Source and Exposure Diversity of Australian News on Facebook

Cameron McTernan

The University of South Australia and PhD candidate at the University of Sydney

Abstract

This paper examines the degree of competition among Australian news pages on Facebook while considering the theoretical implications of digital intermediaries for media diversity. The study uses a novel method of analysing engagement metrics as a proxy for source diversity using concentration ratios and the Herfindahl-Hirschman Index. Analysis of market diversity shows that news on the platform is more diverse than what has been seen in other Australian media markets. The platform has afforded new entrants and demonstrated significant market dynamism among its most dominant players. Results also show that the platform tends to favour established and well-resourced newsrooms rather than early adopters.

Introduction

This paper examines the degree of competition among Australian news pages on Facebook while considering the theoretical implications of digital intermediaries for media diversity. For the average Australian, social media is the most popular online distribution method for finding and consuming news (Park, Fisher, Fuller, & Lee, 2018; Park et al., 2023; Watkins et al., 2015) and with over 16 million active Australian users, Facebook is host to the largest audience of the social platforms (Statista, 2023). Recently, however, this market for news access has been under scrutiny in Australia and abroad. Concern has been raised regarding the long-term viability of news in an age of tech giants with Meta and Alphabet outcompeting news producers for attention and advertising revenue while also being an intermediary for those newsrooms online (Australian Competition and Consumer Commission, 2019). To address this power imbalance legislation has been enacted to force digital platforms into mandatory bargaining over payment for Australian news (Bossio, Flew, Meese, Leaver, & Barnet, 2022) – with similar regulatory interventions being introduced and proposed in countries such as Canada and New Zealand (Thompson, 2022).

The marketplace for news is in many ways fundamentally different on digital platforms. Distinctions have been made between direct and distributed modes of access, wherein newsrooms will have their own platforms for access while concurrently using digital intermediaries such as search engines, social media and news aggregators for distribution (Fletcher, Kalogeropoulos, & Nielsen, 2021). Content producers are increasingly dependent on these platforms for reach, and to track and profile users (Nieborg & Poell, 2018). Furthermore, attention metrics have become "a key factor in the way editors value journalistic performance" (Martin & Dwyer, 2019, p. 62). These platforms have created opportunities for new modes of "news production, distribution and monetization" (Nieborg & Poell, 2018, p. 4275). This new paradigm is further evidenced by the success of international mastheads, The Guardian and the Daily Mail UK, which have been able to find new audiences and create local arms in Australia (Park et al., 2023).

These changes have been a clear disruption to the status quo for news producers, with a significant shift in the economic structure of the industry. Legislative intervention in Australia and abroad also signals its importance to governments as an area worth monitoring and protecting, with regulators being firmly on the side of newsrooms. However, to date, little attention has been given to the question of diversity and concentration on these platforms, in particular Facebook. Little is known

about how prevalent are Australian newsrooms on Facebook, who the largest players are or how concentrated this space has become. An emerging body of research has examined the plurality of political views and the recommendations that Google News produces (Meese, Obeid, Angus, & Bruns, 2023; Segev, 2008). Scholars have also considered the implications of recommender systems used by digital intermediaries on content diversity (Nguyen, Hui, Harper, Terveen, & Konstan, 2014). What is missing from this domain is a focus on Facebook or an analysis of the diversity of newsrooms on the platform.

Studying diversity is important for a number of reasons, with critical issues predicated on the assumption that media has both an economic and democratic value for society (Ho & Quinn, 2009; Iosifidis, 2010; Just, 2009). This delineation has been articulated by some as the market perspective and the public sphere perspective for the media (Croteau & Hoynes, 2006; Smith, 2009). Under the market model, media are private companies that view audiences as consumers. Under the public sphere model, the media are public resources that serve the public and view audiences as citizens (Croteau & Hoynes, 2006). Between the two is a competing interest as to whether content should be designed to be popular and profitable, or whether it should serve the public interest. For both perspectives, concentration can lead to a range of issues of concern for regulators and the public. This includes the *economic issues* of declining competition leading to monopolies or oligopolies, the *democratic issues* of diminished pluralism and representation, and the potential for media companies and governments to develop 'cosy', undemocratic relationships in the form of clientelism or media capture (Besley & Prat, 2006). With the widespread popularity of Facebook as a digital intermediary for news, it stands to reason that diversity on this platform should be given closer attention.

Recent research suggests that UK consumers who view news through distributed access channels have more diverse news diets (Fletcher et al., 2021). This supports a broader body of research summarised by Helberger (2018, p. 159) which identifies that "use of social media platforms can result in exposure to more diverse news". For proponents of the democratic model of the media, these results are promising as they suggest that digital platforms may promote a more diverse news diet. However, as Helberger (2018, p. 159) also observes, that a modest body of counter-evidence also exists, with some studies finding "lesser likelihood for exposure for cross-ideological content" and "the existence of echo chambers". With some evidence that addresses the democratic perspective, albeit modest and at times contradictory, within the literature there are still unchartered territories for the economic perspective of diversity on digital platforms. This paper considers news diversity on digital intermediaries from an economic perspective, focusing on Facebook and the Australian context. It considers diversity from multiple junctures within the diversity supply chain (Napoli, 1999, 2011), focusing on source and exposure, and incorporating a novel approach to measurement using engagement data.

