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Has the web promoted diversity? Ownership concentration and online news traffic in Greece

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Abstract

News media concentration raises concerns associated with the power to influence policy, political developments and public debates. Low entry-barriers and reduced production and distribution costs in the web era promised a more pluralistic media landscape, which has thus far failed to materialise as reputational, technical and financial resources tend to confer cumulative advantages for larger and more established media organisations. In this study, we examine economic and ownership concentration for the 80 most popular news websites in Greece. Contrary to the traditional news media industry of the country and its European counterparts we find the Greek online news market to exhibit relatively low levels of concentration. Deep distrust towards the media along with an emerging and populous web-native news market can explain the findings. However, we find that in terms of ownership type, a considerable amount of traffic is directed toward websites owned by conglomerate companies whose economic interests lie outside the media industry. Specifically, websites belonging to traditional media houses share about one third of traffic and an emergent new type of conglomerate ownership coming from web-native media captures about another third. The findings raise concerns regarding the large 'market share' controlled by media owned by conglomerate companies suggesting that the digital landscape can also facilitate media capture despite hopes of the opposite effect.

Keywords

Media concentration, media ownership, news referrals, news traffic, ownership form, trust in news, web-native media

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Introduction

In recent decades, the media sector has witnessed recurring waves of media ownership concentration amongst an ever-smaller group of companies and individuals (Trappel and Meier, 2022). This is not an unexpected phenomenon, since ownership consolidation is associated with increased efficiency and greater capacity to take advantage of economies of scale in production, distribution and advertisement sales. While an issue of concern for any sector, the matter is of particular importance for the news media given the fourth estate's central role in social and political life and a 'natural' tendency toward concentration (Roger, 2009), since controlling the public discourse confers benefits beyond profitability, such as the ability to broadly impact policy and political developments (Freedman, 2014). Although worrisome levels of news media ownership concentration is not new (Sjøvaag and Ohlsson, 2019), hopes have been raised that the rise of digital media, would alleviate the problem. Contra expectations however, news media concentration is reported to increase (Noam, 2016), especially after a series of consolidation moves implemented by media companies since the new millennium (Fenton, 2011). This appears to be the case particularly in Europe, with the Euromedia Research Group citing high concentration of news media at all levels (local, regional, national) as a serious threat to news diversity (Trappel and Tomaz, 2021).

In this study, we examine the online news media market of Greece in terms of economic and ownership concentration for the 80 most popular news websites using secondary user behaviour data, primarily internet traffic. Our goal is to empirically assess economic concentration in a populous online news market with over 1500 companies registered with the official authority and explore ownership form and referral sources driving traffic. We find that the Greek online news market exhibits relatively low levels of concentration compared to its European counterparts, yet concerns are raised regarding the large 'market share' controlled by media owned by conglomerate companies, whose economic interests lie primarily outside the media industry.

Media concentration and journalism

The extent to which media concentration is considered a problem depends broadly on one's understanding of the role of journalism in a democracy (Dahlgren, 2013). The liberal model endorses 'minimalist' conceptualisations (Glasser, 2009: 94), viewing the role of the media as primarily monitorial, acting as a watchdog against authority, mainly the state, tending to explain media concentration in terms of market theory (Curran, 2011). Thus, high concentration is not necessarily a problem -except in monopolistic situations-, as control over what is published is often left to managers rather than owners. Furthermore, larger companies tend to be more professionalised and, through reduced production and distribution costs and better ability to negotiate advertisement, can allow for more resources to be dedicated to journalism and strengthen their capacity to resist political and economic pressures. For democratic 'maximalists', news organisations "do not manufacture nuts and bolts: they manufacture a social and political world" (Bagdikian, 2004: 9) rendering news market concentration a threat to democracy (Noam, 2009). A few media owners can utilise their power to serve their own economic interests (Neff and Benson, 2021) and can control public discourse to achieve political ends (Neimanns, 2023), while having limited accountability in the absence of alternatives. In Baker's (2006) words, such control over the media bestows an "enormous, unequal and hence undemocratic, largely unchecked, potentially irresponsive power" (p. 16). Moreover, mono- or oligopolistic situations place significantly higher barriers for entering the market, with reduced competition limiting expression through (self-) censorship (Bagdikian, 2004) and potentially risking the marginalisation of less popular voices (Korbiel and Sarikakis, 2018).

Beyond normative considerations, the question of (any) effects of concentrated ownership on the quality of journalism is also empirical. Thus far, however, the answer to this question has been underdetermined and ambiguous (Artero and Sánchez-Tabernero, 2015) given the difficulty of establishing causal connections between ownership and media content. Moreover, this relationship appears to vary significantly between countries (Lacy and Blanchard, 2003) and is dependent on a number of other factors, including market size, the overall availability of resources for the industry (Doyle, 2002) and the existence of strong PSM ameliorating such effects (Humprecht and Esser, 2018).

