increasing. News publishers across the region have fought to keep consumer trust. For example, in Indonesia a non-profit group emerged to counter online misinformation, and overall trust in the news remains relatively stable.<sup>60</sup>

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<sup>52</sup> PwC, "Global Entertainment, Media & Telecommunications Outlook 2023–2027."

<sup>53</sup> PwC, "Global Entertainment, Media & Telecommunications Outlook 2023–2027."

<sup>54</sup> Newman, Reuters Institute Digital News Report 2023.

<sup>55</sup> PwC, "Global Entertainment, Media & Telecommunications Outlook 2023–2027" and "Global Entertainment & Media Outlook 2015."

<sup>56</sup> PwC, "Global Entertainment, Media & Telecommunications Outlook 2023–2027."

<sup>57</sup> Newman, Reuters Institute Digital News Report 2023.

<sup>58</sup> PwC, "Global Entertainment, Media & Telecommunications Outlook 2023–2027."

<sup>59</sup> PwC, "Global Entertainment, Media & Telecommunications Outlook 2023–2027."

<sup>60</sup> Newman, Reuters Institute Digital News Report 2023.

### 3.4 | REGIONAL NEWS PUBLISHING MARKET TRENDS

The region is poised for digital growth, and three APAC markets are expected to buck global trends and see overall publishing revenue growth between 2022 and 2027. In India, where growth is expected across both print and digital sectors, news publishers are diversifying their digital revenue streams and bundling digital subscriptions, while partnering with popular consumer brands to drive digital growth and customer retention.<sup>61</sup> In South Korea, meanwhile, the top third-party aggregator reaches 61% of consumers at least weekly – almost five times more than the largest news publisher – making third-party services essentially the preferred way for many consumers to access news online.<sup>62</sup> In Taiwan, digital circulation is expected to outpace other revenue sources, with news publishers demonstrating success in converting digital readers to pay models.<sup>63</sup>

News publishers in APAC have innovated their business models to adapt to changing consumer behavior, increased internet adoption and the growing impact of digital platforms and news aggregators.

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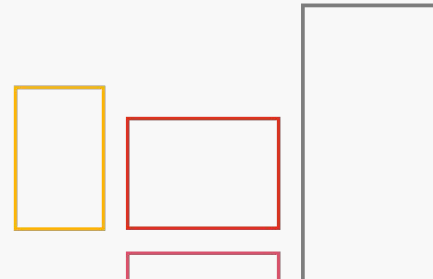
<sup>61</sup> PwC, “Global Entertainment, Media & Telecommunications Outlook 2023–2027.”

<sup>62</sup> Newman, Reuters Institute Digital News Report 2023.

<sup>63</sup> PwC, “Global Entertainment, Media & Telecommunications Outlook 2023–2027.”

## 4.0

# Methodology and *Results*



### Methodology

This study estimated the value of web traffic to global news publishers for the period January 2021 - December 2022. Using an econometric model and publicly available data, PwC identified and isolated key variables affecting news publisher revenue and quantified the estimated impact of web traffic on news publisher revenue.

The final model was selected through an iterative approach, with multiple methods tested based on fit with the data set. A top-down analysis leveraging PwC's market-level data for total and digital news publisher revenue was conducted to validate outputs. Market-level secondary research interviews with senior news publishing executives from 10 countries were also completed to contextualize results.

**Please see Appendix Table 6.7** for additional details on other methodologies tested and associated outputs for comparison.

## 4.0

# Methodology and *Results*






A mixed effects model was selected and deployed for this study to accurately isolate and estimate the impact of web traffic on news publisher revenue. A mixed effects model provided the required flexibility to handle this complex data set with nested structures, repeated measures and varying levels of data hierarchy. Instead of treating each observation entirely independently, the model estimated overall population-level parameters (fixed effects) and group-specific deviations from these parameters (random effects). Specifically, the model was set up to account for country-specific variables not included in the model formula that remain constant over the time period considered. Such variables might include the mix of news publishers in a given market and market consumer demographics. This allows the model to be fit confidently while accounting for different publisher sample sizes in different countries.