Methodology

To assess the level of concentration on Facebook, this study operationalises the diversity framework devised by Philip Napoli (1999) focusing specifically on diversity at the source and exposure junctures. Napoli (1999, p. 8) broadly identifies media diversity as "a central component of the broader principle of a robust marketplace of ideas", offering a model with three components indicative of the media supply chain: source diversity, content diversity and exposure diversity (see Figure 1 below). Source diversity considers the ownership of content and outlets, alongside the diversity of the workforce within media firms. Content diversity pertains to the range of program formats available in a media context as well as the "racial, ethnic, and gender diversity" of those represented in the content and the range of viewpoints expressed (Napoli, 1999, p. 21). Exposure diversity is a measure of the demand side for media production and in this sense is distinct from the source and content components of the media supply chain. Representing the selection and

consumption of media by audiences, exposure diversity can be considered from both horizontal and vertical indices.

Figure 1

Diversity components, subcomponents, and assumed relationships (Napoli, 1999, p. 10)

Source Diversity	Content Diversity	Exposure diversity

1. Ownership
   a. *Programming*
   b. *Outlet*
2. Workforce
	1. Program-Type Format
	2. Demographic
	3. Idea/Viewpoint
		1. Horizontal
		2. Vertical

Napoli's definition considers the diversity principle within the context of the democratic notion of the 'marketplace of ideas' and is predicated on the assumption that an effective democracy requires access to a broad range of diverse and antagonistic viewpoints. This notion is reaffirmed by other leading media industry scholars, alongside considerations of the economic and cultural value of the media (Ho & Quinn, 2009; Iosifidis, 2010; Just, 2009). While this study takes on an exploratory approach to media diversity, it also proceeds on this assumption that concentration at one of the many junctures within the media supply chain poses a challenge to the democratic and economic value of a media market.

Facebook data can provide insights relevant to the subcomponents of source diversity and exposure diversity. Analysing the share of news pages and their operators can be used to demonstrate source diversity at the point of outlet ownership. A wide variety of owners is indicative of a healthy marketplace as competition is assumed to encourage high-quality and original content. Analysis of engagement metrics can also provide insights into horizontal diversity as a subcomponent of exposure. As such, this layer of analysis can show which firms receive the most interest from users of the platform. A high level of exposure diversity is assumed to be of value from a 'marketplace of ideas' perspective as demonstrates that audiences are being exposed to, and engaging with, a wide variety of news sources.

Data collection and sampling

This study draws upon a corpus of n=86413 Facebook posts from Australian newsrooms. News pages were identified using a Creative Commons dataset produced by the Public Interest Journalism Initiative (PIJI) from their *Australian News Data Project* (PIJI, 2024). Their dataset provides an extensive list of Australian print and digital newsrooms, their locations, parent companies, format, coverage area and scale. This list, and manual search efforts which added terrestrial television newsrooms to the dataset, were used to identify an exhaustive list of n=656 accounts which were input into Meta's CrowdTangle platform to collect the corpus data. A sampling strategy was used, collecting the first Monday of January through to March of each year from 2010 to 2022. The original dataset and the CrowdTangle results were merged to allow for a greater breadth of analysis.

The CrowdTangle output provides an extensive range of data including the content of posts, links, publication data, the number of followers a page had at the time of publication and a suite of

engagement metrics including likes, comments, shares and reactions. The combining of the PIJI data into the CrowdTangle data provides another layer of insight such as the ownership structures of the pages and the geographic regions served by their mode of primary access, classified as national, state, metropolitan and local. An additional category is also provided indicating the format of primary access, which in this has been limited to print, digital or television mediums. Radio news has been excluded due to a lack of consolidated public information on Australian newsrooms and initial searches showing low representation of radio newsrooms on Facebook.

Analysis

To examine source diversity, this study uses basic methods of comparative statistics, observing ownership and the geographic regions served by the pages. It also offers breakdowns of primary access formats to indicate the prevalence of varying sectors on the platform. To measure exposure diversity this study incorporates a novel method using engagement metrics. While revenue is the common data point used by studies into media diversity, there are precedents for using a variety of data points including television ratings (Chan-Olmsted, 1996) and circulation data (Cho, Martin, & Lacy, 2006) to assess levels of concentration. Some researchers have suggested that user data might be a valuable new tool for diversity research, with Loecherbach, Moeller, Trilling, and van Atteveldt (2020) recommending that "gathering digital trace data in combination with an analysis of content is needed to understand behavioural patterns of news selection".

