Communications, media, and internet concentration in Australia, 2019-2022

Global Media & Internet Concentration Project

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This report is part of the Global Media & Internet Concentration Project www.gmicp.org (GMIC Project), led by Professor Dwayne Winseck, School of Journalism and Communications, Carleton University. It is funded by the Social Sciences and Humanities Research Council of Canada and aims to provide an independent, long-term analysis of the communications, internet, and media industries in close to forty countries. Its goal is also to better inform research, teaching, and public and policy-related discussions about these issues.

 The underlying data sets for the figures in this report are available here, while the full data set is available through Dataverse, a publicly-accessible repository of scholarly works created and maintained by a consortium of Canadian universities.

Questions and Corrections: If you have questions or believe that any of the data that we report is mistaken, please let us know.

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Updates in this newly released report

1) Interpolated revenues for online video services, providing complete coverage of SVOD from 2020-2022.
2) An added section exploring SVOD and free-to-air (BVOD) streaming services for 2022.
3) A detailed breakdown of the internet advertising industry in Australia.
4) The inclusion of advertising in concentration rankings table.
5) Revised revenues of the top 20 Australian telecommunication, internet and media companies (2021).
6) An update to Australia's position in the international comparisons table as a result of incorporating internet advertisers.
7) Revised cited figures in the conclusion to account for the above updates.
8) Two additional key takeaways at the end of conclusion.

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Executive summary

The *Communications, Media and Internet Concentration in Australia* report provides an overview of market concentration and the economic dominance of key players in 15 markets across telecommunications and internet access, online media and traditional media services, and core internet applications. Collating and analysing publicly available revenue and consumer data, we find that from 2019 to 2022, the majority of Australia's media, internet and communication markets are moderately to highly concentrated. These results reflect a long history of media concentration in Australia and a continuing trend seen in many developed economies abroad.

This kind of research is rare in Australia, in part due to a drought of publicly available data. Collating the results across the three mid-range categories of telecommunications and internet access, online media and traditional media services, and core internet applications shows the presence of giants in each of the domains with significant market power distributed across multiple segments.

Telstra stands out as Australia's largest player and is the market leader in multiple segments including ISPs, Wireless and Multichannel Video Distribution through its joint operating agreement with News Corp. Until recently it was also the largest player in the Wireline market but has since been surpassed by NBN co. Analyses of online and traditional media services show the presence of major players in the form of News Corp Australia, Nine Entertainment Co and Seven West Media, alongside Australia's public broadcaster, the ABC. Each of these show a wide reach, with significant revenue shares across multiple media markets. Core internet applications are shown to be dominated by global tech giants like Microsoft, Apple, Alphabet and Meta. Of particular interest, our preliminary estimates reveal that Alphabet and Google's dominance of internet advertising has allowed them to climb the ranks of the biggest telecommunications, internet and media companies operating in Australia. By 2022, Alphabet and Meta ranked second and eighth, respectively, amongst the top twenty companies, based on pooled revenue across the industries covered in this report.

The results can be understood alongside a broader context of the deregulation of media markets in Australia and the rapid ascent of tech giants, smart devices and streaming services. As traditional media markets have continued to consolidate, how users access content have also become more diffuse. Final comparisons across international markets substantiate the long-reputed, but not often carefully verified, view that media concentration levels in Australia are amongst the highest in the world.

Key findings

- The internet service provider (ISP) market is moderately concentrated, with Telstra, TPG, Optus, and Aussie Broadband as the major players.
- Foxtel operates as a monopoly in multichannel video distribution (pay TV).
- The wireless sector is highly concentrated, with Telstra, Singtel Optus, and Vodafone Hutchinson Australia as the dominant players.
- The wireline sector has seen a significant increase in concentration due to the rapid growth of NBN Co.
- The broadcast television sector is moderately concentrated, with Nine, Seven, ABC, and Network 10 as the major players.
- The newspaper sector is highly concentrated, with News Corp Australia, Nine Entertainment Co, Seven West Media, and Australian Community Media dominating.
- The online video services sector is growing, with Netflix, Foxtel Group, Disney, Nine Entertainment Co., and Amazon as the key players.
- The radio sector is becoming increasingly concentrated, with Southern Cross Media, ABC, ARN, and Nova as the major players.
- Google holds a near-monopoly in desktop and mobile search. Apple's iOS and Alphabet's Android dominate the mobile operating systems market. Microsoft Windows is the leading desktop operating system.
- Google and Meta dominate internet advertising and, by 2022, this dominance had catapulted them into the second and eighth spot, respectively, on the top twenty rankings of largest communication and media enterprises operating in Australia.

Introduction

Australia is a large and diverse country with an advanced economy and a population of over 26 million people. In the global mediascape, Australia is a mid-sized player, known among other things for successes in TV genres including serial drama (*Neighbours, Home and Away*), cinema (the *Mad Max* films) and children's programs (*Bluey*), and is the founding location of the international conglomerate News Corporation. Australia's media industry can be characterised by a mix of traditional and new media platforms, with a strong presence of both domestic and international players.

A general trend seen in Australia's network media economy has been continued growth for telecommunication services while traditional media markets have been stagnant or in a state of gradual decline. The market for internet service providers went from $1.4bn AUD in the year 2000, to $4.2bn in 2010, to approximately $6.6bn in 2022. Likewise, wireless has experienced growth of $5.7bn in 2001, to $15bn in 2012, to $22.5bn in 2022.

Conversely, newspaper revenue which peaked at $5.7bn in 2008, nearly halved to $3bn in 2022. Similarly, radio and multichannel television (i.e. pay TV) revenues have declined from the 2010s to today. The only traditional media market to have remained stable in Australia thus far appears to be broadcast television, although growth has been modest, growing from $4.7bn in 2012 to $5.2bn today.

This overall decline can be explained in part due to a shift in advertising revenue away from traditional media services toward digital platforms (Australian Competition and Consumer Commission, 2019). This shift has been the prompt for Australia's News Media Bargaining Code, a landmark regulatory intervention designed to address bargaining power imbalances between news media businesses and digital platforms by ensuring news outlets receive fair compensation for their content shared on platforms like Google and Facebook (Bossio, Flew, Meese, Leaver, & Barnet, 2022).

Australia's media markets are highly concentrated, with a few major companies dominating multiple sectors. News Corporation Australia, owned by the Murdoch family, is one of the largest firms, controlling a significant share of newspapers, as well as stakes in streaming, online news and pay TV. Nine Entertainment Co. is another major player, with interests in television, radio, and digital media. The public broadcasters, the Australian Broadcasting Corporation (ABC) and the Special Broadcasting Service (SBS), also play a significant role in the media landscape, providing a range of news, current affairs and entertainment content, spread out across terrestrial television, radio, streaming and online news.

Australia's media markets have long been among the most concentrated in the world. In recent years, there has been a new wave of consolidation in the Australian media industry, with mergers and acquisitions further concentrating ownership. This trend has been facilitated, in part, by changes to media ownership laws in 2017. This has raised new concerns about media diversity and the potential for a narrowing of viewpoints and perspectives in the news and information that Australians consume (Parliament of Australia, 2021). The rise of digital media platforms has also disrupted the traditional media landscape, with online news outlets and social media platforms increasingly challenging the dominance of traditional media outlets.

Australian governments have employed various policy interventions to curb market concentration. The Broadcasting Services Act 1992 is the cornerstone of media regulation in Australia, featuring several diversity safeguards designed to protect against concentrated ownership and promote local content. These provisions include a cap on the number of television or radio licenses an individual can control, minimum standards for the number of media voices in a radio license area, and local content quotas for regional broadcasters. The act previously also included cross-media ownership rules, limiting ownership to no more than two out of three regulated media platforms (television, radio, or newspapers) in a radio license area, as well as a coverage rule restricting audience reach to 75% within a license area (Harding-Smith, 2011).

The effectiveness of these protections for media diversity has been a subject of ongoing debate among politicians and scholars. In the early 2000s, the government made several attempts to remove the now-defunct cross-media ownership rules from the Broadcasting Services Act. Scholars at the time argued that these repeals would lead to increased concentration in major media markets and a reduction in overall media diversity (Given, 2007; Papandrea, 2006). The scope of the '2-out-of-3' rule was narrowed in 2006, and within five years, the concerns raised by scholars were validated. A study by Pusey and McCutcheon (2011) showed that after the 2006 legislative amendment, "the ownership of commercial radio and commercial television services and associated newspapers has become more concentrated, with fewer companies holding mass-media assets". The '2-out-of-3' rule was later repealed entirely via the Broadcasting Legislation Amendment (Broadcasting Reform) Bill 2017.

One of the key challenges facing the Australian media industry is the need to adapt to the digital age. Traditional media outlets are facing declining audiences and revenues as more and more Australians turn to online sources for news and information. This has led to a number of media outlets closing down or reducing their operations, further concentrating the market. Another challenge facing the Australian media industry is the increasing influence of global tech giants such as Google and Facebook. These companies are dominating the online advertising market, which is a major source of revenue for many media outlets (Australian Competition and Consumer Commission, 2019). This has led to calls for greater regulation of these companies to ensure a level playing field for Australian media companies.

Despite these challenges, the Australian media industry remains a vibrant and dynamic sector. There is a strong tradition of investigative journalism in Australia, and there are media outlets committed to providing high-quality news and information to the public.

While there is a degree of ideological alignment of some media with political interests – most notably the News Corp newspapers and the Liberal/National Parties – there is not the degree of overt political partisanship found in media in some other countries. The rise of digital media has also created new opportunities for "digital-only" media outlets to challenge the dominant players of the print media era.

The Australian media landscape is complex and constantly evolving. The issues of media concentration, diversity, and the impact of digital disruption are likely to remain key challenges for the industry in the years to come. However, a strong tradition of public service broadcasting and a historic commitment to quality journalism act as factors which can enable the Australian media industry to adapt to these challenges and continue to play a vital role in informing and entertaining the Australian public.

Media concentration: what to study, why and how

In this report we cover three broad domains: Telecom and Internet Access, Online Media and Traditional Media Services, and Core Internet Services. Their respective markets are as follows:

- Telecom and Internet Access is concerned with Internet Service Providers (ISPs), Multichannel Video Distribution (Pay TV), Wireless and Wireline.
- Online Media and Traditional Media Services includes Broadcast Television, Radio, Newspapers and Online Video Services (streaming).
- Core Internet Applications, includes Search Engines, Operating Systems and Browsers, and is divided into separated into mobile and desktop services.