### Sample

This research used a sample of 218 publishers across 38 countries in the Americas; Europe, the Middle East and Africa (EMEA); and Asia-Pacific (APAC) for the period 2021-2022.

The sample was selected to provide confidence in data accuracy while capturing representative subsets of news publisher business models across the following archetype dimensions:

#### Archetypes

 Economic Maturity	Mature • Emerging
 Geographic Scope	National • Regional • Local
 Paywall Strategy	Hard Paywall • Soft Paywall • Free/No Paywall

Please see **Appendix Tables 6.3, 6.4 and 6.5** for a detailed overview and segmentation of the sample included in this study.

## Model

The mixed effects model utilized in this study produces estimates for the  $\beta$  coefficients that capture the relationship between the variables on the right-hand side of the equation and the dependent variable, “log(Total\_Revenue)”.

In the model equation detailed below, the coefficient associated to “log(total traffic)”,  $\beta_1$ , can be interpreted such that with 1% higher traffic, overall revenues are expected to be  $\beta_1$ % higher, on average, holding all else equal.

$$\begin{aligned}
 & \mathbf{i} \quad \log(\text{Total\_Revenue}_{it}) \\
 & = a + \beta_1 \log(\text{Total\_Traffic}_{it}) + \beta_2 \log(\text{GDPpc}_{it}) \\
 & + \beta_3 \log(\text{Market\_Internet\_Ad\_Revenue\_pc} / \text{GDPpc}_{it}) \\
 & + \beta_4 \text{factor}(\text{Print\_Circulation}_{it}) + \beta_5 \text{factor}(\text{Paywall\_bool}_{it}) \\
 & + \beta_6 \text{factor}(\text{Year}_{it}) + (1 | \text{Country}_{it})
 \end{aligned}$$

The average value of a click to news publishers was derived by multiplying total revenue of publishers in the sample by  $\beta_1$ , which can be interpreted as the estimated amount of news publisher revenue that can be attributed to web traffic to their digital news sites, divided by the total web traffic their news site received as follows:

$$\mathbf{i} \quad \text{Value of a click} = (\beta_1 * \text{Total Revenue}) / \text{Total Web Traffic}$$

Please see **Appendix Table 6.6** for a definition and data source for each variable included in this model.

## Results

PwC’s analysis demonstrates that increased web traffic had a positive and statistically significant impact on total revenue for news publishers in 2021 and 2022.  $\beta_1$ , the coefficient of log(traffic) in this model, is 0.334. This reveals that, on average, a 10% increase in traffic to a news publisher’s digital properties was associated with a 3.34% increase in the publisher’s total revenue if all else is held equal. Given this, the estimated value to a news publisher of a single click (Voac) was between **US\$0.06 - US\$0.08**.

This model was tested on the global sample and emerging and mature market sub-samples. Further analysis shows that the value of web traffic varied across mature and emerging markets, as shown below:

Global	Mature	Emerging
<b>\$0.06 - \$0.08</b>	<b>\$0.08 - \$0.10</b>	<b>\$0.02 - \$0.04</b>
VoaC Range (USD)*	VoaC Range (USD)*	VoaC Range (USD)*
<b><math>\beta_1</math>: 0.334</b>	<b><math>\beta_1</math>: 0.335</b>	<b><math>\beta_1</math>: 0.337</b>

## 4.0 | METHODOLOGY AND RESULTS

This research further reveals that the value of a click varied based on a news publisher's business model. Weighted average Voac estimates were produced for each business model archetype using the equation given below.

**i**  $Value\ of\ a\ click = (\beta_1 * Total\ Revenue\ of\ Archetype\ Segment) / Total\ Web\ Traffic\ of\ Archetype\ Segment$

$\beta_1$  = the coefficient for  $\log(\text{total traffic})$  associated with the global sample.