For this study, likes, comments and shares are combined as a measure of user interest and a proxy for a direct measure of exposure. This data is analysed using concentration ratios and the Herfindahl-Hirschman Index. Concentration ratios (CRn) are derived from the sum of the top four and top eight firms' revenue share within a market. Market concentration is also calculated using the Herfindahl-Hirschman Index (HHI). HHI is produced by calculating the square of each player's market share and adding them together. The US Department of Justice's Antitrust Division considers markets with a HHI of 1000 to 1800 to be moderately concentrated, and any market with an HHI over 1800 to be highly concentrated (U.S. Department of Justice, 2010). Comparatively, the Australian Competition & Consumer Commission states that it is generally less likely to be concerned by horizontal mergers if the resulting marketplace has a HHI of less than 2000 (ACCC, 2008).

<div align="center">

Results

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Source Diversity

Ownership and scale

Ownership represents the first juncture within the media supply chain and from a democratic perspective is among the more problematic areas for diversity. As Baker (2006, p. 16) states "Concentrated media ownership creates the possibility of an individual decision maker exercising enormous, unequal and hence undemocratic, largely unchecked, potentially irresponsive power". This section considers not only the ownership of news pages but also their scale, be it local and serving a regional, metropolitan, state-based or national audience.

Figure 2

A graph showing the scale of ownership and coverage among outlets owned by main players on Facebook.
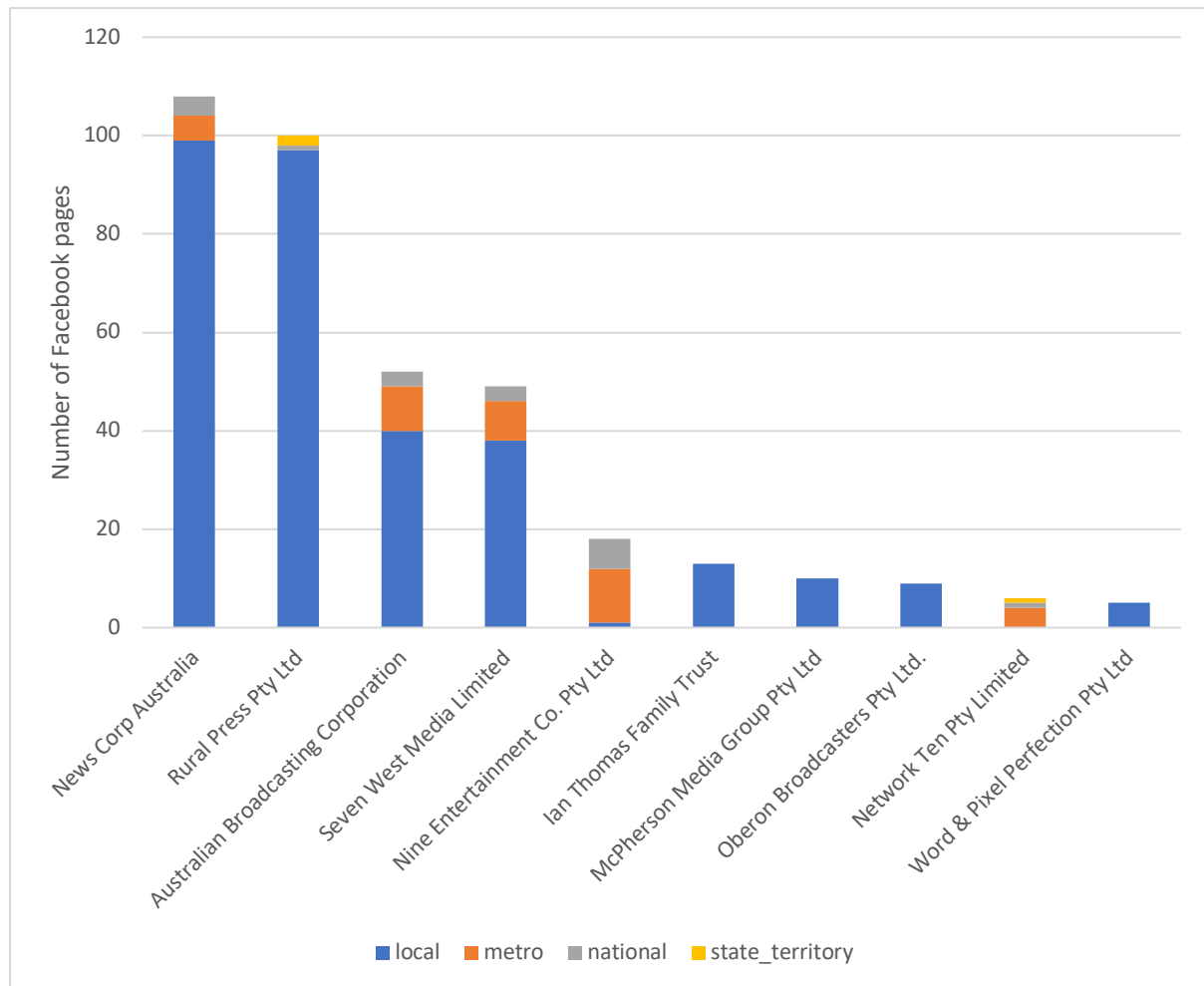