Global media and telecommunication industries have been grappling with declining diversity and increasingly concentrated ownership for decades. The study of media and internet concentration is considered important for a variety of factors stemming from assumptions about the economic and democratic importance of media in society (Ho & Quinn, 2009; Iosifidis, 2010; Just, 2009). From an orthodox economic standpoint, concentrated media markets primarily raise concerns about consumer protection. These concerns mirror issues found in other non-media markets, including hindered innovation, anti-competitive behaviour, and the loss of local focus. Concentrated markets can enable companies to dictate prices for consumers and advertisers, stifle competition, and influence product quality and choices (Compaine & Gomery, 2000, p. 512; Stetka, 2010, p. 867). For subscription-based models like newspapers, cable television, or streaming services, this means audiences have limited control over pricing, and neither do advertisers, given the dual-sided nature of these markets.

Media markets functioning as monopolies or oligopolies can also grant a powerful, concentrated voice to news producers, potentially harming a healthy democracy. Theories about the democratic value of media diversity are rooted in broader arguments about the role of media in society, specifically concepts of media power, the public sphere, and the fourth estate. These arguments examine how media can influence people, how it serves as a crucial communication structure in modern society, and how news producers play a vital role in shaping agendas and holding political powers accountable.

To analyse concentration this report uses a number of datapoints, including revenue figures, and user and subscriber numbers. The data is derived from a variety of sources including annual reports, ASX filings, market research, industry databases and estimates. These figures are used to estimate market share of different firms with the intent of discover who the major players are in each market but also to provide insights into concentration trends across markets and over time.

The figures presented in this report use common economic methods for measuring market diversity, Concentration Ratios (CRn) and the Herfindahl-Hirschman Index (HHI). Concentration Ratios are typically derived from the sum of the top four firms' revenue share within a market, although in some instances it is necessary to provide a CRn of 1 or 3. HHI is produced by calculating the square of each player's market share and adding them together. These two methods are useful for showing levels of concentration over time, and while CRn is useful for providing simple figure showing how much market share is dominated by the lead players, HHI provides a more complete overview of a market which includes the presence of smaller firms.

The Australian Competition and Consumer Commission (ACCC) merger guidelines state that "the ACCC will generally be less likely to identify horizontal competition concerns when the post-merger HHI is: less than 2000, or greater than 2000 with a delta less than 100". The "delta" referred to by the ACCC is the amount of the increase of HHI caused by the proposed merger. Whereas the US Justice Department and FTC's Horizontal Merger Guidelines offer a lower benchmark for concentration with two tiers of concentration. The US measure demarcates a market with a HHI between 1000 and 1800 to be moderately concentrated, and anything in excess to be highly concentrated. The Global Media and Internet Concentration (GMIC) project relies on the previous iteration of the Horizontal Merger Guidelines in the US that prevailed between 2010 and late 2023, when the stricter standards that had held sway for several decades in the past were instated. For the time being, the GMIC project has retained the previous generation of standards in which moderate concentration ranges from 1500 to 2500, and high concentration being any number in excess of 2500. This framework is the one used in this report.

GMICP Framework for market concentration using HHI	
Unconcentrated	HHI < 1,500
Moderately concentrated	HHI > 1,500 but < 2,500
Highly concentrated	HHI > 2,500

Telecom and internet access

Australia’s telecommunication and internet industry has a long and dynamic history. Originally within the remit of the Poster-Generals Department, the nation’s core telecommunications service was split off as a public corporation called Telecom Australia in 1975. Later, this government-owned monopoly was rebranded to Telstra and privatised in stages during the 1990s. This privatisation enabled the entry of a range of new players, the largest competitors of which today are Optus and Vodafone.

In more recent years, the Australian telco industry has been in a period of change ushered in by the introduction of the National Broadband Network. This publicly owned business was developed with the intent to provide high-speed internet to all Australians, the rollout of which became heavily politicised and has undergone a series of structural changes.

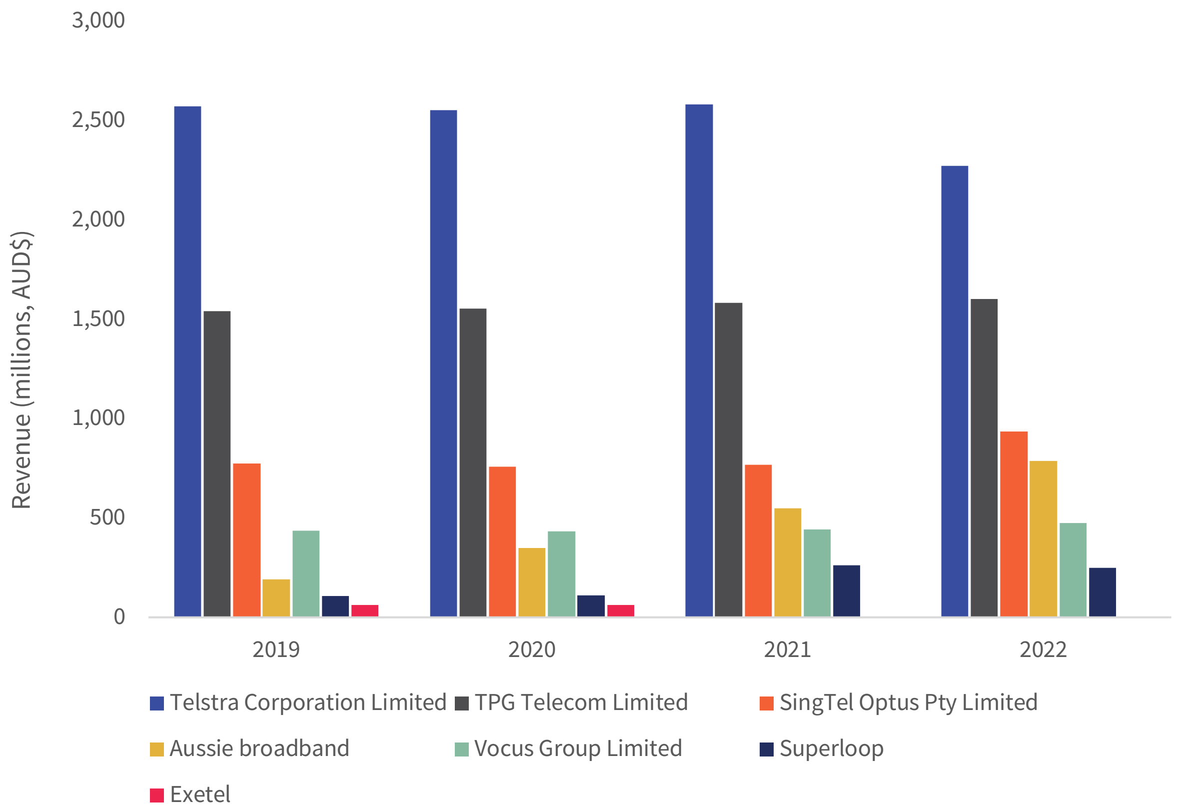
This section provides insight into revenues and levels of concentration for four markets: Internet Service Providers (ISPs), Multichannel Video Distribution (Pay TV), Wireless and Wireline.

Internet service providers

Overall revenue share within the Australian Internet Service Provider market remains steady, while three of the top six players in the market, Superloop, Aussie Broadband, and Optus have significantly increased their market share in 2022. These results may be attributable, in part, to a decline in market revenue from Telstra, and to a lesser extent, the purchase of Exetel by Superloop. Concentration within the ISP market has also remained steady for the last 4 years even though there has been some redistribution of revenue share among the key players. During this period HHI went from a moderate concentration level of 2034 to 2137. CR4 has also risen from 82 to 84 in four years.

Figure 1 and Table 1, below, illustrate the revenue distribution and concentration levels based on the CR4 and HHI measures for the internet access services providers from 2018-2022.

Figure 1: Share of annual revenue for the Australian Internet Service Provider Sector (2019-2022)



Sources: see "Fig 1 ISPS" in the Excel Workbook accompanying this report and the ISP sector sheet in the GMIC Project—Australia open data sets for the revenues of each company covered in this figure.

Table 1: Levels of concentration in the Australian Internet Service Provider Sector (2019-2022) using CR4 and HHI

	2019	2020	2021	2022
CR4	82%	82%	86%	84%
HHI	2034	2320	2515	2137

Compared to other markets, internet service providers appear to remain mostly stable with a minor trend towards concentration at the end of the four-year period. During 2021, HHI did increase to a level consistent with what the US Justice Department guidelines would consider as highly concentrated, but those numbers have returned to numbers closer that seen in the years prior. Overall, it is a moderately concentrated market (HHI=2137) and the top 4 players, Telstra, TPG, Optus and Aussie Broadband in receipt of 84% of all revenue.

The significant use by all of the ISP of a regulated wholesale service from NBN Co also suggests that the retail market will remain concentrated, as entry requires the ability to interconnect to all of the NBN Co points of interconnection. Indeed, the top 4 players also offer "white label" services which allow entrants to capture a relatively small retail margin using the infrastructure of the leading players.