News Publisher Archetype	Voac Range (USD)*		
Geographic Scope	National \$0.05 - \$0.07	Regional \$0.13 - \$0.15	Local \$0.11 - \$0.13
Paywall Strategy	Hard Paywall \$0.12 - \$0.14	Soft Paywall \$0.06 - \$0.08	Free / No Paywall \$0.04 - \$0.06

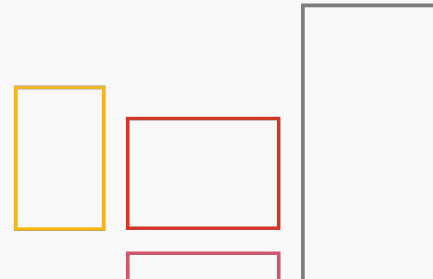
\*These estimates are based on PwC Analysis. Please note that these values should be viewed independently of one another and not in combination. For the purposes of this study, these values are meant to give directional guidance on how the value of a click changes based on each archetype dimension, holding all else equal. For additional commentary on these ranges, please see **Section 5.0: Analysis of Value Through News Publisher Archetypes**.

### Data sources

The data for this study was sourced from PwC's Global Entertainment, Media & Telecommunications Outlook 2023 - 2027, publicly available news publisher revenue and circulation data and external sources such as Similarweb, Omdia, and the World Bank. Interviews with industry subject matter specialists were also conducted to gather pertinent insights. Please see **Appendix Table 6.6** for the definition and primary sources for each variable.

## 5.0

# Analysis of Value Through News Publisher *Archetypes*



While global value of a click (VoaC) estimates provide a clear indication of the relative value of web traffic, publisher archetypes were developed to enable more granular comparisons of the revenue impact of web traffic across different publishers and regions. The specific archetypes developed for this analysis address the economic maturity of the market in which a publisher operates; the publisher's national, regional or local geographic scope; and the publisher's paywall strategy.



## Economic Maturity

The economic maturity of the market in which a news publisher operates is a significant factor in evaluating the impact of web traffic on revenue since the power of local economies, the disposable income available to consumers and the value attached by advertisers to those consumers all influence the value of a click. In this study, the Voac found in mature markets, defined as markets with a per capita Gross National Income (GNI) of US\$13,846 or more in 2022, trended higher than in emerging markets, defined as markets with a per capita GNI of US\$13,845 or less in 2022. Specifically, the Voac in mature markets ranged between **US\$0.08 - US\$0.10**, while the Voac in emerging markets ranged between **US\$0.02 - US\$0.04**. It is important to note a couple of additional factors at play here. First, digital revenue accounted for at least 20% of total publisher revenue in 18 of 27 mature markets included in this study, compared to zero of 11 emerging markets. Second, when individual news publisher annual revenue in 2021 and 2022 was converted from local currency to US dollars, an average annual exchange rate was utilized. Given that emerging market currency fluctuations are expected, these numbers are a point-in-time estimate.

## Geographic Scope

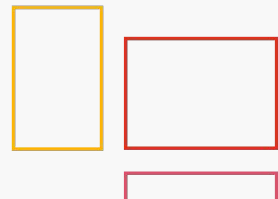
A news publisher's geographic scope captures the local, regional or national market it seeks to serve and sell into, and thus the size of its actual and potential customer base. Based on PwC's analysis, the average Voac ranges between **US\$0.05 - US\$0.07** for national news publishers; between **US\$0.13 - US\$0.15** for regional publishers; and between **US\$0.11 - US\$0.13** for local publishers. This likely corresponds to the high volume of web traffic captured by national publishers with high brand recognition, with single visits not necessarily turning into paid subscribers. By contrast, local news publishers necessarily appeal to a niche readership, making inbound visitors harder to win but also more likely to subscribe, remain on their site for longer periods and interact with content that publishers can monetize through advertising. Additionally, given local publishers' lower total readership, each new click represents a higher proportion of their overall web traffic. Note, however, that despite their lower Voac, national publishers capture clicks at scale, frequently allowing them to outcompete local publishers for both consumer attention and advertiser dollars.