Still, previous work has raised a number of concerns. Hendrickx and Ranaivoson (2024) pointed an increase in the homogeneity of content of four newspapers following a merger of their parent companies in the Belgian content, primarily as a result of increased interconnections between newsrooms as well as an overall decrease in the number of journalists employed and a corresponding increase in workload (see also Hendrickx and Van Remoortere, 2024). Data from the USA suggests this lack of heterogeneity being political in nature, with limited competition in the newspaper market being associated with significantly reduced ideological diversity being offered to the public (Gentzkow et al., 2014; Baum and Zhukov, 2019). In the same context, Neff and Benson (2021) noted higher levels of economic instrumentalism (more positive mentions of owner companies), particularly among conglomerate-owned media. Finally, company mergers have been found to lead to larger and conglomerate-owned media that tend to be more profit-driven through cost-cutting and divestment (Hardy, 2017) and, simultaneously, more prone to commercialised content that is easy to produce and sell to audiences and advertisers (Pickard, 2020).

The promise of technology – a critical political economy approach

Early techno-optimist accounts proposed that the solution to media concentration lies in the advancement of the Internet, which would "naturally" or automatically solve the problem through market forces and without necessitating state intervention. The argument, broadly, went that by significantly reducing production and distribution costs, while multiplying audience reach (Peitz and Waldfogel, 2012) this disruptive technology would allow for increased competition. After all, with the internet anyone could be both a journalist, distributor and media owner leading to a more pluralist public sphere. Indeed, following the tremendous spread of new technologies, a large number of web native organisations entered the news market (Harlow and Salaverría, 2016) taking advantage of lowered entry barriers and audience fragmentation. Simultaneously, audience consumption of online news has showed consistent growth since the 2000s.

Techno-skeptical scholars, on the other hand, argued that celebratory claims applied to (digital) journalism are understandable yet problematic as they oscillate between vision and reality (McChesney, 2013). From a critical political economy perspective, capitalist economies place significant structural limitations on cultural innovation, diversity and empowerment which are eventually "subordinated to the needs of the most powerful interests operating in the marketplace" (Freedman, 2012:70). Thus, despite widespread assumptions that the disruptive character of new media would facilitate a more diverse public sphere (McNair, 2009), the reputational, technical and financial resources of big media favour the maintenance of dominant market positions (Curran et al., 2012). Big media companies have greater economies of scale, strong branding and advertiser relationships (McChesney, 2008), expertise and resources to invest on synergies and new services by exploiting their marketing and promotional advantage (Hardy, 2014). Convergence -once perceived as a process aiming to satisfy both good journalism and good business practices (Quinn, 2005), is predicated on a misapprehension of the fundamental structures of the news industry which is corporately owned, profit driven and faced with extensive financial uncertainty (Spyridou and Veglis, 2016). As journalism is struggling financially (Tumber and Zelizer, 2019) and given users' reluctance to pay for news (Kormerlink, 2022), reliance on ad-revenue propels news outlets to "embrace a universal and almost irreversible focus on audience attention and popularity cues" (Lischka and Garz, 2023:2090). Moreover, news organisations advance new technological tools designed to build loyalty and increase website traffic, like personalization (Bodó, 2019), that larger firms are in a better position to take advantage of.

Importantly, digital-native media have to compete with established, familiar and trusted brands, which audiences tend to gravitate toward, a phenomenon termed the 'persistence of popularity' (Webster and Ksiazek, 2012). The tendency of users to maintain habits and preferences across different platforms (Taneja et al., 2018) and the better infrastructure of legacy media tend to reinforce cumulative gain mechanisms favouring what is already popular (Hindman, 2018). As such, it is argued that on the Internet a small number of websites attracts the vast majority of audiences, with internet traffic following extremely skewed distributions. Network effects and demand-side economies of scale generate the phenomenon of a 'long-tail distribution' or a 'winner-takes all pattern' (Hindman, 2018: p.4) whereby a small number of companies receive most revenue. Relevant work (Anderson, 2008; Hindman, 2009) has proposed the need for a modification into a 'fat tail distribution', as findings suggest that, while the vast majority of internet clicks continues to be generated by a small number of websites, the amount of traffic generated by the remaining firms is larger than expected by a long-tail distribution, and worthwhile considering as a market opportunity (Anderson, 2008: 8). In this case, critical political economy highlights the persistent problems of content diversity (Hardy, 2017) and exposure diversity (Napoli 2011) as online news attention is highly shaped by platforms including search engines, social media, and aggregators that many use to find and access news (Nielsen and Fletcher, 2022). In a recent study, Shin and

Ognyanova (2022) found that reputation -viewed as the media's accumulated cultural capital-, is consistently linked to social media capital and the outlets' financial capacity to create and promote content to draw offline and online audiences to their news platforms.