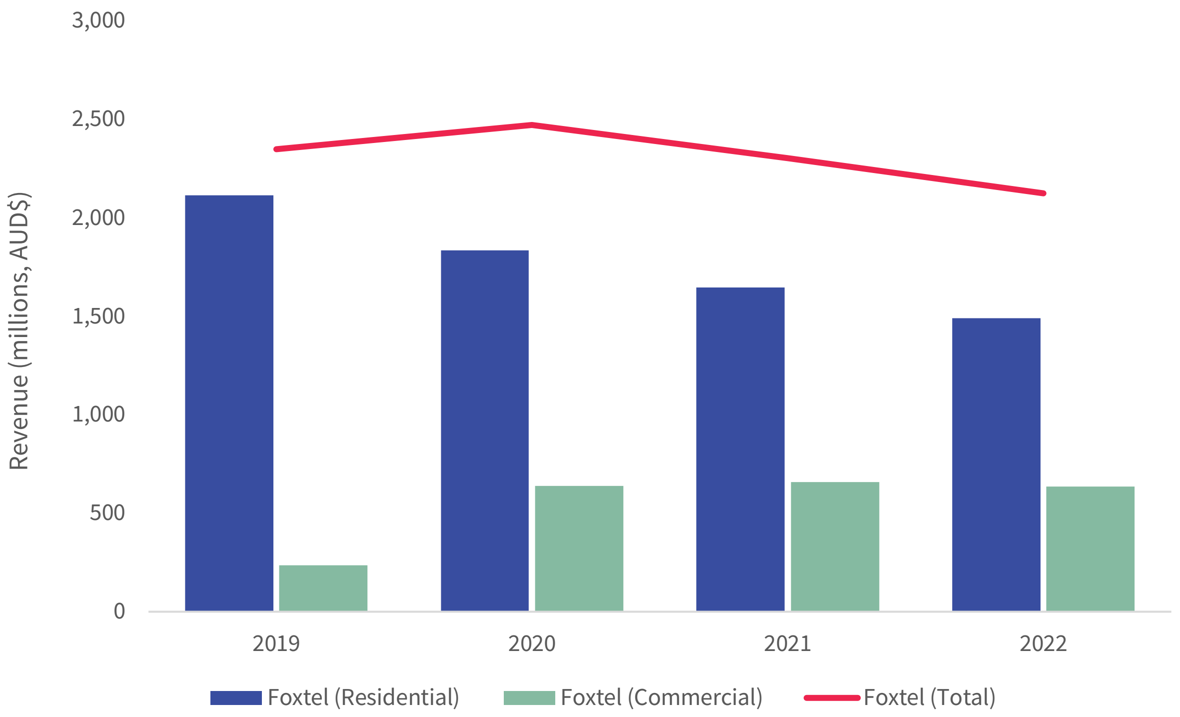
Multichannel video distribution

The Multichannel Video Distribution in Australia had a peak market revenue of $3.2bn in 2012 but that has fallen since to $2.1bn in 2022 (Papandrea & Tiffen, 2016). That decline is ongoing, with overall revenue in this sector has seen a decline of 10.5% from 2019 to 2022. The multichannel video distribution market in Australia is unique insofar that Foxtel operates as a monopoly. This has been the case since 2012 (see below). This has not changed over time and, therefore, Foxtel is assumed to have 100% market share over the four-year period observed. This results in a CR4 of 100 and HHI of 10,000.

Figure 2, below, illustrates Foxtel's residential and commercial revenue from its multichannel video distribution operations from 2019-2022.

"The multichannel video distribution market in Australia is unique insofar that Foxtel operates as a monopoly."

Figure 2: Share of annual revenue for the Australian Multichannel Video Distribution sector (2019-2022)



Sources: see "Fig 2 MVD" in the Excel Workbook accompanying this report and the MVD sector sheet in the GMIC Project—Australia open data sets for Foxtel's MVD-related revenue.

Between 1996 and 2004, Australia's pay TV market was far more competitive than it is today. Optus (Singtel), Australis Media, Austar (Liberty Global), and Foxtel (Telstra, NewsCorp, and the Packer family) were all vying for market share. Optus Vision, originally a joint venture, was fully acquired by Optus in 1997. However, Optus stopped having exclusive content in 2002, although they continue to operate the satellites used for pay TV delivery and use a hybrid coaxial network for their own service.

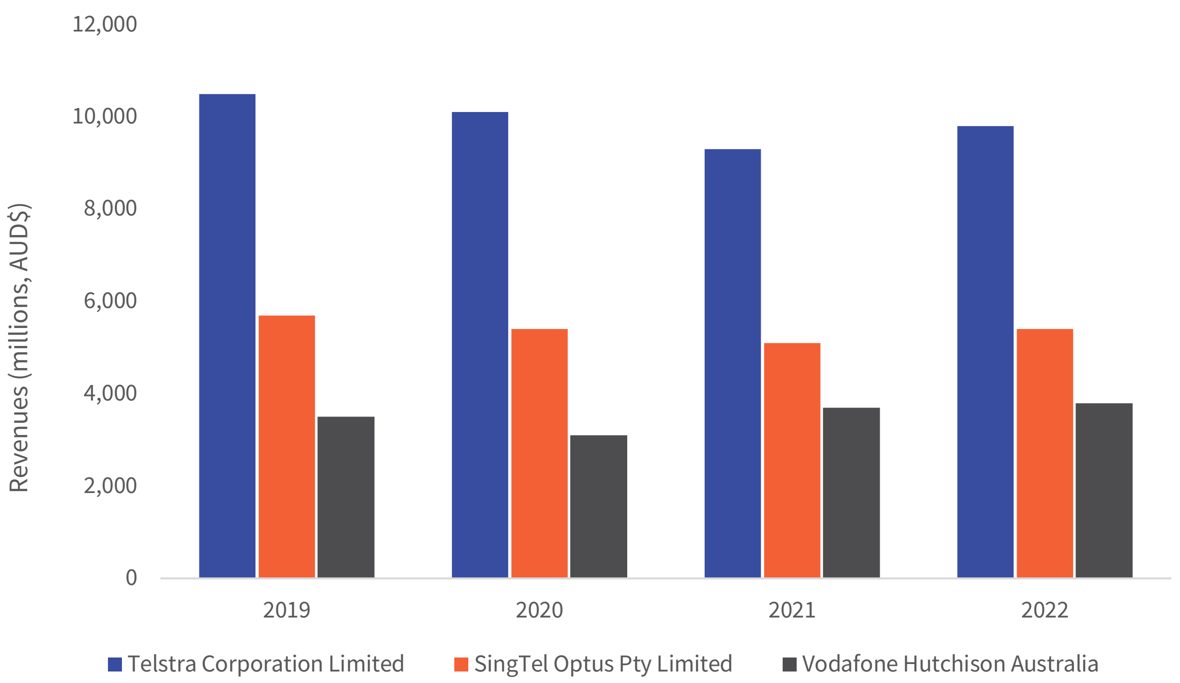
Australis Media offered services using a combination of microwave and satellite. It only provided services in metropolitan areas, with two other businesses Austar and East Coast Television providing services in regional areas. Australis Media went into liquidation in May 1998. Foxtel acquired the satellite service and the Australis exclusive programming rights. Austar also acquired East Coast Television in May 1998. This meant that there was some competition between Foxtel and Optus in metropolitan areas which ceased in 2002. There was exclusivity for each of Foxtel and Austar in their areas of operation.

Foxtel acquired Austar in 2012. Although the competition regulator, the Australian Competition and Consumer Commission (ACCC) was concerned about the merger, it accepted court enforceable undertakings from Foxtel that allowed the ACCC to determine that the proposed acquisition was unlikely to substantially lessen competition in any market.

Wireless

Overall, revenue within the Australian wireless sector has remained steady from 2018 to 2022, with figures ranging from $22bn to $23.8bn dollars per year. Telstra has been the largest operator within the market accounting for 42-45% of the annual revenue share across the period. SingTel Optus is the second largest operator with a revenue share of 23-24%. Vodafone Hutchinson accounts for the smallest share of the three main operators with 14-17% revenue share. Over the 5-year period, there does not appear to be any significant shift in market share or revenue for these firms within the wireless market. Figure 3, below, illustrates the point.

Figure 3: Share of annual revenue for the Australian Wireless Sector (2018-2022)



Sources: see "Fig 3 Wireless" in the Excel Workbook accompanying this report and the Wireless sector sheet in the GMIC Project—Australia open data sets for the revenues of each company covered in this figure.

Concentration within the wireless sector has remained consistently high. A concentration ratio of 82-84% for the period is well above the 50% threshold for market concentration. The long-term, stable presence of only three key players is indicative of an oligopoly and low competition (Albarran, 2016, p. 48). HHI for the period provided figures ranging from 2599 to 2858. These HHI results are also indicative of a highly concentrated market, exceeding the US Justice Department's guidelines of 2500 for a "highly concentrated" market (U.S. Department of Justice, 2010).

Table 2: Levels of concentration in the Australian Wireless Sector (2018-2022) using CR3 and HHI

	2018	2019	2020	2021	2022
CR3	83%	83%	84%	82%	84%
HHI	2728	2727	2858	2599	2749

A key figure of concern within this data is the total revenue for the sector. Previous studies into the Australian wireless market have suggested that the top three players (Telstra, Optus and Vodafone) account for 99% of the market by 2012 (Papandrea & Tiffen, 2016, pp. 37-38). The remaining <1% were thought to be resellers. Their figures were derived from various Australian Competition and Consumer Commission (ACCC) reports, annual reports and estimates. The latest figures derived from IBISWorld suggest a remaining market share of 16% of other sellers but do not specify whom, besides NBN Co which they suggest accounts for <1%.

The ACCC Communications market report 2021-2022 (Australian Competition and Consumer Commission, 2022, p. 13) helps shed light on the structure and dynamics of the wireless market by distinguishing between mobile network operators (MNOs) and mobile virtual network operators (MVNOs). In a footnote, they provide a list of MVNO brands and MNO sub-brands which include ALDI mobile, amaysim, Belong, Boost, Circle.life, Dodo, Felix, Gomo, Hello Mobile, iPrimus, Kogan Mobile, Lycamobile, Mate, iiNet, TPG, Lebara and Telechoice. These MVNOs and sub-brands may account for the remaining 16% of the market, but exact breakdowns of market share are not publicly available. There are at least 28 MVNOs as set out in Table 3.

Table 3: MVNOs and their underlying MNOs in Australia

MVNO	Underlying MNO
ALDI mobile boost Mobile Lycamobile Woolworths Mobile Belong Better Life Mate Nu Mobile Pennytel Tangerine Telecom Telechoice	Telstra
Amaysim Coles dodo Yomojo Mobile Catch Connect Circles.Life Exetel iPrimus Moose Mobile Ovo Mobile Southern Phone Spintel Vaya	Optus
gotalk Hello Mobile Lebara Kogan Mobile	Vodafone

There are a variety of approaches to the MVNO business model. From the perspective of the MNO, the MVNO may be able to:

(a) act as a channel to an unaddressed sector;

(b) create an owned “challenger brand”;

(c) provide mobile services for fixed players; or

(d) provide a loyalty solution to a business customer.

Lycamobile and Lebara are global MVNO players that offer their customers very low international calling rates or international calling included in the prepaid plan. That is, they act as a channel to an unaddressed sector.

Belong is a brand name owned by Telstra. It offers low-cost services as a “challenger brand” without risking cannibalisation of Telstra’s existing customer base. Pennytel, Tangerine Telecom, dodo (Vocus), Exetel, and iPrimus all offer retail wireline services as retail service providers of the national broadband network. By also offering MVNO services, they can bundle fixed and mobile as an offering. Aldi, Coles, and Woolworths are supermarkets. They offer MVNO services as part of building brand loyalty. The Southern Phone mobile brand is owned by an energy company (AGL). Each are also major business customers for telecommunications services.