## Paywall Strategy

A news publisher's paywall revenue model reflects the specific monetization strategies used to convert online readers into paying customers. Three key archetypes are identified: free models, which make all news content accessible without charge; soft paywall models, which provide metered access to a given number of free articles before requesting payment; and hard paywall models, which offer very limited sneak-peak options before shutting out non-subscribers. Analysis shows that publishers with hard paywalls tended to command a higher average Voac of **US\$0.12 - US\$0.14** compared to publishers with soft paywall or free revenue models, which had an average Voac ranging between **US\$0.06 - US\$0.08** and **US\$0.04 - US\$0.06** respectively. In the current sample, while news publishers that utilize hard paywalls had lower aggregate web traffic to their sites than publishers using soft paywall and free models, hard-paywall publishers also had a higher revenue-to-traffic ratio. This may reflect such publishers' increased ability to convert inbound visitors into paid subscribers; their greater ability to collect and utilize first-party user data from paid subscribers to maximize content engagement and subscription revenue growth; and their reduced dependence on advertisers as a source of digital revenue.

6.0

# Appendix



This study was designed to capture important aspects of publishers' business models, with the sample being divisible into market type based on economic maturity and two key business model dimensions:

### Economic Maturity

Economic maturity of the country of the news publisher HQ.

**Mature** refers to countries with a Gross National Income (GNI) per capita of US\$13,846 or more in 2022.<sup>64</sup>

**Emerging** refers to countries with a Gross National Income (GNI) per capita of US\$13,845 or less in 2022.<sup>65</sup>

### Geographic Scope

Scale and focus of news publisher's target audience.

**National** refers to news publishers that cater to nationwide audiences across regions.

**Regional** refers to news publishers that cater to primarily regional and state audiences.

**Local** refers to news publishers that cater to local audiences, metropolitan areas or single communities.

### Paywall Strategy

Digital subscription strategy utilized by the news publisher to determine which content (if any) consumers can access for free, and which they must pay to access.

**Hard Paywall** refers to news publishers that strictly limit digital access to online content exclusively for paying digital subscribers or members.

**Soft Paywall** refers to news publishers that partially limit digital access, with select content available for free and other content only accessible to paying digital subscribers or members. 'Freemium' models are also considered in this category, and refer to publishers that acquire revenue for digital content through options such as premium-only content ring-fenced for payment; a paid upgrade option to experience no ads; or optional reader-contribution funded content.

**Free / No Paywall** refers to news publishers that do not charge consumers for access to online content and instead leverage advertising, donations or alternative methods to generate revenue from digital content.

<sup>64</sup> The World Bank. "World Bank Country and Lending Groups." Accessed September 26 2023. <https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups>.

<sup>65</sup> World Bank, "World Bank Country and Lending Groups."

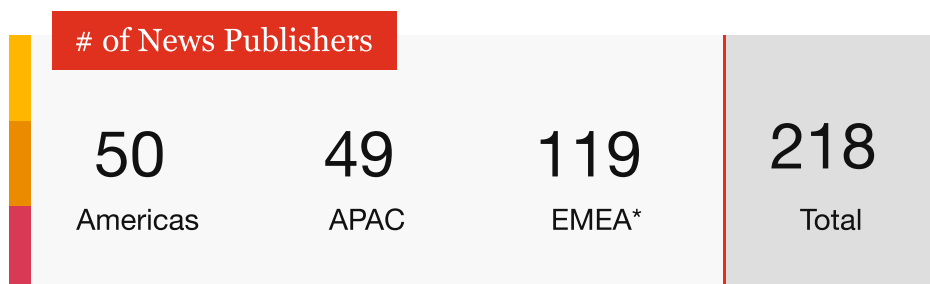
## 6.2 | NEWS PUBLISHING MARKETS INCLUDED IN STUDY

This research evaluated 38 mature and emerging markets across the Americas; Europe, the Middle East and Africa (EMEA); and Asia-Pacific (APAC). The countries included are listed below.

Country	Americas	APAC	EMEA
Economic Maturity Category			
● Emerging			
● Mature			
1. Argentina	●	9. Australia	●
2. Brazil	●	10. India	●
3. Canada	●	11. Indonesia	●
4. Chile	●	12. Japan	●
5. Colombia	●	13. Malaysia	●
6. Mexico	●	14. New Zealand	●
7. Peru	●	15. Philippines	●
8. United States	●	16. Singapore	●
		17. South Korea	●
		18. Taiwan	●
			19. Austria
			20. Czech Republic
			21. Denmark
			22. Finland
			23. France
			24. Germany
			25. Greece
			26. Hungary
			27. Ireland
			28. Italy
			29. Norway
			30. Poland
			31. Portugal
			32. Romania
			33. South Africa
			34. Spain
			35. Sweden
			36. Switzerland
			37. Turkey
			38. UK