Is the online news media market concentrated?

In an edited volume published in 2016, Noam and colleagues investigated the question of whether digital media were less or more concentrated than their traditional counterparts. They examined the media sector for 29 countries, separating 'content media' from 'platform media'. They found that the platform media sector was, expectedly, highly concentrated with four companies controlling 88% of the market (the "C4 index") on average, across countries and industries. Considering the ten sub-industries categorised under content media (newspapers, magazines, film etc.), they reported a weighted average of a little under 60%, an attribute of oligopolistic markets. When it comes to the online news media sector specifically, for a smaller subset of countries (9), they reported more moderate levels of concentration and a slight trend toward deconcentration since 2000.

More recent data suggest a trend toward higher concentration, with Trappel and Meier (2022) reporting C4 ratios of over 40% among the 18 countries examined, a "dangerously high" level. The situation appears to be markedly worse in Europe, with reported C4 concentrations across nine countries ranging between 62% and 92% (Deloitte and SMIT, 2021) suggesting a market more oligopolistic than the 20th century newspaper industry. Similar findings have been reported by single case-studies for the UK (Fletcher and Nielsen, 2017), Spain (Artero and Sánchez-Tabernero, 2015) and the US (Nelson and Webster, 2017).

In contrast, Matter and Widmer (2021) report lower C4 economic concentrations of 24% for the US, between 40% and 50% for Germany, France, Canada, Romania and Spain, over 60% in Italy and the UK and over 80% in Poland and Switzerland. When taking into account ownership, concentration appeared markedly worse for Canada, Romania, Switzerland and Poland. However, when considering ultimate ownership of the companies all C4 concentrations fell below 40%, except for the UK where BBC dominates the market, leading to their conclusion that the online media markets examined were not dominated by a small number of ultimate owners. Thus, while more research is needed to determine the extent to which the online news industry is concentrated, it appears that technological developments failed to produce a pluralist, open space for journalism, at least in terms of 'flattening power hierarchies', with a relatively small number of news websites dominating their perspective markets.

Research design

This study examines internet traffic toward the most popular news websites in Greece using internet traffic and traffic adjusted by attention (time spent on the website) generated by the 80 most popular news websites in the country. Initially, data for 100 news websites were collected. However, 20 websites were excluded from the analyses as dedicated exclusively to soft news. Besides using individual websites as the unit of analysis, we consider the element of ownership since a number of companies own and operate a number of websites. Finally, we investigate different mechanisms that drive traffic to these websites. Data was collected over a three-month period starting in December 2021 until February 2022; the time period was incidental, yet we excluded the summer months (June–August) as during this period news consumption in Greece tends to be unusual.

The Greek context

Greece's media system has been traditionally characterised by heightened political parallelism and unclear or absent media market regulations (Iosifidis and Boucas, 2015). After the deregulation of the market in 1990, capital external to the media sector flooded the market in an effort to gain political power and leverage over governments (Rori, 2016). "The entry of industrialists, ship-owners and other business interests into the media scene was an important way for these interests to try to influence public opinion and to exert pressure in the political arena to the benefit of their business interests" (Leandros, 2011:890).

The traditional media market has been dominated by five companies DOL, MEGA, ANTENNA, SKAI and ALPHA whose owners had interests lying primarily outside the media field. ANTENNA and ALAFOUZOS Group, whose major activities lie in shipping, own ANTENNA Group and SKAI Group respectively. The Vardinogiannis Group, one of the major players in shipping and oil, had been one of the main shareholders in DOL, MEGA and STAR. DOL and MEGA were sold to Marinakis Group which is involved in various businesses with shipping being its primary activity while the Vardinogiannis Group is still a major shareholder in STAR and bought ALPHA. More recently, with the emergence of the digital news market new players appeared. For example, DPG Digital Media that includes among others newsbomb.gr (one of the most popular news websites (Appendix I) is owned by Dimitris Giannakopoulos, the main shareholder of Viamex (one of the largest pharmaceutical manufacturers) and owner of 7000 Holding, an investment company.

Transparency of media ownership in Greece remains an issue of significant concern due to limited access in ownership data and lack of transparent and clear regulations (Papadopoulou, 2022). For example, the website of the newspaper 'Kathimerini' (kathimerini.gr) and the television channel 'Skai' (skai.gr), both owned by shipowner Aristeides Alafouzos are considered in the Registry as completely independent entities, since they are operated by different companies. According to a recent Greek journalists' survey, nine out of ten respondents note too much dependence of journalists on governments and/or political parties while self-censorship comprises common practice with 90% responding positively to self-censoring (iMEdD, 2022).