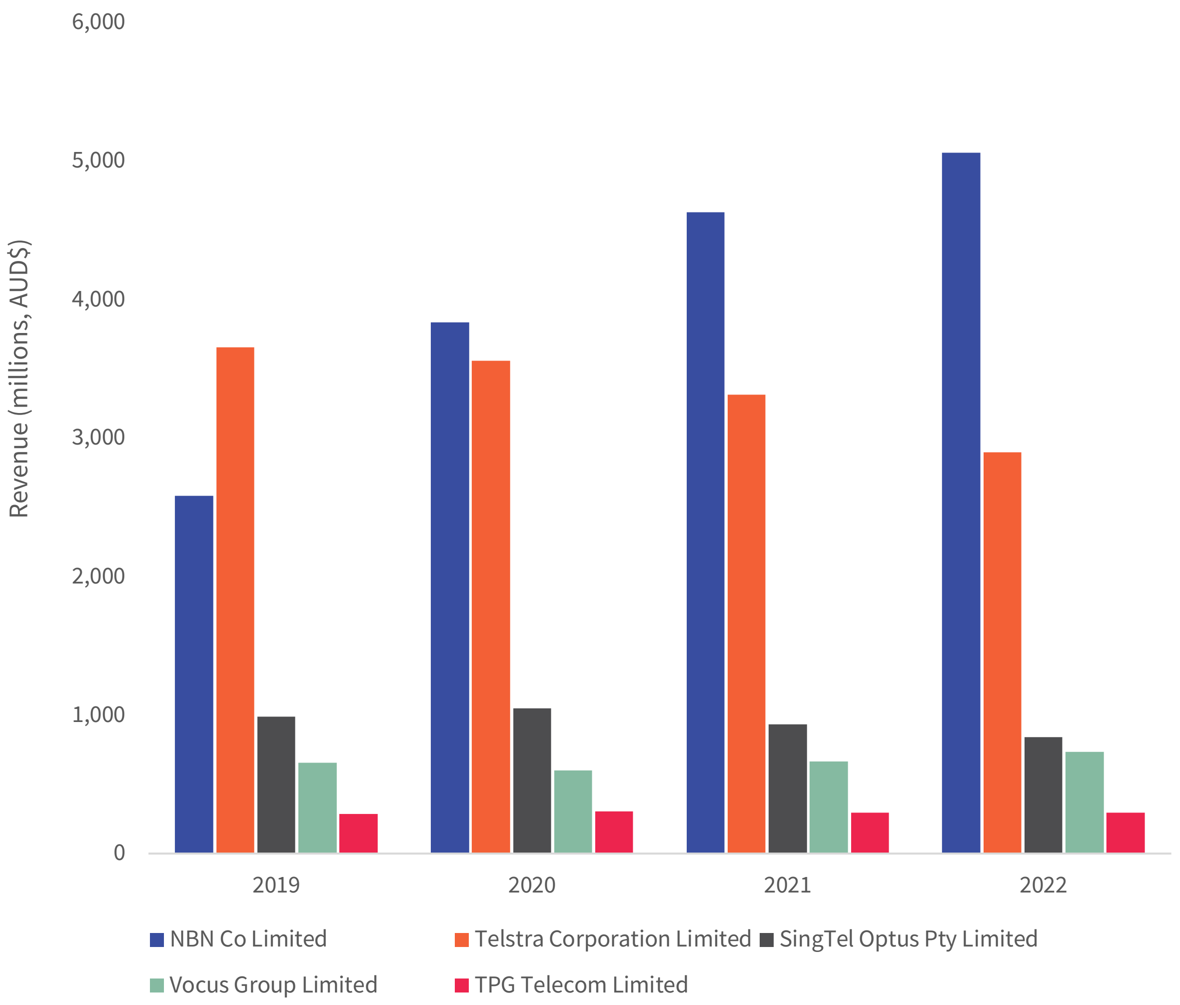
For the underlying MNO, the decision to forego a retail margin but retain a wholesale one is balanced by the customer acquisition and customer retention costs in a retail sector which is heavily saturated. The expansion of the MVNO sector from 1% to 16% suggests that the competition between MNO plays out at both the MNO retail level and an MVNO wholesale level.

Whereas there have been MVNOs in Australia since 2000, the nature of these has changed from “low cost, no cannibalisation” to “alternative market channel”. There are many countries, especially in the European Union with higher numbers of MVNOs. However, it is interesting to note that there is no regulatory requirement to offer services that would allow an MVNO to operate in Australia. The outcome is market-based and reflects meeting the needs of relevant consumers.

Wireline

Overall, revenue within the Australian wireline sector has experienced a growth of 16% from 2019 to 2022. NBN Co has quickly become the largest operator within the market going from 25% to 49% of the annual revenue share during the period. Telstra is the second largest operator with a revenue share of 32% decreasing to 28% in 2022. The minor operators in the market have mostly maintained their market share. While Singtel Optus went from 9% down to 8% during this period, Vocus Group experienced growth from 6% to 7% and TPG Telecom remained steady at 3%. Figure 4, below, illustrates these points, with NBN Co's rapid consolidation of its dominant position in the wireline sector standing out.

Figure 4: Share of annual revenue for the Australian Wireline Sector (2019-2022)



Sources: see "Fig 4 Wireline" in the [Excel Workbook]accompanying this report and the Wireline sector sheet in the [GMIC Project—Australia open data sets] for the revenues of each company covered in this figure.

Concentration within the wireline market has increased significantly in the last 4 years as a result of what appears to be NBN Co's rapid increase in revenue. In this time the HHI went from a moderate concentration level of 1175 to a highly concentrated 3307. CR4 has also risen from 72 to 82 in four years.

Table 4: Levels of concentration in the Australian Wireline Sector (2019-2022) using CR4 and HHI

	2019	2020	2021	2022
CR4	72%	82%	91%	82%
HHI	1175	2383	3086	3307

The increase in market share by NBN Co reflects Australian Commonwealth government policy on fixed line services. NBN Co. operates Australia's National Broadband Network, established by the Rudd-Gillard Labor Governments in 2011. NBN Co is a state-owned enterprise (referred to as a Government Business Enterprise in Australia). It is the major provider of wholesale wireline access network (last mile) services.

NBN Co provides wholesale wireline services using a mix of technologies. These include fibre to the premises, fibre to the building, fibre to the curb, fibre to the node, fibre to the curb, and hybrid fibre coaxial. The use of a mix of technologies reflected a policy change associated with a change of government in 2013 which had previously been slated to be fibre to the premises for the majority of Australian homes. The technology used at any particular premises is determined by NBN Co and the retailer, known as a Retail Service Provider or RSP, contracts with the consumer to provide a service.

The NBN Co wholesale residential market share in 2021/22, as reported by the ACCC, showed Telstra with approximately 43% share, TPG with 25%, Optus with 12%, and Vocus with 8%. TPG also has its own infrastructure and offers fibre to the building services in competition with NBN Co to multi-dwelling and commercial buildings in mainland state capital cities, fibre to the curb services in Canberra, and hybrid fibre coaxial in regional cities in Victoria.

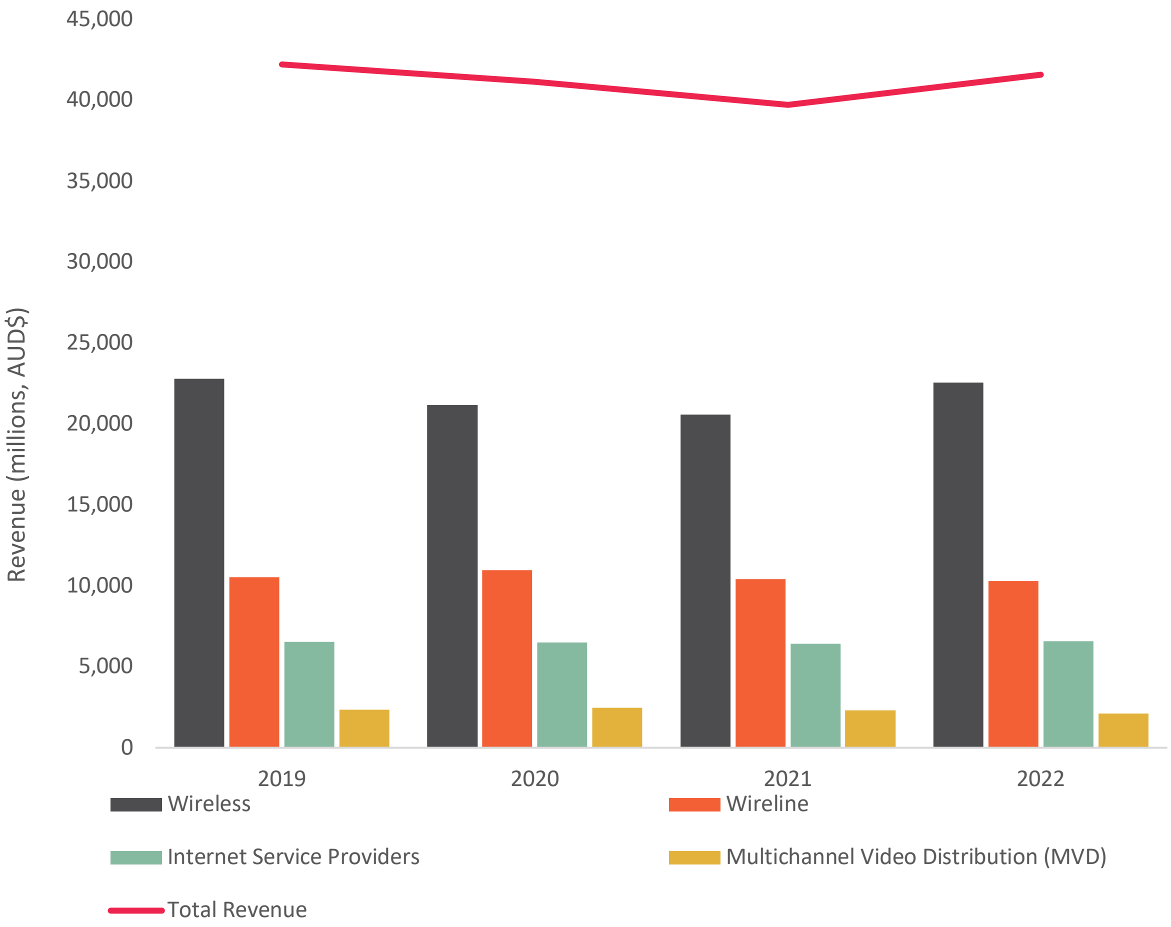
NBN Co's access network interconnects at 121 points of interconnection or POI. The RSP acquires services from others for transmission from their points of presence to some or all of the POI. The NBN Co wireline access network connects to about 94% of premises in Australia. The balance are connected by the NBN Co fixed wireless service (about 5% of premises) or the NBN Co geostationary satellite service (about 2% of premises).