### 6.3 | NEWS PUBLISHER SAMPLE SIZE BY REGION

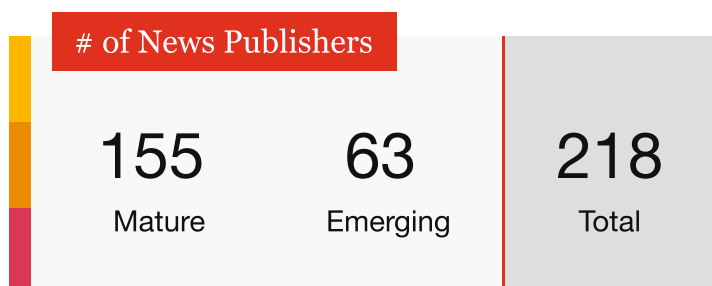
This study used a sample of 218 publishers across 38 countries in the Americas; Europe, the Middle East and Africa (EMEA); and Asia-Pacific (APAC). Please see the sample breakdown by region below.



\*For two publishers in Romania, circulation data was not available for 2021. For all other countries, both 2021 and 2022 data is available across all metrics. Thus, the total publisher sample size is 216 for 2021 and 218 for 2022.

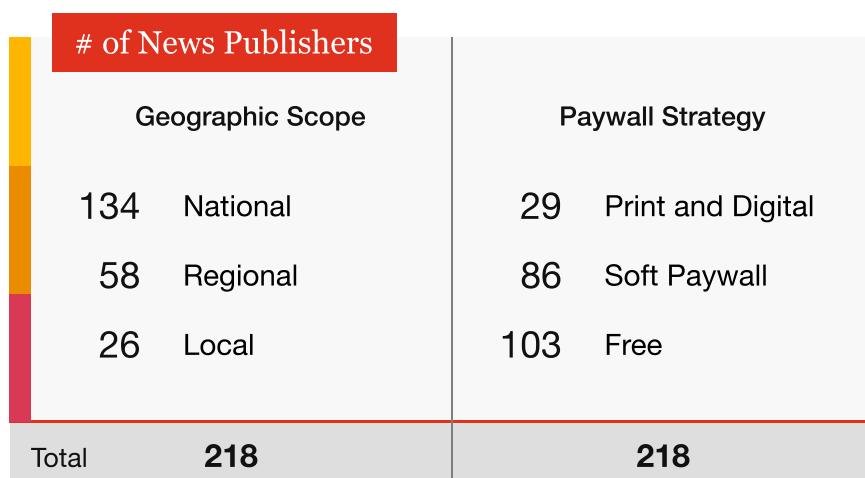
### 6.4 | NEWS PUBLISHER SAMPLE SIZE BY MATURE AND EMERGING MARKETS

This research evaluated 38 mature and emerging markets across the Americas; Europe, the Middle East and Africa (EMEA); and Asia-Pacific (APAC).



### 6.5 | NEWS PUBLISHER SAMPLE SIZE BY ARCHETYPE DIMENSIONS

This study was designed to capture important aspects of publishers' business models, with the sample being divisible into two key business model dimensions:



## 6.6 | ECONOMETRIC MODELING DATA SOURCES

The table below captures the data sources for all inputs utilized within the econometric model to estimate the impact of web traffic on news publisher revenue.