Figure 2, which shows the ten largest news page owners on Facebook, provides several insights relevant to the ownership and coverage of news pages in Australia. First, the majority of pages represent local news outlets with the two largest players in this market being News Corp Australia and Rural Press. Following these two firms, a second tier of coverage is apparent, with the Australian Broadcasting Corporation and Seven West Media also owning a significant share of pages. It is noteworthy that three out of the four largest players are predominantly print media focused for their off-platform outlets. In contrast, ABC is an outlier, instead predominantly being focused on digital news. At the same, it is important to note that all of the print news outlets represented by the main four have digital offerings too. The fifth-largest player, Nine Entertainment Co, is another outlier being mostly constituted of metropolitan and national outlets. The remaining five players are the Ian Thomas Family Trust, McPherson Media Group, Oberon Broadcasters, Network Ten and Word and Pixel Perfection. Both Oberon Broadcasters and Network Ten are both exclusively television broadcasters while the rest of the operators in this category are owners of print and digital news operations.

Share and distribution

Evaluating the localism share of Australian news on Facebook is established by attributing a region to each page by cross-referencing their direct access source from the PIJI database. For broadcast television and digital sources not included in the original database, this researcher has followed the methodology used by PIJI and attributed scale and coverage using descriptions from the official website of the direct access source. Local, metro and state/territory coverage areas are attributed to a state, and only local sources are attributed to a regional coverage area. The total distribution of state share is then calculated by combining the local, metro and state/territory outlets and dividing them based on their state/territory. This share is then contrasted with Australian Bureau of Statistics data showing the population share of Australia based on state and territory (Statista, 2022).

Table 1

A table showing the share of Facebook news pages (outlets) and population for each Australian state and territory.

State or Territory	Outlet share	Population share
ACT	1.2%	1.7%
NSW	34.4%	31.8%
NT	1.0%	1.0%
QLD	21.3%	20.4%
SA	7.3%	6.9%
TAS	3.0%	2.1%
VIC	22.5%	25.8%
WA	9.4%	10.4%

Table 1 presents the share of Facebook news pages (outlets) and population for each Australian state and territory. The outlet share is calculated using the current database which is correct and complete as of 2024. The population share is indicative of Australia's population distribution in 2021. The table illustrates that outlet share is mostly consistent with the overall population. Variation between the two samples is modest with differences of 1% for each state and territory except New South Wales and Victoria which had a variation of 2.6% and 3.3% respectively. The modest variation seen between the share of outlets and population for each state indicates that the number of Australian news outlets on Facebook tracks closely to the distribution of the population. From a localism perspective, this initial finding might be considered a positive result. However, this result only demonstrates the presence of an outlet and doesn't offer a complete picture as to how well these pages are maintained, such as post frequency and the quality of their coverage.

Table 2

A table showing the share of Facebook news pages based on their format for direct access.

Format	Format share		Breakdown of Coverage			
Format	**Format Count**	**Share**	**Local**	**Metro**	**National**	**State/Territory**
Digital	245	37%	76%	7%	15%	2%
Print	368	56%	95%	2%	2%	1%
Television	43	7%	47%	37%	14%	2%

Table 2 presents the share of news pages based on their direct access format. These formats adopt the PIJI framework of digital and print but also feature the addition of television as a direct access category. It also presents the scale of coverage for each format. The purpose is to show which direct access markets have the greater presence on the platform. The results show that print formats represented 56% of the pages, making it the largest share by a significant margin. Digital news represented 37% of the pages whereas television represented 7%. This demonstrates the breadth of outlets provided by print and digital news companies compared to television outlets, which contribute significantly less local news pages to the platform. The breakdown of coverage also illustrates how print and digital news is overwhelmingly local whereas television also has a strong metropolitan focus. Television and digital companies also had a stronger national focus, not shared by print news. However, all formats have more local outlets than any of the other three classifications for coverage.

Table 3

A table showing the share of Facebook news pages based on the scale of their coverage.

Scale of Coverage	Count of scale	Percentage
Local	556	85%
Metro	41	6%
National	50	8%
State/Territory	9	1%

Table 3 presents the share of news pages based on the scale of their coverage. Local pages are associated with smaller regional areas at a local government level, such as The Blue Mountains City Council. Metro pages are specific to capital cities, such as Sydney or Canberra. State/territory scale is limited to only a few outlets that identify as state-oriented news sources, such as Victoria or Queensland. National outlets are newsrooms with an assumed national focus to their stories, such as *The Australian*. The findings show that 85% of news pages are local in their scale with the remaining 15% constituted by metro, national and state/territory outlets. This demonstrates that at the point of source diversity, local outlets significantly outnumber other types of Australian news pages.