Furthermore, the media market is chronically characterised by an excess of supply over demand (Papathanassopoulos 2017) making the industry susceptible to economic fluctuations and crises, thus expanding the reliance on state subsidies, mostly through advertisement purchases. The nexus between media owners and political elites was temporarily contested during the 2009–2018 crisis and the subsequent drop of advertising and subsidies (Nikolopoulou et al., 2022). Many media outlets shut operations while the remaining massively reduced expenditures through layoffs and freelance contracts (Spyridou et al., 2013). During the last decade, a burgeoning online news media industry has emerged, with roughly 1500 digital media companies, registering with the Secretariat of Information and Communications sustaining the inflated nature of the market (Papathanassopoulos, 2017). Unsurprisingly, Greeks are weary of the media, with only 27% expressing trust toward them (among the lowest numbers in Europe), and more than half (54%) reporting to actively avoid them (Newman et al., 2022), while all media consumption indicators show a slight declining trend since the mid 2010s.

Data collection

We employ data obtained from SimilarWeb via a paid subscription. SimilarWeb.com is an Internet analytics company that provides information concerning user behaviour, using individual websites as the unit of analysis. They provide a number of per-month estimates, including total traffic directed toward a website, a unique visitors count, average time spent on the site, bounce rate etc. The company acquires and triangulates data primarily from three sources: a panel of users, reportedly as large as 400 million users, Internet Searches Providers and websites who directly feed information into its database (SimilarWeb, 2022). Using this type of behavioural rather than self-reported use data confers the advantage of not having to rely on respondents' memory (Taneja et al., 2018) and thus researchers have used such services for academic research, including on news media (Nelson, 2020). Literature concerning the accuracy of such data remains inconclusive, because for the most part, relevant work often compares one such tool to another. The general consensus appears to be that, while different services provide somewhat consistent, and thus reliable data, specific traffic numbers provided tend to vary between each other and from estimates using different techniques (Fishkin, 2015). When it comes to SimilarWeb specifically, a number of reports suggest that it tends to underestimate visits on a website, while others report the opposite (see Jansen et al., 2022 for an overview). As however, our interest was to compare websites with each other, a more serious threat to the validity of this work would be if this data suffered from inconsistent measurement error depending on the website (overestimate traffic for larger sites and underestimate for smaller ones), as is often the case for analytics companies that rely on user-panel data (Napoli et al., 2014).

Data

On the basis of the data collected, we created a dataset of the 80 websites categorised by SimilarWeb as 'News and Media' that carried hard news and attracted most internet traffic for each month of data collection. Our main interest was the study of media concentration in the country, thus, when coding the various websites, we attempted to ascertain ownership form for each of them. This would allow us to examine economic concentration (which takes into account the market share of each website individually), as well as ownership concentration (which groups together the market share of different websites that are owned by the same individual/company). This proved not to be a straightforward task, as the Registry for online news operated by the government's General Secretariat for Media and Communication did not provide any information as to ultimate ownership or parent companies.

In addition, for each website company, we made note of whether they were part of a conglomerate group or not; we use the term 'conglomerate' to denote a large company involved in a variety of unrelated activities or offering different (non-competing) products (Noam, 2018: 1097). We consider this a relevant categorization, because media owned by such parent companies can be expected to have different incentives and degrees of journalistic freedom compared, e.g. to publicly owned media or media that belong to companies whose interests are exclusively or mainly within the sector (Picard and Van Weezel, 2008). Beyond the conglomerate or not attribute, we classified media organizations as legacy ones referring to outlets associated with traditional media and web-natives which have no offline counterpart (Appendix IV).

Finally, we coded a number of other characteristics including: (a) whether the website primarily published local- or national-interest news; (b) the type of content they produced, i.e. whether they primarily published hard, or were generalist (offering a varied news diet including both hard and soft news); (c) whether they were legacy media or tied to the latter in a meaningful way (e.g. a journalist famous from television publishing their own professional website).

Additionally, we investigated different mechanisms driving traffic to these websites separating sources of this traffic into:

(a) Direct access to a specific website: users using the website's URL directly;
(b) Referred traffic, whereby users visit the news organisation through a link on a different website/domain;
(c) Traffic generated through search engines (organic search traffic only);
(d) Traffic generated by other users, mostly through social media; this category also includes email, forums etc.

When it comes to the coding process itself, the two authors coded the relevant characteristics of the websites independently (see Krippendorff's α values in Appendix V) followed by discussion to resolve any inconsistencies.