VARIABLE	DESCRIPTION	SOURCE
<b>Total_Revenue<sub>it</sub></b>	Total revenue for publisher <i>i</i> in year <i>t</i> . Total revenue includes print circulation, print advertising, digital subscription and digital advertising revenue. Figures reflect annual values in US dollars*.	Public Annual Reports, Omdia, Dataxis
<b>Total_Traffic<sub>it</sub></b>	Total number of site visits made in a given year to the website of news publisher <i>i</i> in year <i>t</i> .  This includes: <ul style="list-style-type: none"> <li>• Direct Traffic, representing users who navigate directly to the news publisher website</li> <li>• Referral Traffic, representing users who navigated to a news publisher website by clicking a link hosted by another channel, including search engines, social media, email services, news aggregators and other referral channels</li> </ul> <p>This includes both mobile and desktop website visits, but excludes app visits. This is not limited to unique visitors and includes multiple website visits by the same individual in a given year. However, it does not include all individual page views.</p>	Similarweb
<b>GDPpc<sub>it</sub></b>	Real gross domestic product (GDP) of the country where publisher <i>i</i> is located, divided by the country's total mid-year population in year <i>t</i> . Figures are captured in US dollars.	World Bank
<b>Market_Internet_Ad Revenue_pc / GDPpc<sub>it</sub></b>	Ratio of annual internet advertising spend in the country where publisher <i>i</i> is located in year <i>t</i> , divided by the country's total current population, and real GDP per capita of the country where publisher <i>i</i> is located in year <i>t</i> . Figures are captured in US dollars.	PwC Global Entertainment, Media & Telecommunications Outlook 2023–2027, World Bank
<b>Print_Circulation<sub>it</sub></b>	Number of print newspaper copies sold by publisher <i>i</i> in year <i>t</i> . Publishers are categorized into 5 levels based on their print circulation: <ul style="list-style-type: none"> <li>• No print circulation</li> <li>• Low, where <math>\log(\text{Circulation}) \leq 15</math></li> <li>• Medium Low, where <math>15 &lt; \log(\text{Circulation}) \leq 16.65</math></li> <li>• Medium High, where <math>16.65 &lt; \log(\text{Circulation}) \leq 18</math></li> <li>• High, where <math>\log(\text{Circulation}) &gt; 18</math></li> </ul>	Circulation Bureaus, News Media Alliances, Omdia, Annual Reports and Media Kits

## 6.6 | ECONOMETRIC MODELING DATA SOURCES

<b>Paywall_bool<sub>it</sub></b>	Binary variable, where a value of 1 indicates that in year $t$ , news publisher $i$ utilized a paywall of any kind to restrict content to paying customers.	News publisher websites
<b>Year<sub>it</sub></b>	Binary variable to indicate whether the observation in the data set was from 2021, defined as January 2021 - December 2021, or 2022, defined as January 2022 - December 2022.	N/A
<b>Country<sub>it</sub></b>	Categorical variable to indicate the country where publisher $i$ is located.	News publisher websites

\* Figures were converted from local currency to US dollars utilizing an average exchange rate for 2021 and 2022, pulled from the IRS and World Bank.

In order to validate the outputs of the econometric model, several test validations of the finalized model were conducted. Below are the results of five separate tests.

### Test #1: Comparison to 2019 Model and Sample

The 2019 report utilized the following econometric model on a sample size of 51 publishers from France, Germany, Spain and the UK for the time horizon 2015 - 2017.

#### 2019 Value of a Click Econometric Model:

$$\log (Total\_Revenue_{it}) = \beta_1 \log (Total\_Traffic_{it}) + \beta_2 \log (Circulation_{it}) + \beta_3 \log (Unique\_Visitors_{it} / Circulation_{it}) + \beta_4 \log (GDPpc_{it}) + \beta_5 Paywall_{it} + x'\theta + u_{it}$$

$$Value\ of\ a\ click = (\beta_1 * Total\ Revenue) / Total\ Web\ Traffic$$

This model was tested on the current study's sample of 53 publishers from France, Germany, Spain and the UK for the updated time horizon of 2021 - 2022. The resulting coefficient on web traffic was 0.354, and the resulting value of a click estimation was US\$0.07 - US\$0.09. The resulting estimates are in line with the mature market coefficient (0.335) and value of a click estimates (US\$0.08 - US\$0.10) outlined in this report.