Exposure Diversity

Concentration of Engagement

The following section is concerned with the levels of concentration among engagement metrics aggregated from the posts of pages sampled in this study. Engagement metrics are constituted of likes, comments, shares and reactions. Each of which are features of Facebook's platform by which users demonstrate their interest in the content. These metrics do not demonstrate the profitability or the click-through of content. Nor does their aggregation demonstrate user support for content. Engagement metrics can be surmised to be a measure of interest from users though and are a key metric used by newsrooms to measure the performance of their content. These metrics are also used by the platform's recommender system to preference content in the news feed and as such are also indicative, to a degree, of the platform power that specific news accounts possess.

Figure 3

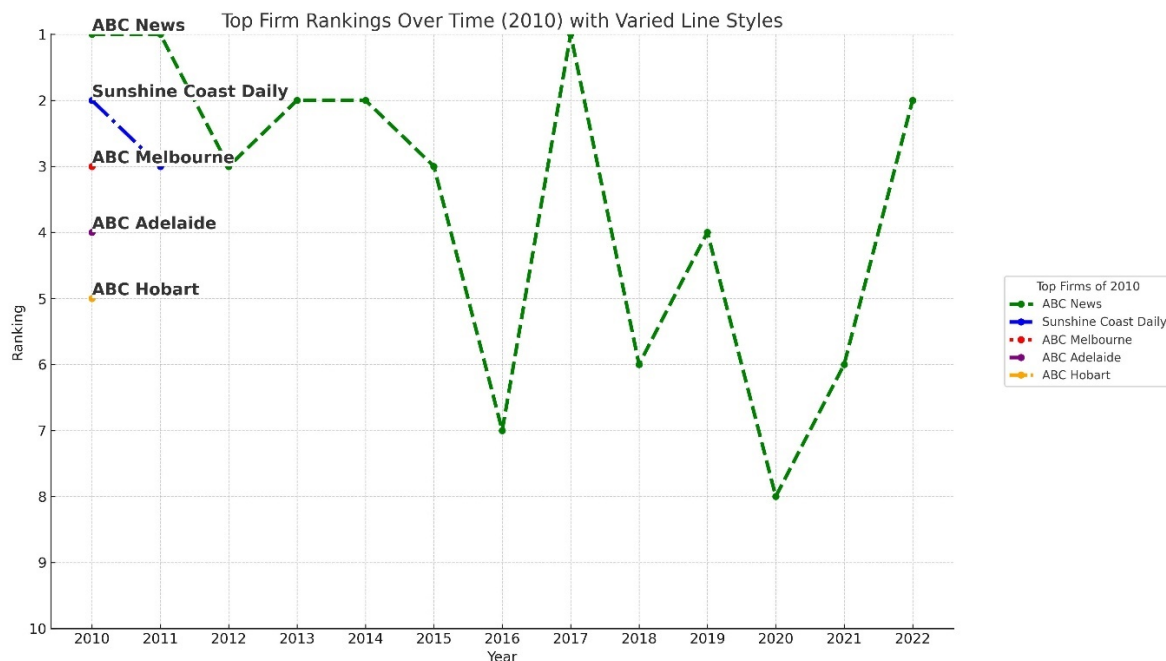*A graph showing top performing Australian news pages on Facebook from 2010 longitudinally extrapolated.*

Figure 3 above provides longitudinal insights into the engagement of the top-performing Australian news pages of 2010. This data shows which pages had the best-performing content at the time and how those outlets have performed in the time since. The ABC's national news page, *ABC News* and three of their metropolitan news pages, *ABC Melbourne*, *ABC Adelaide*, and *ABC Hobart* were all major players on the platform in 2010. These pages were also joined by the NewsCorp-owned *Sunshine Coast Daily.* As the graph demonstrates, only *ABC News* was able to remain highly competitive among the top 5 ranked pages in the years that followed, although *Sunshine Coast Daily* did maintain a ranking in the top 5 pages for 2011.