During the construction of the national broadband network, the incumbent wireline provider was Telstra, and it was both a wholesale provider and an RSP. Telstra provided a structural separation undertaking to the Australian Competition and Consumer Commission (ACCC). For the period between 2012 and the determination by the Minister for Communications that the national broadband network was complete in 2020, Telstra's wholesale services were subject to equivalence and transparency obligations. From 2020, Telstra committed to cease the supply of fixed line carriage services using telecommunications networks over which Telstra is in a position to exercise control. NBN Co pays Telstra for access to infrastructure (mainly ducts, poles, and exchange buildings).

Telecom and internet access grouped results

A mid-level analysis of Australia's Telecom and Internet Access sectors reveals several key trends. First, after showing explosive growth in the early 2000s, revenues for ISPs and wireless providers have reached a plateau period in recent years, reflective of a mature market akin to the wireline sector. Second, while revenues for multi-channel video distribution (MVD) experienced a period of stability from 2019-2022, they have since resumed a downward trajectory that began in 2012. At an aggregate level, the sector demonstrates relative stability, with annual revenues approximating $41.5bn, suggesting a mature market.

Figure 5: Revenues of the telecoms & internet access services (2019-2022) (millions, AUD$)



Concentration also appears to be high and increasing in this mid-range sector with CR4 increasing significantly from 84 in 2019 to 88 in 2022. HHI has also increased from 4052 to 4548 across the same period. While these results are quite high, it is important to note that MVD operates as a joint ownership monopoly. Furthermore, the increase seen from 2019 to 2022 in both indices is attributable to the rapid consolidation seen in the wireline market.

Table 5: CR4 and HHI averages for Telecom & Internet Access Sectors (2019-2022) (Based on Revenue)

	2019	2020	2021	2022
Average CR4	84%	87%	90%	88%
Average HHI	4052	4390	4550	4548

"while revenues for multi-channel video distribution (MVD) experienced a period of stability from 2019-2022, they have since resumed a downward trajectory that began in 2012"

Online media and traditional media services

The Australian media industry has a long and colourful history, marked by family dynasties, billionaire buyouts and the threat of new technologies. The largest media company in Australia is the Murdoch owned News Corp. Originally a newspaper firm, they own the largest share of metropolitan and regional papers in the country but also have hands in multichannel video distribution, streaming and Freeview television in some regional areas. They are joined by Australia's two largest television operators, Nine and Seven, have a long-standing rivalry, and they have both been involved in a number of mergers and acquisitions over the years. The Australian Broadcasting Corporation (ABC) is the national public broadcaster, and it plays an important role in providing news and information to the Australian public.

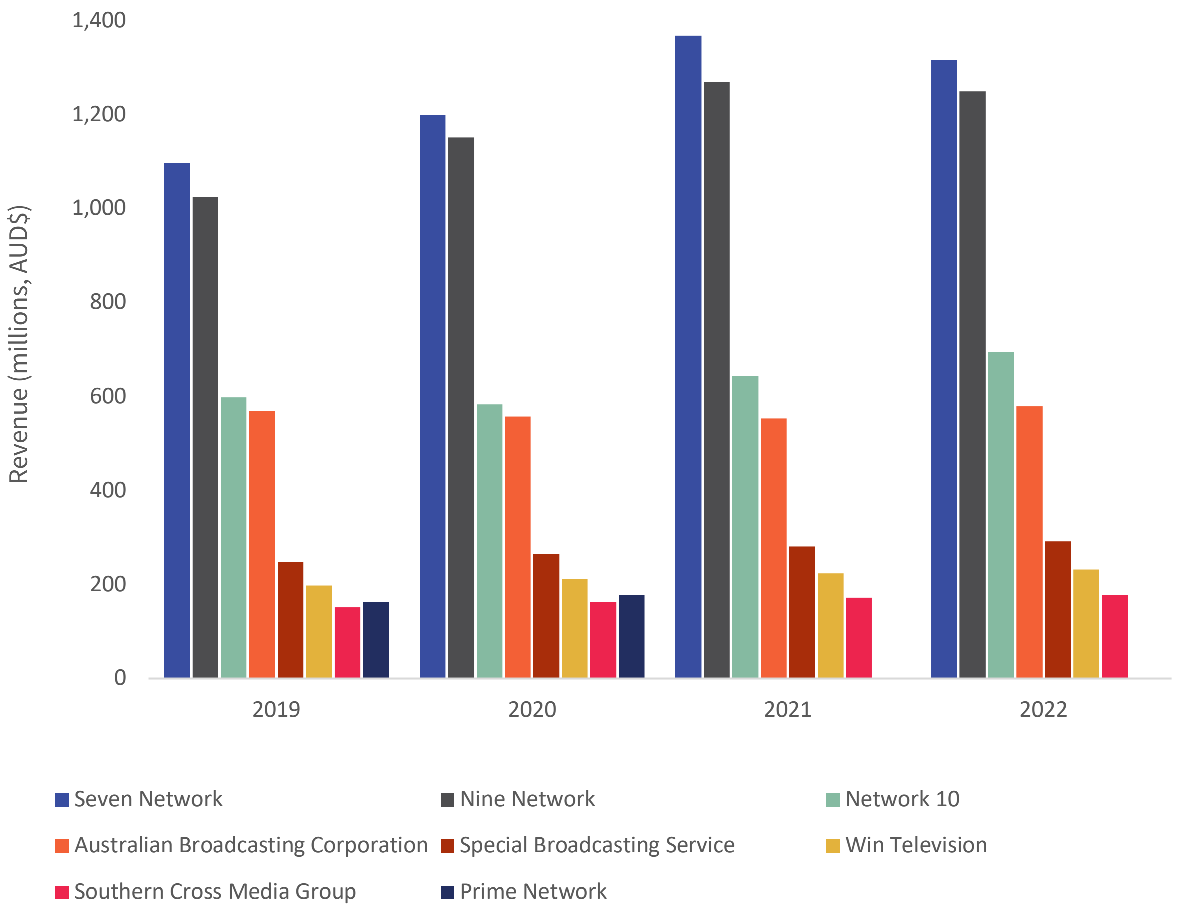
The online video services sector is a relatively new market in Australia, but it has grown rapidly in recent years. Netflix is the largest player in this market, but it faces increasing competition from other streaming services such as Stan, Amazon and Disney+. Foxtel, which was once the dominant pay TV provider in Australia, has also launched a number of streaming services in an effort to compete with these firms.

This chapter discusses several sectors of the Australian media landscape: broadcast television, online video services, newspapers, and radio.

Broadcast television

Revenue results for the Australian Broadcast Television sector show steady growth from 2019 to 2022. The two largest operators, Nine and Seven receive nearly half of all revenue generated within the sector. Network 10 and ABC are also large operators, each with a comparable share of revenue, albeit significantly less than Nine and Seven. Smaller, niche operators such as SBS, WIN, Prime and Southern Cross Media have a combined share less than that of the ABC. Seven Network's acquisition of Prime in 2021 showed an immediate and expected subsumption of the latter's former revenue share. Figure 6, below, illustrates the major broadcast television group's revenue and share of the total from 2019-2022.

Figure 6: Share of annual revenue for the Australian Broadcast Television Sector (2019-2022)



Sources: see "Fig 5 Broadcast TV" in the Excel Workbook accompanying this report and the Broadcast TV sector sheet in the GMIC Project—Australia open data sets for the revenues of each company covered in this figure.

Concentration in the Television sector has increased significantly from 2019 to 2022. The top four operators, Channel Nine, Seven, ABC and Network 10 now have a market share of 87%, up from 79%. This is attributable in part due to the acquisition of Prime Network by Seven West but also continued growth by Nine. The HHI results are also indicative of a moderately concentrated market from 2020 onwards, sitting in the middle of the range for US Justice Department's guidelines of 1500 to 2500 for a "moderately concentrated" market.

Table 6: Levels of concentration in the Australian Broadcast Television Sector (2019-2022) using CR4 and HHI

	2019	2020	2021	2022
CR4	79%	80%	87%	87%
HHI	1836	1914	2194	2174

As noted above, in the period 2019-2022, the Australian television sector remained with the same band of moderate concentration according to the C4 and HHI ratios as earlier identified by Papandrea and Tiffen (2016) for the period 1988-2012. However, the level of concentration in the industry has increased in the subsequent period: whereas the top four operators (the three main commercial networks - Seven, Nine, and Ten - and the ABC) accounted for 77% of the total market revenue in 2012, this had increased considerably to 85% in 2022.

Moreover, the market share of the main players has diverged. Papandrea and Tiffen (2016) noted that in 2007 the individual revenue shares of three main operators were all in the range the range of 18–25%. Ten Networks revenue had grown by over a third between 2000 and 2007, to reach 18.2% based on a youth strategy with shows such as Australian Idol, Big Brother, and Neighbours. However, Ten lost its hold over the 16-to-30 demographic as the restrictions on digital multi-channelling for free-to-air TV were lifted in 2008 and free-to-air television was rebranded as ‘Freeview’. The situation became worse as aggressive competition for the youth demographic arrived from online platforms. In 2017 Ten went into receivership and was subsequently bought out by American media conglomerate Paramount and rebranded ‘Network 10’. Nonetheless, by 2019 its revenue share had been reduced further yet to 10%, which was less than public broadcaster, the ABC (11%). Although improving, the revenue share of the third commercial television network remains significantly less than the two leading commercial networks.

In 2007 the Seven Network overtook the Nine Network in terms of ratings and market revenue share (Papandrea & Tiffen 2016; Harrington & Eklund 2023). Seven Network has maintained and reinforced this position in the period 2019-2022 through the A$132m acquisition of Prime Media Group’s regional TV network at the end of 2021. Cross-sector concentration deepened with the merger of Nine Entertainment Co. and Fairfax Media in 2018. Nine’s growing share of TV audience and revenue appeared to come at the expense Network 10 rather than Seven West Media. As the Seven and Nine networks strengthened their position in the Broadcast TV market, the overall sector revenue growth slowed to 12% over the period 2019-2022. While the Covid-19 pandemic’s effect on the TV advertising market was a salient factor, the challenge of BVOD to the free-to-air advertising market also emerged as issue in this period as the network’s BVOD advertising revenue per viewer was less than their free-to-air operations.