When applying this type of econometric model to a broader set of news publishers and countries in the current market dynamics, the following adjustments were made to the econometric model:

- Adjusted to a mixed effects model to pool information between different countries while leaving country as a natural source of variability
- Removed (Unique\_Visitors/Circulation) to reduce correlation concerns between total traffic and unique visitors
- Added  $\log (\text{Market\_Internet\_Ad Revenue\_pc} / \text{GDPpc})$  to account for market-level dynamics that enable digital revenue
- Adjusted  $\log(\text{circulation})$  to a categorical factor based on level instead of a count to account for news publishers with zero print circulation (e.g., online only news sites)

## Test #2: News Publishers with Print Circulation

PwC conducted a test of news publishers with a print circulation greater than zero for the time horizon 2021 and 2022, thus excluding online-only news publishers. Note that this equation captures circulation as a number of print copies sold vs. a factor categorization based on the level of print circulation as defined above. This enables comparison with the 2019 methodology, which excluded online-only news publishers.

### Econometric Model:

$$\log(\text{Total\_Revenue}_{it}) = a + \beta_1 \log(\text{Total\_Traffic}_{it}) + \beta_2 \log(\text{GDPpc}_{it}) + \beta_3 \log(\text{Market\_Internet\_Ad Revenue\_pc} / \text{GDPpc}_{it}) + \beta_4 \log(\text{Print\_Circulation}_{it}) + \beta_5 \text{factor}(\text{Paywall\_bool}_{it}) + \beta_6 \text{factor}(\text{Year}_{it}) + (1 | \text{Country}_{it})$$

$$\text{Value of a click} = (\beta_1 * \text{Total Revenue}) / \text{Total Web Traffic}$$

### Results:

Segment	VoaC Results from Test #2 (USD)*	Base VoaC Results for Comparison (USD)*
Global	\$0.07 - \$0.09	\$0.06 - \$0.08
Mature	\$0.09 - \$0.11	\$0.08 - \$0.10
Emerging	\$0.02 - \$0.04	\$0.02 - \$0.04

\*These estimates are based on PwC Analysis utilizing the methodology outlined above.

### Test #3: Top-Down Analysis

PwC leveraged 2021 and 2022 market-level revenue and web traffic data, sourced from the Global Entertainment, Media & Telecommunications Outlook 2023–2027 and SimilarWeb, to estimate the value of an individual click utilizing the following top-down formula:

$$\text{Value of a click} = (\text{Country Newspaper Digital Advertising Revenue} + x\% * \text{Country Newspaper Digital Subscription Revenue}) / \text{Total Country Newspaper Web Traffic}$$

*x%* = estimate based on lifetime value of new subscribers in a given year

#### Results:

Segment	VoaC Results from Test #3 Top-Down Estimate (USD)*	Base VoaC Results for Comparison (USD)*
Global	\$0.03 - \$0.04	\$0.06 - \$0.08
Mature	\$0.05 - \$0.06	\$0.08 - \$0.10
Emerging	\$0.005 - \$0.007	\$0.02 - \$0.04

\*These estimates are based on PwC Analysis utilizing the methodology outlined above.

This test demonstrates that the results of the econometric model utilized for this study are directionally correct. The econometric model selected is a preferred methodology as it isolates the specific impact of web traffic on news publisher revenue, holding all else equal. Given the relatively simple calculation method of this approach, it was considered a useful reference indicator but not an accurate representation of market dynamics on its own.

### Test #4: Bottom-Up Analysis

The same top-down analysis was applied to individual news publisher digital revenue\*\* and web traffic data, yielding a bottom-up estimate to further contextualize and validate results:

$$\text{Value of a click} = \text{Weighted Avg of } \{( \text{Individual Publishers' Digital Advertising Revenue} + x\% * \text{Publishers' Digital Subscription Revenue} ) / \text{Total Publishers' Web Traffic} \}$$

*x%* = estimate based on lifetime value of new subscribers in a given year

#### Results:

Segment	VoaC Results from Test #4 Bottom-Up Estimate (USD)	Base VoaC Results for Comparison (USD)
Global	\$0.04 - \$0.05	\$0.06 - \$0.08
Mature	\$0.04 - \$0.06	\$0.08 - \$0.10
Emerging	\$0.009 - \$0.012	\$0.02 - \$0.04

\*\*These estimates are based on PwC Analysis utilizing the methodology outlined above. Please note that these figures are not directly comparable since not all publishers in the sample report on digital revenue. This sample focuses only on the 140 publishers for which digital revenue data was available.