Metrics

The results primarily rely on simple counts and frequencies corresponding to the total amount of traffic directed toward a website (clicks). All analyses and figures reported have been estimated within each month separately and averaged at the end. Secondarily, we report on the number of unique visitors, as this metric is frequently used in the literature and 'traffic attenuated by attention', the outcome of multiplying the total amount of traffic by the average number of seconds spent on a website, since, we believe this to be a more accurate representation of the amount of attention a news website receives. In the presentation of the results below, we provide all results in tables and appendices but focus primarily on the total amount of traffic, because we draw similar conclusions from considering all three of the aforementioned metrics, except when explicitly stated.

When it comes to examining market concentration, we rely on the intuitive C4, the cumulative amount of market share controlled by the top four companies in a given industry, while also including C1, C20 and the Herfindahl–Hirschman Index (HHI), which is a more accurate but less intuitive metric of concentration. We note that both concentration ratios and the HHI reported in the body of the document were calculated on the basis of the sample collected only (the top of the industry) as is common, something that tends to inflate concentration metrics. Where available we provide the equivalent from the population, in fact, the roughly 750 foremost news websites, after which point SimilarWeb does not provide information due to the small amount of traffic received.

Results

We examine the concentration of the Greek online news market in the period of December 2021 – February 2022 on the basis of internet traffic directed toward the 80 most popular news websites. From the total average of 9.5 billion clicks per month in Greece, 6.5% is directed toward websites categorised by SimilarWeb as 'News and Media'; the websites in our datasets account for 68.4% of all traffic within the category.

These eighty most popular websites were majority generalist (48–60%), with 32 specializing in content. Of the latter, four contained, for the most part, soft news, primarily about the entertainment industry, two were news aggregators publishing no original material and 26 specialised in hard content, primarily politics (16) and the economy (7 websites). When it comes to the national-local variable, the majority were national-interest websites (68–85%), with only a small minority focusing on local issues (12).

The finding that the top 80 news websites in the country accounted only for two thirds of the traffic provides a first indication of a non-concentrated market, since a Pareto distribution, frequently found in other countries and industries, would expect roughly 80% of the traffic to be generated by 20% of the industry. Figure 1 presents this distribution of traffic from the 'population', in fact about 750 news websites that could be accounted for.

When it comes to economic concentration, 25.7% on average across 3 months of all total clicks was directed toward the four most popular companies (C4 index). A similar result (24%) was reported by Matter and Widmer (2021) for the US, yet it is far from the systematically over 40% concentration reported for other European countries (ibid) or the even larger concentrations reported elsewhere (Artero and Sánchez-Tabernero, 2015; Fletcher and Nielsen, 2017; Nelson and Webster, 2017; Trappel and Meier, 2022). Also noteworthy is the relatively small amount of traffic captured by the leading media organisation (about 9.7%) compared to its counterpart in the UK (the public broadcaster) or Finland who capture over 20% of the total news-related traffic. Moreover, the Greek online media market appears less concentrated than other media markets in the country (Table 1). For comparison, the daily press and TV markets appear to verge on oligopolies. The radio market appears to be an exception, although ownership concentration in that

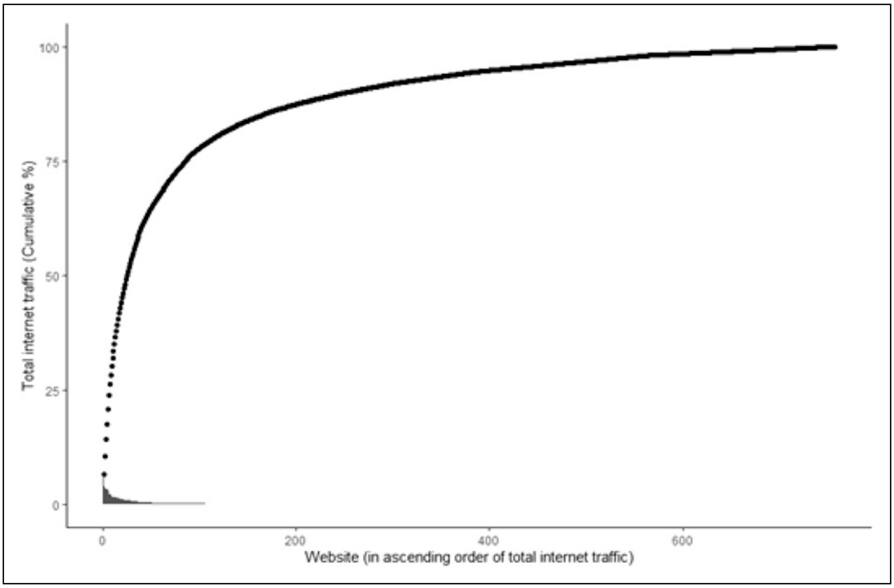

Figure 1. Pareto chart of internet traffic toward Greek news media websites.

particular sector is significantly higher than the economic one (Papathanassopoulos et al., 2021).