Figure 4

A graph showing top performing Australian news pages on Facebook from 2015 longitudinally extrapolated.
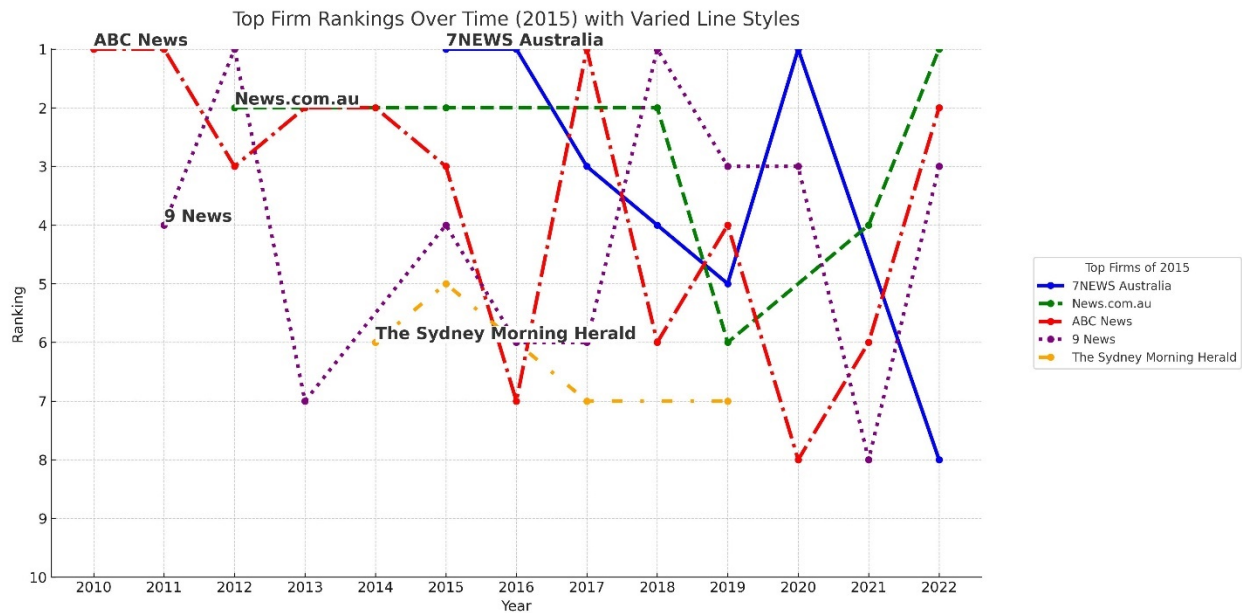

Figure 4 above provides longitudinal insights into the engagement of the top-performing Australian news pages of 2015, while also including their longitudinal performance from years 2010 through to 2022. The results present a number of key findings. First, it shows that there is no specific year or moment as a key entry point for these competitive pages. While ABC News has been a consistently high performer, other pages have each joined the rankings in different years leading to 2015. It also shows that the top pages of 2015 continued to maintain a competitive advantage, with four of the five pages maintaining their rankings well into 2022. This suggests that by 2015, Australian news pages on Facebook had begun to establish a mainstay of dominant players that would persist for years to come. Drawing upon a diffusion of innovation model, we might surmise that this 5-year period from 2010 to 2015 spans some part of the innovator to early majority phases for platform adoption by these Australian news pages (Rogers, 2003).

What is also noteworthy about the persistent main players from 2015 is that each page is a distributor for the digital and national mastheads from the largest media corporations in Australia, namely the Australian Broadcasting Association, NewsCorp Australia, Nine Entertainment Co and SevenWest Media. Another point of note is how these main players have significant variance in their positions on this leaderboard. While, by 2015, there is an established group of main players, there is no clear hierarchy of engagement between them.

Figure 5

A graph showing top performing Australian news pages on Facebook from 2022 longitudinally extrapolated.
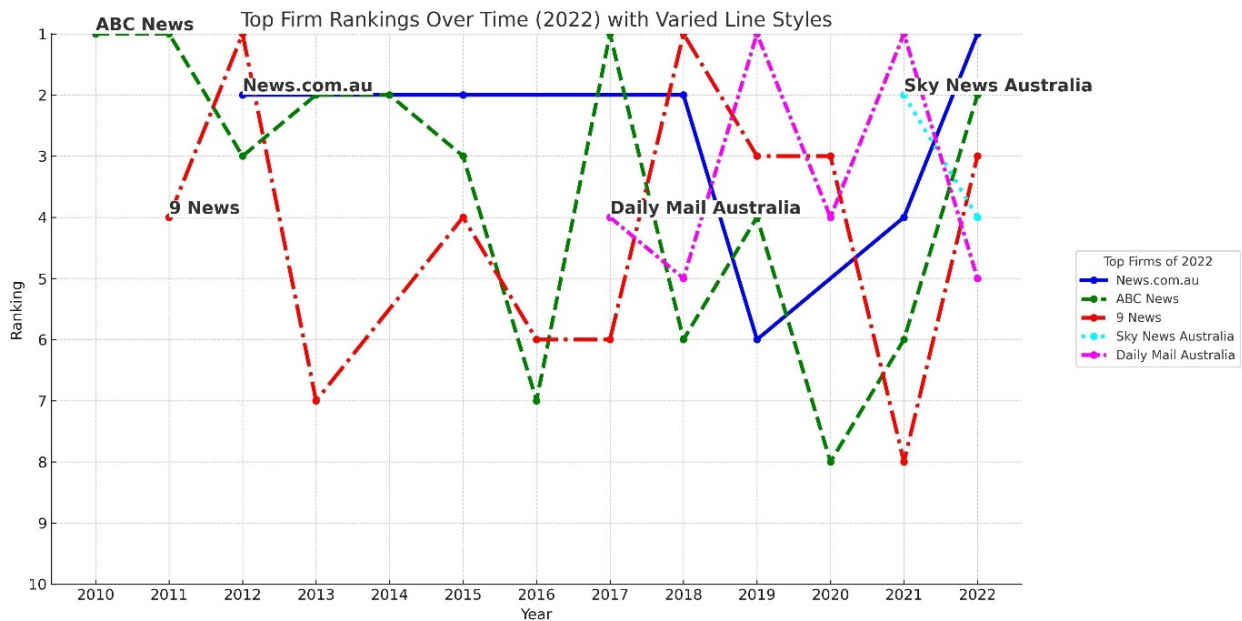