Online video services

As in most countries, the Australian online video services sector is a rapidly growing market, with most players having emerged in the last 5 years. It is also a difficult sector to track. To do so, we have obtained annual revenue data for the Australian online video services sector from sources including annual reports and estimates. Until 2023, Netflix Australia operated through an offshore holding firm with 2022 being the first year with accurate official reporting for Australia. Nine Entertainment Co provides full accounts of the annual revenue for Stan and represents the most reliable data in this sector. News Corp does not provide specific revenue data for Binge, Kayo and Foxtel Now, but does provide subscriber data. Annual revenue for News Corp's online video services is calculated based on annual subscription fees multiplied by the number of subscribers at years end. Disney, Amazon and Paramount figures have been estimated by multiplying subscriber numbers by annual subscription fees. The researcher has also made assumptions about the payment tier for each service that subscribers are likely to have chosen and using the cost of that service as of 2023. Finally, Amazon Prime is an unusual subscription service operating within two markets, video streaming and its own unique product category of premium retail and shipping. For these estimates, we have included the whole subscription price.

Bearing these limitations and caveats in mind, several observations about the online video services market stand out and are depicted in Table 7, below. Based on the assumptions and limitations just described, we estimate that revenue for the online video services market reached 3,446.4 million dollars in 2022 (exclusive of video sharing platforms such as YouTube and Twitch).

"we estimate that revenue for the online video services market reached 3,446.4 million dollars in 2022"

Table 7: Revenues for online video services (2019-2022) (millions, AUD$)

	2019	2020	2021	2022
Netflix Australia	-	693.9	877*	1060
Foxtel Group (65% News Corp/ 35% Telstra)	293	346	601.8	763.5
Amazon[1]	-	99.7	369.7*	540
Disney	-	335.7	428*	520.4
Nine Entertainment Co. Stan	242	311	381	427.6
Paramount	-	-	-	134.9
			Total	**3446.4**

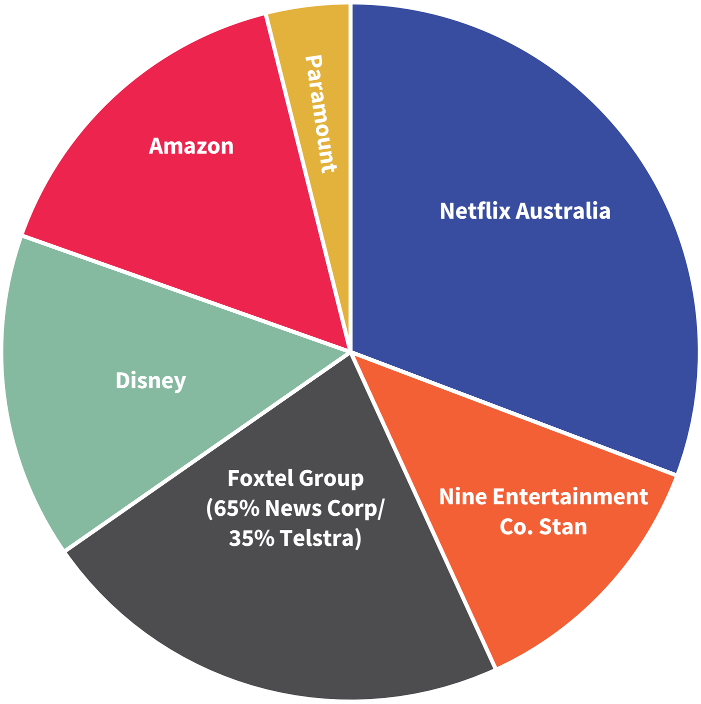
Sources: see "Online Video Services" sheet in the GMIC Project—Australia open data sets for additional note on sources and how the revenue for each service provider have been derived.

Note: **Interpolation from adjacent years*

Netflix is currently the largest operator with 30% of the annual revenue share as of 2022. Foxtel Group is the next largest player with 22% of the market spread across its three brands: Binge, Kayo and Foxtel Now. Revenue data also shows that Nine Entertainment Co., Disney, Amazon, and Paramount have also been growing rapidly (see Table 7). Indeed, their rapid growth in a relatively short period of time means that, in terms of share of revenue, Disney (15%), Nine Entertainment Co (12%) and Amazon (15%) now rank closely behind Netflix and the Foxtel Group, while new entrant, Paramount has 4%. Figure 7, below, depicts the market share of the major service providers in the online video services market as of 2022.

[1] Amazon's streaming service, Amazon Prime Video, is bundled with a range of other offerings including expedited shipping on goods purchased form their online store.

Figure 7: Share of annual revenue for the Australian online video services sector (2022 only)



Sources: see "Fig 6 Online Video Services" in the Excel Workbook accompanying this report and the Online Video Services sector sheet in the GMIC Project—Australia open data sets for the revenues of each company covered in this figure.

Concentration within the Australian online video services sector is moderate to high, but it is also a new market with continuing growth and many new entrants in the last 5 years. This is in keeping with most Australian media and telecommunications markets (Papandrea & Tiffen, 2016).

For traditional media markets, a concentration ratio of 82% is well above the 50% threshold for market concentration, being indicative of an oligopoly and low competition (Albarran, 2016, p. 48). This said, the 5th largest operator, Nine Entertainment Co, has a comparable market share to both the 3rd and 4th largest operators, which has the effect of pushing concentration levels based on the HHI down. In 2022, the HHI 1994, which was indicative of a moderately concentrated market, sitting in the middle of the range for US Justice Department's guidelines of 1500 to 2500 for a "moderately concentrated" market.

One interesting finding in our research thus far is that, while still the dominant player in online video services, Netflix's overall market share in this sector has steadily slipped in recent years in the face of new entrants from international big tech firms (e.g. Alphabet, Amazon, Apple), the direct-to-consumer offerings of US-media conglomerates (e.g.

> **“while Netflix remains the brand leader in this sector, the other key players enjoy significant market share”**

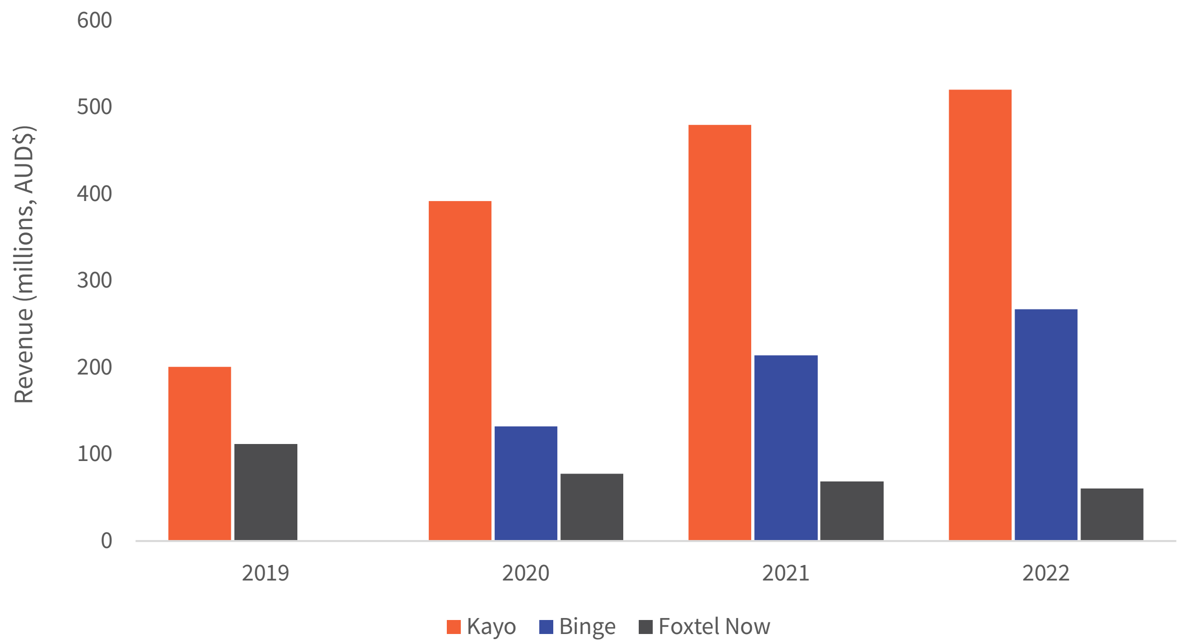
Disney, Paramount, etc.) and domestic service providers such as Foxtel. Indeed, industry reporting suggests that 2023 was the first year for Netflix to have seen a decline in subscribers (Buckingham-Jones, 2023). In sum, while Netflix remains the brand leader in this sector, the other key players enjoy significant market share. These observations with respect to the Australian case have also been observed in other reports in the GMIC Project from, for example, Canada, Argentina, Brazil, France, Italy and the United States).

Foxtel Group’s changing market

Foxtel Now was originally launched at Foxtel Play in 2013 and is a subsidiary service of Australia’s only pay-tv brand Foxtel, a joint venture between News Corp (65% ownership) and Australian telecommunication’s provider Telstra Group Limited (35% ownership). The launch of the service pre-dates the arrival of Netflix in Australia and was intended to be a cheaper and more flexible OTT alternative to the Foxtel’s pay-tv service. Since then, the group has launched the subsidiary Streamotion and its brands Kayo and Binge. While Kayo offers premium sports entertainment, Binge offers exclusive streaming access to HBO shows and some other content not available on the other SVOD services. Foxtel is experiencing a market shift away from their flagship brand Foxtel Now towards their content-based streaming platforms Binge (entertainment) and Kayo (sports). While Foxtel Now has been slowly declining in numbers the group has re-emerged as a key player on the back of the success of Kayo and Binge.

Figure 8, below, illustrates the changing fortunes of each of Foxtel’s main online video service brands over the last four years.

Figure 8: Shifting distribution of annual revenue for Foxtel Group's SVOD (2019 - 2022)



Sources: see "Fig 8 Foxtel Group" in the Excel Workbook accompanying this report and the relevant sheets in the GMIC Project—Australia open data sets for each of the media sectors that Foxtel operates in and that are covered by this figure.

Foxtel's strategy in this regard is also in keeping with what we see in other sizeable media markets where incumbent players have increasingly diversified the number of online video service brands they offer in recent years. The common story in countries such as Australia, Canada, France, Italy and the United States in this regard is to tailor different brands to different audience segments in ways that reflect differences in willingness and ability to pay for such services. Another common feature in such developments is the reweighting of the mix between subscriber fees and advertising revenue in such services. Thus, in the Australian case, Stan offers services that are pure subscription-based, while Foxtel Group has begun experimenting with a mix of subscriber fees and advertising. A similar process can be seen with respect to the big international companies, with Netflix and Prime recently adding advertising-supported options to the offerings.