When considering ownership concentration (grouping websites that belong to the same owners into a single unit), the majority (51) of the websites in the top 80 are singular endeavours, while 29 belong to one of 13 media groups. Of these, seven groups own the majority of traditional media in the country (TV channels, newspapers, radios), accounting for about a third of total traffic, while five are 'digital natives' accounting for roughly 28% of the traffic (see Appendixes II & III for the related metrics based on unique visitors and 'attention' – taking into account average time spent on each website). We should also note the minute amount of traffic generated by the two public broadcaster (ERT) websites with a total traffic share of 0.8%.

Ownership form and content type as traffic predictors

We further examined the relationship between internet traffic, unique audiences and average attention received by these websites and attributes of the relevant media organisations. About 61.6% of total traffic was generated by conglomerated media organisations that belonged to parent companies with multiple business ties and interests outside the media industry, a percentage that rises to 68.8% if we take into account the average time spent on each website (Appendix III). So, despite the fact that media ownership in Greece can be characterized as non-concentrated, the findings suggest that a large 'market share' is controlled by media owned by conglomerate companies. Whether

Table 1. Concentration measures for online and traditional media in Greece (2021-22).

	Metric		C1[b] (%)	C4[c] (%)	C20 (%)	HHI[d]
Economic concentration[a]	Total traffic (clicks)	Sample calculation	9.7	25.7	65.1	321.8
		'Population' calculation[1]	6.6	17.5	44.5	147.9
	Unique visitors		6.2	18.8	55.1	222.7
	Attention (clicks*avg. time on website)		14.1	33	81.1	500.4
Ownership concentration[a]	Total traffic (clicks)	Sample calculation	10.1	30.5	77.3	416.8
		'Population' calculation	6.9	20.9	52.9	194.7
	Unique visitors		10.3	29.2	70.3	370.4
	Attention (clicks*avg. time on website)		14.4	33.8	87.5	562.3
Daily newspaper market			18.5	59.1	-	1115.5
Radio market (economic concentration)			5.35	19.3	30.7	335.8
TV market			16.2	59.5	-	976.5

[a]'Economic concentration' considers the traffic share for each website separately, while 'Ownership concentration' groups together different websites belonging to the same company, as well as, websites with the same ultimate owner or parent company.
[b]C4 refers to the total market share controlled by the top four companies in the industry; C1 refers to the market share controlled by the top company and C20 to that controlled by the top 20.
[c]Markets are considered concentrated with a C4 of over 40% (60% for highly concentrated).
[d]Depending on the regulator, an HHI index of under 1000 (EU) or 1500 (US) is considered non-concentrated (above 2000 or 2500 for highly concentrated).

this is for reasons related to personal fame, potential business synergies what Demsetz calls 'amenity potential' (1986) or, more worryingly for the capacity to affect policy, we believe that this economic capture of the media market (Schiffrin, 2018) raises concerns about the power and influence of these media entities. We argue that the Greek situation appears to be somewhere in-between the first ('seeking influence'), and second ('seeking business synergies') stages of Noam's schema, unlike, e.g., the USA, where media cross-ownership is becoming the purview of publicly traded companies seeking to diversify their investments (Noam, 2016).

On a different note, about 45.5% of the aforementioned internet traffic is generated by websites associated with companies that are 'digital natives' suggesting that, indeed in the case of Greece, the opening of the digital market allowed some space for new actors in a previously tightly controlled sector (see Papathanassopoulos, 2017 and Table 1). Still, the fact that a marginal majority of the market is associated with legacy media in one form or another, as e.g. in the case of the websites of television channels, points to the staying power of traditional media – although this may be the result of most of these websites additionally being part of the aforementioned conglomerate groups – see below). Moreover, despite the relatively large number of media organisations focusing on local news (twelve out of eighty), this type of website only generated roughly 10% of the total traffic. Finally, and somewhat to our surprise, the 50 generalist websites tended to dominate the metrics used here producing the majority of traffic generated (roughly 80.3%), compared to 27 websites focusing on hard news content and the three focusing on softer news, something that stands true even when accounting for the average time spent on website (82.7% of total attention in our dataset was directed toward these generalist websites).

In order to disambiguate these relationships, a simple repeated measures regression model was estimated (Table 2), clustering errors within websites and months using the four aforementioned characteristics as predictors (whether part of a conglomerate, associated with legacy media or not, local or national focus and type of content). We find that adding the 'conglomerate membership' term proved a significant improvement in the predictive capacity of the model (x^2 (1) = 10.69, p = .001). Specifically, being part of a conglomerate added about 3.6 million clicks to a website's traffic on average (b = 3.56, s.e. = 1.53), an effect of moderate size (Cohen's d=.54), presumably reflecting the cumulative advantages of these websites as a result of the greater amount of resources available to them, in terms of capital and technical capacity.