Figure 5 above provides longitudinal insights into the engagement of the top-performing Australian news pages of 2022, including their performance in the years prior. This graph shows that three of the top five pages in 2015 are in the top five again for 2022 – namely News.com.au, ABC News and 9 News. These pages are joined by later entrants to the platform, Daily Mail Australia and Sky News Australia.

The inclusion of these newer pages in the rankings after 2015 suggests that even after the attention market had become established, there is still room for new players on Facebook. It is also important to note though that these late entrants also emanate from highly successful primary access platforms, with both Sky News and Daily Mail being established and well-resourced news outlets.

Figure 6

A graph showing the concentration of Facebook engagement from Australian News pages using the Herfindahl-Hirschman Index from the years 2010-2022.
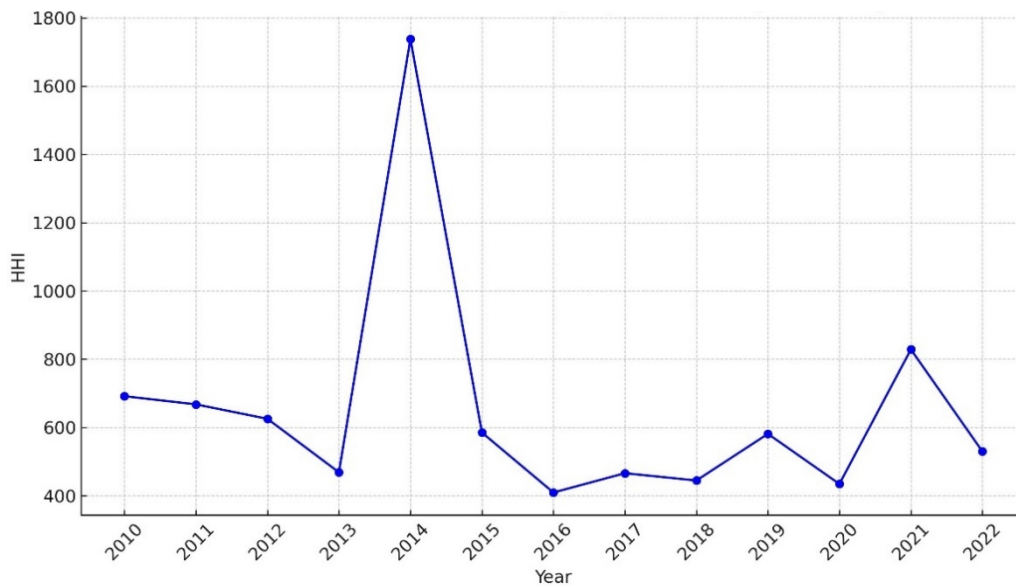

Figure 6 above provides longitudinal insights into the concentration of engagement metrics from Australian news pages using the Herfindahl-Hirschman Index (HHI) over 12 years. The results show levels of concentration well below the classifications for moderately concentrated markers and highly concentrated markets used by the US Justice Department.

An outlier is present in this analysis for the year 2014 where the index rose significantly for that period. This result is attributable to a post that went viral, accumulating considerable engagement in a short period. This result is indicative of the sparseness of the market at the time, with only a few established players and an audience base still in development. As such, one highly popular post was able to skew the trends seen in the graph that had mostly been consistent in the years prior and thereafter.