This test demonstrates that the results of the econometric model utilized for this study are directionally correct. The econometric model selected is a preferred methodology as it isolates the specific impact of web traffic on news publisher revenue, holding all else equal.

### Test #5: Direct vs. Referral Traffic Data Test

PwC conducted two tests where direct traffic and referral traffic were broken out as individual variables and as a ratio, but they were highly correlated and did not add explainability to the model. For this reason, the study evaluates only total web traffic in aggregate.

## 6.8 | ECONOMETRIC MODEL OUTPUTS

For the final selected model as outlined above in the **Methodology** section of this report, please see below for the results:

	Global	Mature	Emerging
Number of Observations	434	308	126
Number of Publishers	218	155	63
Time Period	01/2021-12/2022	01/2021-12/2022	01/2021-12/2022

### Coefficients

log(Total_Traffic <sub>it</sub> )	0.334***	0.335***	0.337***
log(GDPpc <sub>it</sub> )	0.301**	0.401	-0.171
log (Market_Internet_Ad Revenue_pc / GDPpc <sub>it</sub> )	0.857***	0.810**	0.749**
Circulation - Low	0.687***	0.800***	0.582+
Circulation - Medium Low	1.233***	1.279***	1.120***
Circulation - Medium High	1.667***	1.630***	1.624***
Circulation - High	2.340***	2.337***	2.185***
factor(Paywall_bool <sub>it</sub> )	0.274**	0.557***	-0.280+
factor(Year <sub>it</sub> )	-0.102	-0.114	-0.012

\*\*\* Significant at 0.1% ( $p < 0.001$ )

\*\* Significant at 1% ( $p < 0.01$ )

\* Significant at 5% ( $p < 0.05$ )

+ Significant at 10% ( $p < 0.1$ )

Standard errors were clustered on countries

Please note that circulation data for 2021 was unavailable for two publishers in Romania, which is reflected in the total counts above.

Sensitivity testing was conducted and found that the standard variation of the beta coefficient on web traffic was in line with the baseline model confidence interval. Twenty-five tests were conducted by randomly holding back 10% of the global observations in each test.

## Explanation of Other Econometric Outputs

The estimated coefficients for  $\log(\text{GDPpc}_{it})$  were positive and statistically significant for the global sample and positive for the mature market sample, in line with expectations that the economic maturity of the country where a publisher is based, and associated higher income of consumers, have a positive impact on revenue.

The estimated coefficients for  $\log(\text{Market\_Internet\_Ad Revenue\_pc} / \text{GDPpc}_{it})$  were positive and statistically significant for the global sample and the mature and emerging market sub-samples, in line with expectations that a larger digital advertising market size could lead to positive news publisher revenue, which consists of both subscription and advertising revenue.

The estimated coefficients for all circulation levels were positive and statistically significant for the global sample and the mature and emerging market sub-samples, in line with expectations that higher levels of circulation would result in higher news publisher total revenue.

The estimated coefficients for  $\text{factor}(\text{Paywall\_bool}_{it})$  were positive and statistically significant for the global sample and the mature market sub sample, in line with analysis above that a hard or soft paywall results in higher publisher revenues.

The estimated coefficients for  $\text{factor}(\text{Year}_{it})$  were negative for the global sample and the emerging and mature market sub samples, in line with declining news publisher revenue market trends during this time horizon. It should be noted that 2020 was excluded from analysis to avoid web traffic and revenue data bias as a result of the COVID-19 pandemic. This variable was included to account for any year-specific impact.

It is worth noting that two coefficients (below) demonstrate different results. However, they did not impact the robustness of the overall analysis and did not have a material impact on these results.

- $\log(\text{GDPpc}_{it})$  was slightly negative for the Emerging Market sub-sample, but not statistically significant, perhaps due to the more limited sample size of publicly available data in Emerging markets.
- $\text{factor}(\text{Paywall\_bool}_{it})$  was negative and statistically significant for the Emerging Market sub-sample. This may reflect the fact that a significant portion of included publishers adopted a “free” paywall approach, potentially impacting the result of this individual variable in this sub-sample.

## 6.9 | ADDITIONAL MARKET RESEARCH SOURCES

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