In addition, the 'content type' term proved a significant predictor (x^2 (4) = 6.36, p = .011). Being a website that publishes general, rather than specific hard content (primarily about politics, finance and international relations) was associated with an increase of 3.8 million clicks (b = −3.78, s.e. = 1.52) an effect size of small magnitude. By contrast, focusing on local news and being associated with legacy media neither proved a significant predictor for the model.

Traffic referrals

To further explore the mechanism that drives these results, we considered the avenues directing traffic to the news websites. The most frequented avenue for visiting these 80 websites was through direct traffic (50.04% of all traffic received), followed by some distance by clicks obtained through search engines (31.4%) or social media (including forums, emails etc.) – 12.4%. The least frequented way to visit these websites was through referred traffic from elsewhere on the Internet (5.6%).

Figure 2 presents a visualisation of this analysis split by different type of media ownership (x^2 (9) = 5473640, $p < .001$). The reader should focus on the right-hand panel,

Table 2. Repeated regression model predicting total traffic toward a website.

	AIC	-2LL (deviance)	chi	df	*p*
Baseline model	909.9	903.9			
+conglomerate term	901.2	893.2	10.69	1	.001
+legacy term	903.2	893.2	0.04	2	.851
+local term	905.2	893.1	0.03	3	.865
+content type term	900.8	886.8	6.36	4	.011

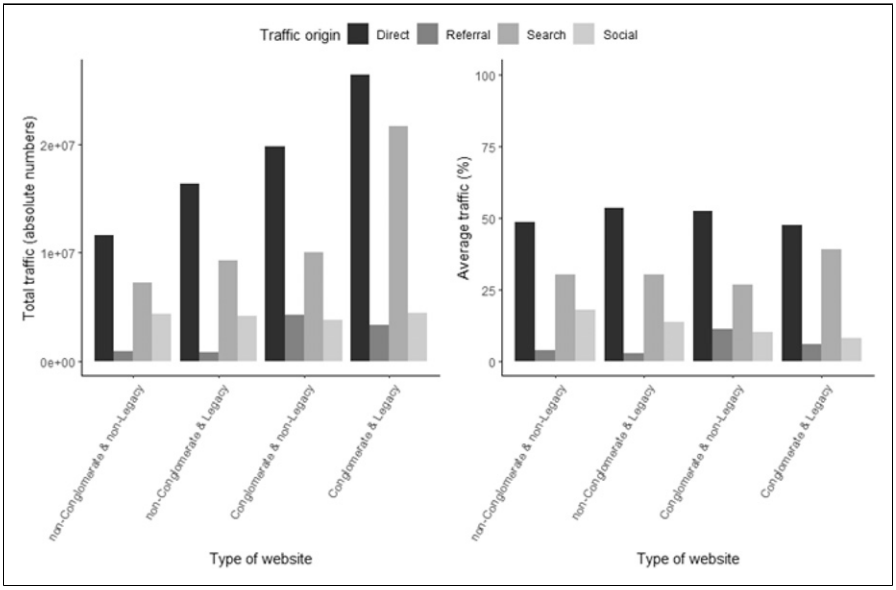

Figure 2. Sources of traffic per type of media ownership.

since it presents frequencies in relative terms. However, we elected to include a graph showing the same result in absolute terms (left-hand panel) to avoid giving the impression that non-conglomerated and non-legacy media have similar amounts of direct internet traffic as conglomerated and legacy media.

In all instances, direct traffic was the most important driver of traffic (between 47% and 53% for all cases, as an examination of the residuals from the aforementioned chi-square suggest). When it comes to the other categories, some interesting discrepancies emerge. Non-conglomerated websites, particularly digital natives (non-Legacy) tended to get a disproportionately amount of traffic from social media sources presumably reflecting higher levels of trust or interest. At the same time, they receive a disproportionately small amount of traffic from referral sources -from other websites linking directly to their pages.

On the other hand, conglomerated digital natives received disproportionately more referral traffic, while receiving less traffic through search engines. On the contrary, websites that were both part of some conglomerate parent company and were associated with legacy media in the country, received larger amounts of search traffic. This may reflect their advantage in terms of reputation, or that these media companies implement a number of mechanisms that drive cumulative internet traffic (Hindman and Rogers, 2010) including better technical infrastructure, know-how on manipulating search engine results (Giomelakis and Veglis, 2016) and more resources for news production, particularly original material (Sjøvaag and Kvalheim, 2019). On the other hand, conglomerate-owned and legacy-associated websites received disproportionately smaller amounts of traffic generated by users of social media, a result indicating that news stories produced by conglomerate-owned and legacy-associated websites are not widely clicked on social media.