SVOD vs BVOD

Alongside these shifts within the subscription market, there are broader questions surrounding the market influence of catch-up services from Australian free to air television licensees. Referred to as broadcast video on-demand services (BVOD) by researchers and policy makers, these services offer asynchronous viewing of content originally aired on commercial television. Recent policy changes in Australia have meant that the government now sees SVOD and BVOD services as closer together than ever before, in part due to their convergence on smart TVs and the increasing expansion of SVOD firms into advertising-supported tiers.

Our analysis shows that BVOD services constitute a relatively small part of the revenue market for streaming in Australia, with a total of $417m dollars joined revenue in 2022, they account for approximately 11% of the market (see Table 8 below). However, two companies, Nine Entertainment Co and Paramount have stakes in both markets. For Nine, their combined share is equivalent to 16% of the overall market, making it the third largest player behind Netflix (27%) and Foxtel (22%).

Table 8: Revenue, market share and concentration metrics (HHI and CR4) for Australian streaming in 2022

	Revenue ('000,000 $AUD)	Market share	Type
Netflix	1060	27%	SVOD
Kayo Sports	521	13%	SVOD
Binge	268	7%	SVOD
Foxtel Now	61	2%	SVOD
Amazon Prime	540	14%	SVOD
Disney+	520	13%	SVOD
Stan	428	11%	SVOD
Paramount+	135	3%	SVOD
9Now	188	5%	BVOD
7plus	154	4%	BVOD
10 Play	75	2%	BVOD
Total Revenue	**3950**		
HHI	**1875**		
CR4	**79%**		
SVOD Share	**89%**		
BVOD Share	**11%**		

Sources: see "Online Video Services" sheet in the GMIC Project—Australia open data sets for additional note on sources and how the revenue for each service provider have been derived.

Newspapers

The newspaper industry in Australia displays many of the characteristics that have become well-known in many countries over the last decade or two; namely, after a century of ongoing growth and centrality, newspapers have fallen on increasingly hard times in the last decade or two. Thus, newspaper publishers saw revenue steadily increase from around $1.7bn in 1984 to $5.8bn in 2008, but since that time, the value of the industry has since nearly halved to $3bn in 2022 (Papandrea and Tiffen 2016; Van Heekeren 2023). That dismal state of affairs would be even worse if the values were adjusted for inflation. In this account, they are not.

Van Heekeren (2023) notes that during this period of overall revenue decline, the total numbers of newspapers, in print and online, has stayed relatively unchanged. This is because “while a significant number of newspapers have closed, a similar number have emerged, taking advantage of the lower production costs of digital-only publishing” (p. 89). This has seen a greater number of publishers emerge in the Australian newspaper landscape, but this had little impact on the overall “lack of media ‘voices’ due to a concentration of ownership”.

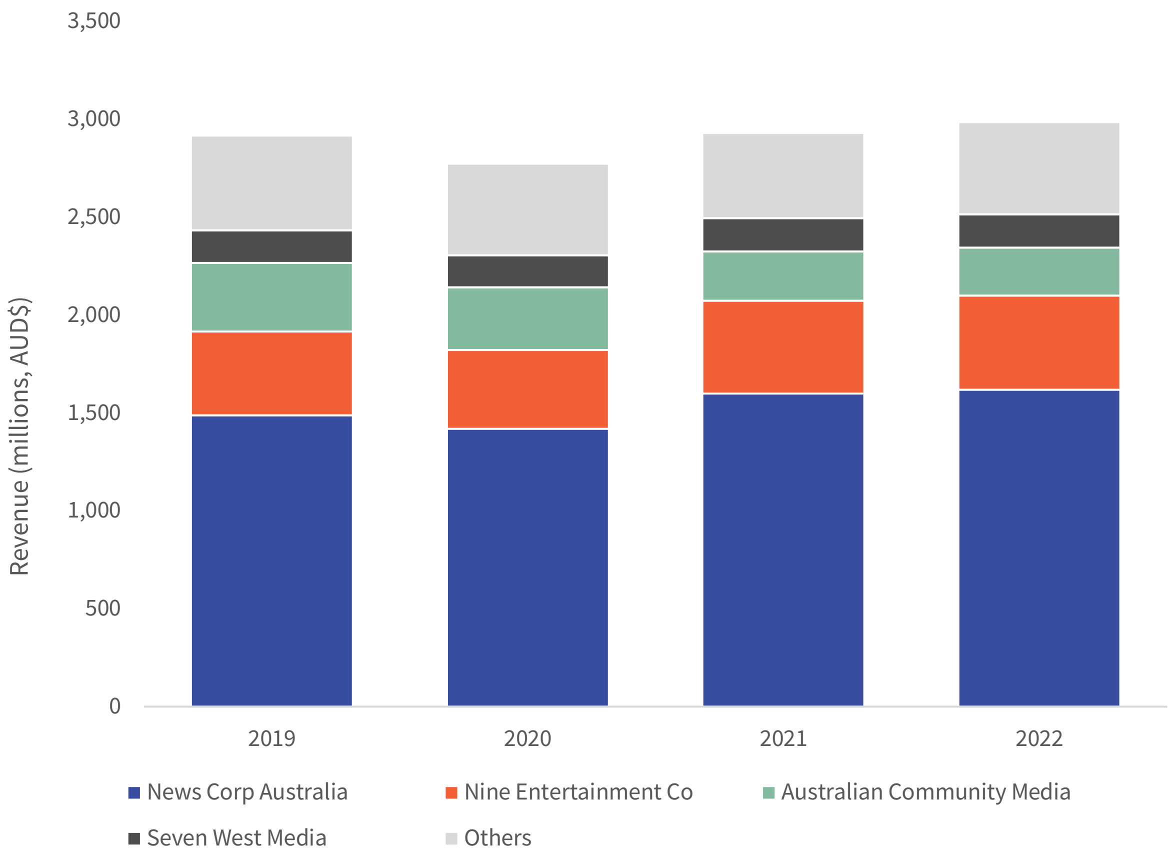
Moreover, the decline in revenue, employment, and traditional career structures in the newspaper sector has heightened concerns about the influence and dependence of traditional newspaper sector on tech giants such as Meta and Google. There has been an attempt to address this issue through the News Media and Digital Platforms Mandatory Bargaining Code, legislated in 2021; however, in March 2024 Meta declared it would not renew the commercial agreement it signed with some Australian digital news publishers, including the ABC, in 2021.

In Papandrea and Tiffen’s (2016) review of the Australian newspaper sector, they note that the Australian “Print media is highly concentrated when compared against world standards” (p. 706). For the year 2011, they calculated the C4 ratio for the market at 99.4 (comprising the operations of News Ltd., Fairfax Media, Seven West Media and APN News & Media) and the HHI of 4,212. We note that these figures may have been based in circulation rather than revenue.

The ownership and operations of the top Australian newspaper companies has changed since Papandrea and Tiffen’s (2016) study. In 2016, for example, Seven West Media took control of News Ltd.’s The Sunday Times, the only print competitor to Seven’s The West Australian in the state capital, Perth. In December of that year News Corp completed its purchase of APN News & Media’s regional newspapers portfolio, Australian Regional Media as APN sought to concentrate on its radio and outdoor advertising businesses. Following the introduction of new media ownership laws (Broadcasting Legislation Amendment (Broadcasting Reform) Bill 2017), in 2018 Fairfax Media was acquired by Nine Entertainment, a company centred on television. Nine swiftly divested suburban and regional titles, selling Australian Community Media (ACM) to former Fairfax executive Anthony Catalano. Although it retained national and metropolitan mastheads, the sale of ACM reduced Nine’s newspaper market share relative to Fairfax’s earlier holdings. These shifts account for the major changes in the leading newspaper operations in Australia, with News Corp Australia, Nine Entertainment Co, Seven West Media and Australian Community Media, now making up the top 4 dominant companies.

As a consequence of these changes, concentration in the newspaper sector has increased from 2019 to 2022. The top four news media groups, News Corp Australia, Nine Entertainment Co, Seven West Media and Australian Community Media now have a market share of 84%, up from 78%. The HHI results are also indicative of a highly concentrated market, sitting in the low end of the range for the US Justice Department's guidelines of 1500 to 2500 for a "highly concentrated" market. Figure 9, below, illustrates these developments over the period from 2019-2022.

Figure 9: Share of annual revenue for the Australian Newspaper Sector (2019-2022)



Sources: see "Fig 9 Newspapers" in the Excel Workbook accompanying this report and the Newspapers sector sheet in the GMIC Project—Australia open data sets for the revenues of each entity covered in this figure.

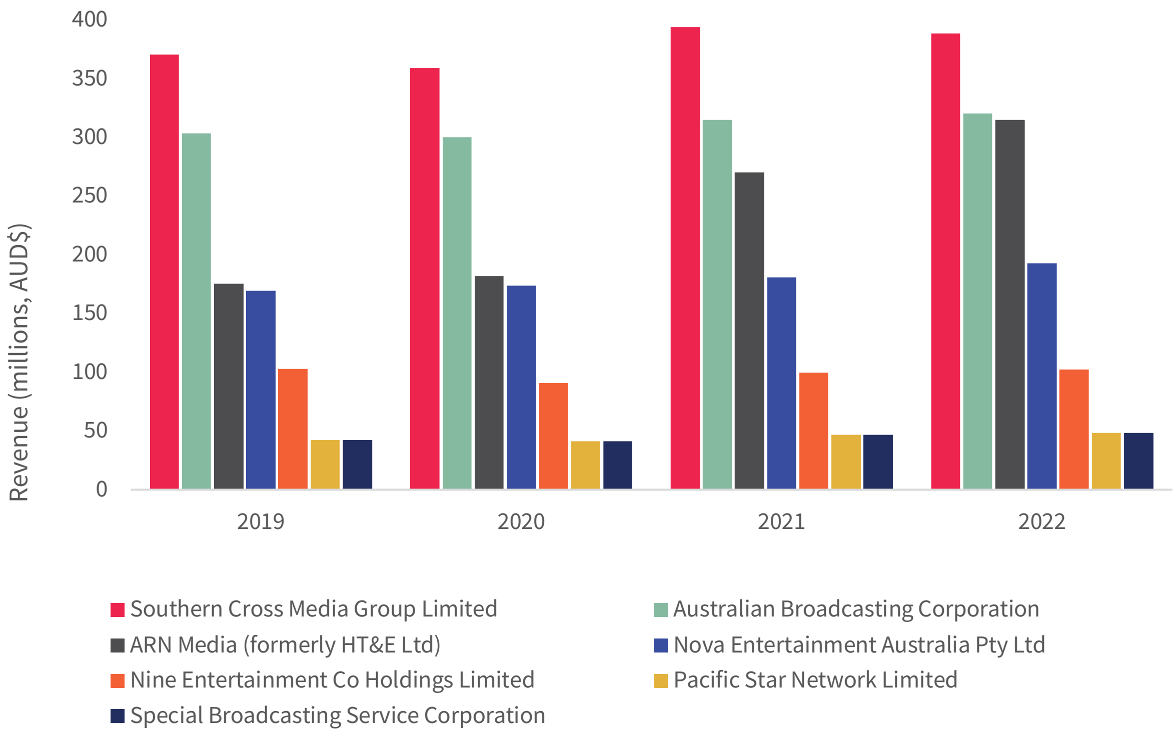
Table 9: Levels of concentration in the Australian Newspaper Sector (2019-2022) using CR4 and HHI

	2019	2020	2021	2022
CR4	78%	76%	89%	84%
HHI	2898	2691	3910	3564

Radio

Revenue results for the Australian Radio sector show steady growth, with revenue rising from 1205 million to 1405 over this period. While most firms have maintained a consistent stream of revenue, ARN Media (formerly HT&E Ltd) appears to have experienced significant growth over this period to become one of the more significant players in the market.