Figure 7

A graph showing the concentration of Facebook engagement from Australian News pages using the Concentration Ratios of CR4 and CR8 from the years 2010-2022.
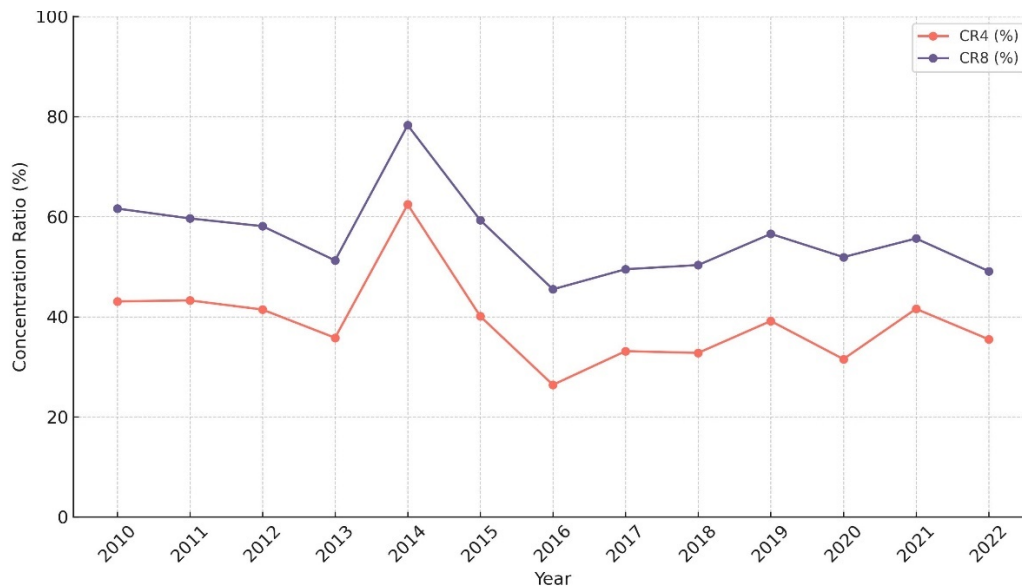

Figure 7 above provides longitudinal insights into the concentration of engagement metrics from Australian news pages using concentration ratios, CR4 and CR8, over 12 years. The graph shows in any given year, a concentration in engagement of between 26% and 43% among the top four pages and between 45% and 61% among the top eight. Note again the outlier apparent in 2014 of CR4=62 and CR8=78, attributable to a high engagement post in what was still a shallow market for engagement. These results are indicative of a considerably more diverse market on-platform when compared to revenue results seen in Australia's primary access markets such as television and print (Papandrea & Tiffen, 2016). When paired with the leaderboard data in figures for 2010 to 2022 (see figures 3, 4 and 5), we can also see that while in any given year, a few pages receive a large share of the engagement, there is still significant market dynamism among the top players.

Discussion

In terms of exposure, Australian news on Facebook is a relatively diverse market by comparison to the direct access markets from which it is constituted. Three leading news pages appear in the first few years sampled, ABC News, 9 News and News.com.au, however, there has been room for late but highly popular entrants into this market, with the likes of Daily Mail Australia and Sky News. Significant dynamism has also been demonstrated among these top news players, with continued changes in market ranking among these accounts. What is also clear is that being an early adopter has little relevance to the long-term success of news pages on the platform. Instead, the top pages all represent newsrooms that are already well-established and resourced off-platform. Furthermore, and perhaps rather unsurprisingly, all major players have a national focus for their news, while metropolitan voices that were popular in the first years of the sample have not maintained their market ranking.

Analysis at the source level has shown that ownership appears to be concentrated among a few key players, with over a third of all pages owned by two firms, News Corp Australia and Rural Press. This concentration of page ownership is explained by the high representation of local print and digital outlets on the platform. The owners with the largest share of pages reflect many of the larger firms and their antecedents seen in previous studies into media concentration in Australia (Papandrea & Tiffen, 2016). Together, the results of the source and exposure studies provide insight into the shape of the Australian news market on Facebook. While there are many local news voices on the platform, they are mostly owned by two firms, and they receive much less attention than the nationally focused pages. At the same time, exposure is significantly more diverse, with multiple firms demonstrating competitive prowess in vying for the top position on the platform.

While Australia has seen for many decades a decline in newsrooms (Zion et al., 2016) and concentration in ownership (Dwyer, Wilding, & Koskie, 2021; Ederstone, 2011; Papandrea & Tiffen, 2016), the results of this study show the potential for new entrants on a national level on a distributed access platform like Facebook. However, these entrants, The Guardian and The Daily Mail, do not emerge from the ground up as local firms but instead as well-resourced entrants from the UK market. As such, it is unclear whether the platform is capable of providing the same opportunity to new entrants from within Australia, or if the continuing decline of local news outlets can be reversed.

Recently Facebook's parent company Meta has shown a reluctance to stay in the business of news. Alongside a months-long news blackout in Canada (Myllylahti, 2023), which also happened in Australia, the company has more recently declared it will no longer pay Australian news publishers, which had been previously guaranteed as a result of the News Media Bargaining Code (Taylor, 2024). These developments are far from resolved, but they are concerning from the perspective of diversity. As one of the largest distributors of news in the country, and as a facilitator of new voices in the national news market, their withdrawal of support for news may mean a return to the continued trend of concentration in Australia.

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