Discussion

The Greek media system has been persistently dominated by a small number of powerful media groups with close ties with the political elite and the absence of clear or enforced regulations. From this perspective, the emergence of a digital news market presented an opportunity for the creation of a more diverse and competitive media landscape. While the relevant literature suggests that this opportunity largely failed to materialise in a number of Western contexts, the results presented here indicate that the concentration of the Greek online news market remains at relatively low levels compared to the concentration figures encountered in other countries.

The opening of the digital landscape indeed allowed the introduction of new players in the sector resulting in a more fragmented online news landscape. However, the findings indicate that a number of new media groups owned by powerful economic interests and websites belonging to traditional media powerhouses capture over sixty percent of internet traffic. Simultaneously, a number of smaller actors, in some cases associated with legacy media, took the opportunity to detach from the traditional gatekeeping system, often pursuing news niches, leading to a relatively diverse news ecosystem online.

While it is not possible to determine the cause of this discrepancy between Greece and other European countries, a number of straightforward explanations can be suggested, the primary being the absence of a dominant market leader, capturing over 20% of the market as in the case of the public broadcaster in the UK, Denmark or Finland or some legacy organisation as in Germany, France and to a significantly larger extent in Sweden and Norway. By contrast, the most successful digital media organisation in Greece managed an 9.7% market share, similar to the cases of Italy and Spain. Another explanation concerns audience characteristics; after a period of over ten years of economic and political turmoil and documented media bias (Spyridou et al., 2024), the population has become (even more) mistrustful of legacy institutions, as reflected in both survey data (Theocharis and Van Deth, 2015) and media consumption habits, since on average Greeks claim to use more than five online news sources per week (Kalogeropoulos et al., 2019).

It may be the case that the findings reported here are indicative of a market in transition more at risk of higher concentration than its current stage shows. This is suggested by a number of domain-free structural forces that appear to be operating in the digital realm creating a winner-takes-all environment where a small number of websites tend to capture the vast majority of digital attention (Hindman, 2018). In Greece, traditionally, political elites, entrepreneurs and media owners comprise a 'triangle of power' limiting public debate and serving political and economic interests (Papathanassopoulos et al., 2021). At the moment traditional power players share about one third of people's attention online and control most of the traditional media (Appendix IV). Yet we should note the emergence of a new type of conglomerate ownership coming from digital-only media capturing about 28% of online traffic. Interestingly enough, as Kalogeropoulos and colleagues (2019) note, despite the unfavourable climate for investment or borrowing in the country, old media outlets changed hands and new ones entered the sector, a testament of some persistent or residual significance, regardless of the lack of profitability (p. 115). It remains, therefore to be seen whether under conditions of economic uncertainty in the media industry, new mergers and acquisitions will diffuse the remaining share of about 40% toward conglomerates, legacy or digital. As suggested by political economy scholars and corroborated in this study, reputation, linking strategies and financial resources tend to favour conglomerated media. Noam (2018) describes this type of media ownership as the second stage, in which industrial actors increasingly control the media under the assumption of pursuing business interests, “while in reality a major driver is an incestuous relation with the government in power” (p. 1110). While these results speak to the idiosyncrasy of the Greek context, our findings add nuance to the notion of concentration by acknowledging ownership form (Benson, 2016; Freedman, 2014) and provide evidence that the digital landscape can also facilitate media capture despite hopes of the opposite effect (Schiffrin, 2018). When considering future research, it would be useful to study the connection between ownership and pluralism in terms of issues, frames and sources; in other words, to examine whether concentration of ownership leads to homogenised and undifferentiated content. Another important aspect would be to focus on possible connections between economic and ownership concentration and the praxis of journalism, especially given the high prevalence of second-hand and copy-paste journalism (Saridou et al., 2017) and extensive precarity rendering journalists vulnerable to pressures (Vatikiotis et al., 2024).

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Supplemental Material

Supplemental material for this article is available online.

Note

1. Our “sample” consists of 100 websites (80 after removing non-media sites like “yahoo news” etc.); thus, when it comes to Table 1, the various concentrations (C1, C4 etc.) in the “sample calculation” line refer to percentages calculated from this sample alone (i.e. 9.7% of clicks within the 100 websites went to the top media company). This is how the relevant metrics mentioned in

the literature (and to which we are making comparisons) are calculated, since population statistics are rare. However, while we do not have population numbers, the data we collected allow us to extrapolate the relevant population metrics (by using the percentages offered by SimilarWeb to calculate the total amount of clicks directed toward news media websites in the country as a whole). These are the percentages mentioned in the relevant "population" lines. Note that "population" calculations are underestimates.

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