Figure 10: Share of annual revenue for the Australian Radio Sector (2019-2022)



Sources: see "Fig 10 Radio" in the [Excel Workbook]() accompanying this report and the Broadcast Radio sector sheet in the [GMIC Project—Australia open data sets]() for the revenues of each company covered in this figure.

Table 10: Levels of concentration in the Australian Radio Sector (2019-2022) using CR4 and HHI

	2019	2020	2021	2022
CR4	57%	70%	74%	77%
HHI	955	1408	1512	1636

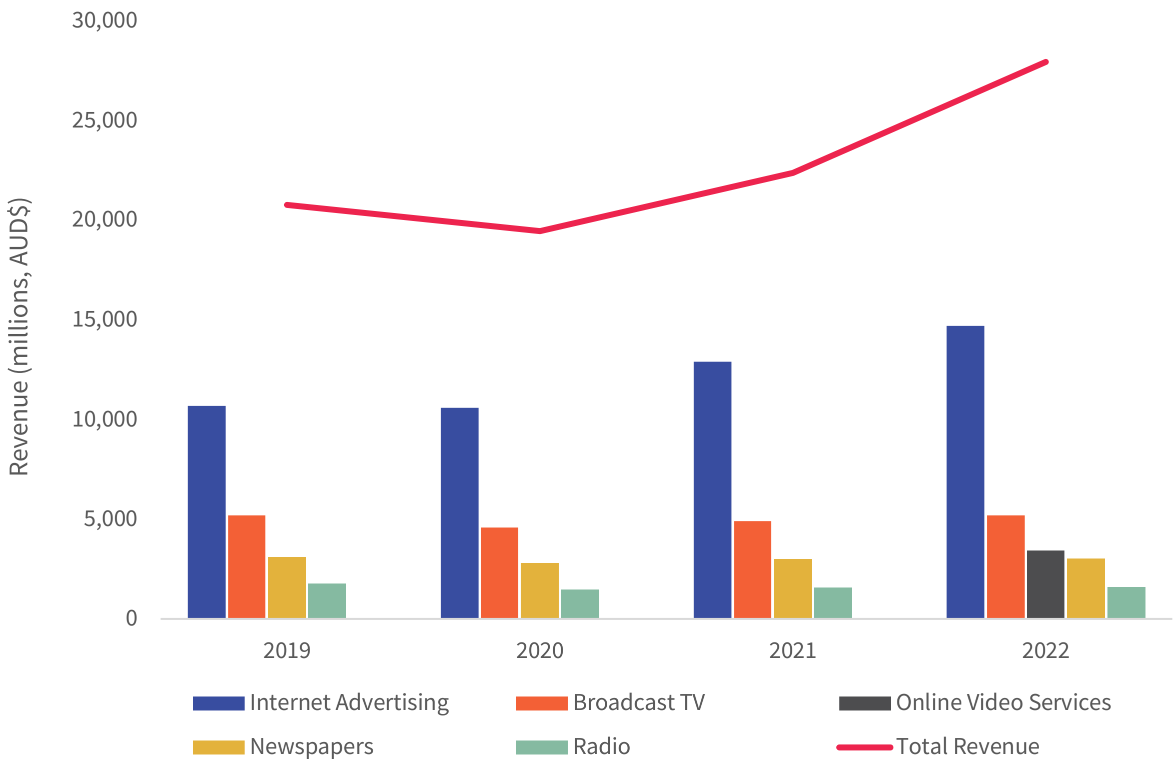
The Australian radio sector is increasingly concentrated from the perspective of both audiences and commercial advertisers. Indeed, over the 2019-2022 period, the degree of market concentration in the Australian radio sector has significantly increased in terms of both the CR4 and HHI metrics. As concentration in the Radio sector has increased from 2019 to 2022, the top four operators, Southern Cross Media, ABC, ARN and Nova now have a market share of 77%, up from 57%. This is attributable in part due considerable market growth by ARN Media. The HHI results are also indicative of a moderately concentrated market from 2021 onwards, sitting in the low end of the range for the US Justice Department's guidelines of 1500 to 2500 for a "moderately concentrated" market.

As with broadcast television, we need to note that one of the four largest radio broadcasters is the publicly funded ABC, with SBS Radio also having a small market share. As a result, the extent of market concentration is disguised to some degree by the significant role played by public broadcasters, particularly the ABC, in the overall media market. As both ABC and SBS are exclusively (ABC) or largely (SBS) funded by government revenues, the figures we report for the CR4 and HHI understate the degree of concentration among those radio services that are reliant exclusively upon commercial revenues.

Online media and traditional media services grouped results

A mid-level analysis of Australia's Online Media and Traditional Media Services markets reveals a sector with considerable dynamic variability in revenues. Total sector revenue appears to fluctuate each year from a high of $20.8bn in 2019 to a low of $19.5bn in 2020. This dip in revenue may be attributable to a decline in traditional media ad spending over the COVID pandemic, but further analysis is required. Since then, revenues appear to have been on the rebound with $22.4bn in 2021 and $28bn in 2022 – excluding online video services, which we only have complete data for from 2022. Revenues from online video show a large market, with revenue higher than that of newspapers and radio.

Figure 11: Revenues of online and traditional media services (2019-2021) (millions, AUD$)



Concentration in this mid-level sector is high and increasing. This is already the case without including internet advertising, which has not been included in the tally for this report because the quality of the available evidence prevents us from doing so at this time (see further discussion on this point in the internet advertising section below). The increase that can be seen across the traditional media sectors, however, is attributable to rapid consolidation in the radio market and steadily increasing concentration in both newspapers and television from an already high position.

Table 11: CR4 and HHI averages for online and traditional media services (2019-2022) (based on revenue)*

	2019	2020	2021	2022
Average CR4	72%	76%	83%	82%
Average HHI	1911	2011	2522	2318

***Note:** *The size of the overall market is artificially low for 2019-21 due to insufficient revenue information for online video services.*

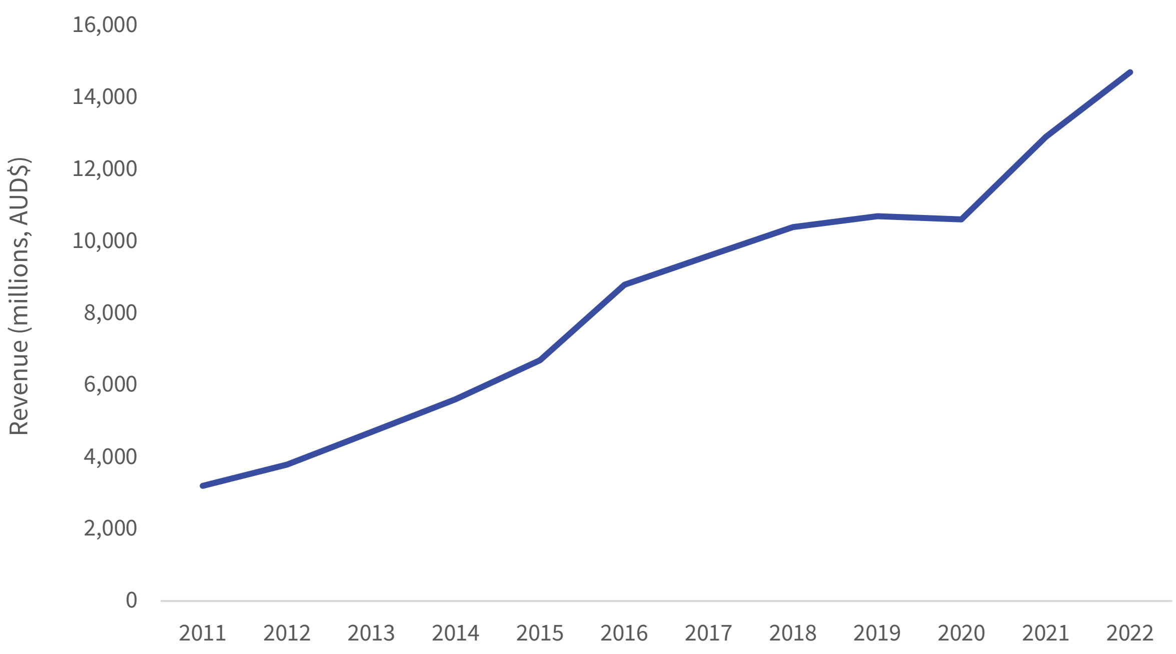
Core internet applications

In Australia, core internet applications are dominated by three of Big Tech's largest players, Microsoft, Apple and Alphabet. As the following results show, user share is highly concentrated in each sector they operate. While the following section analyses software and platforms-type services, it is important to consider the broader role digital services such as smartphones, tablets and computers play as user gateways. Apple has a highly popular ecosystem by which the default software and service settings appear to play an important role in the dominance of one operator over another. In 2023, it was revealed that Google and Apple had entered into a multibillion-dollar deal to keep Google as the default search engine on Safari, the default browser on Apple devices (Pierce, 2023).

Internet advertising

Australia has followed global trends in Internet advertising as it has grown rapidly since the early 2010s. Internet advertising grew by over 230% between 2011-2018, before experiencing a modest plateau between 2018-2020, and taking off quickly during 2021-2022. Australia's internet advertising revenue rose to $14.7bn in 2022, showing significant growth from $10.6bn at the beginning of the global pandemic in 2020 (see Figure 12).

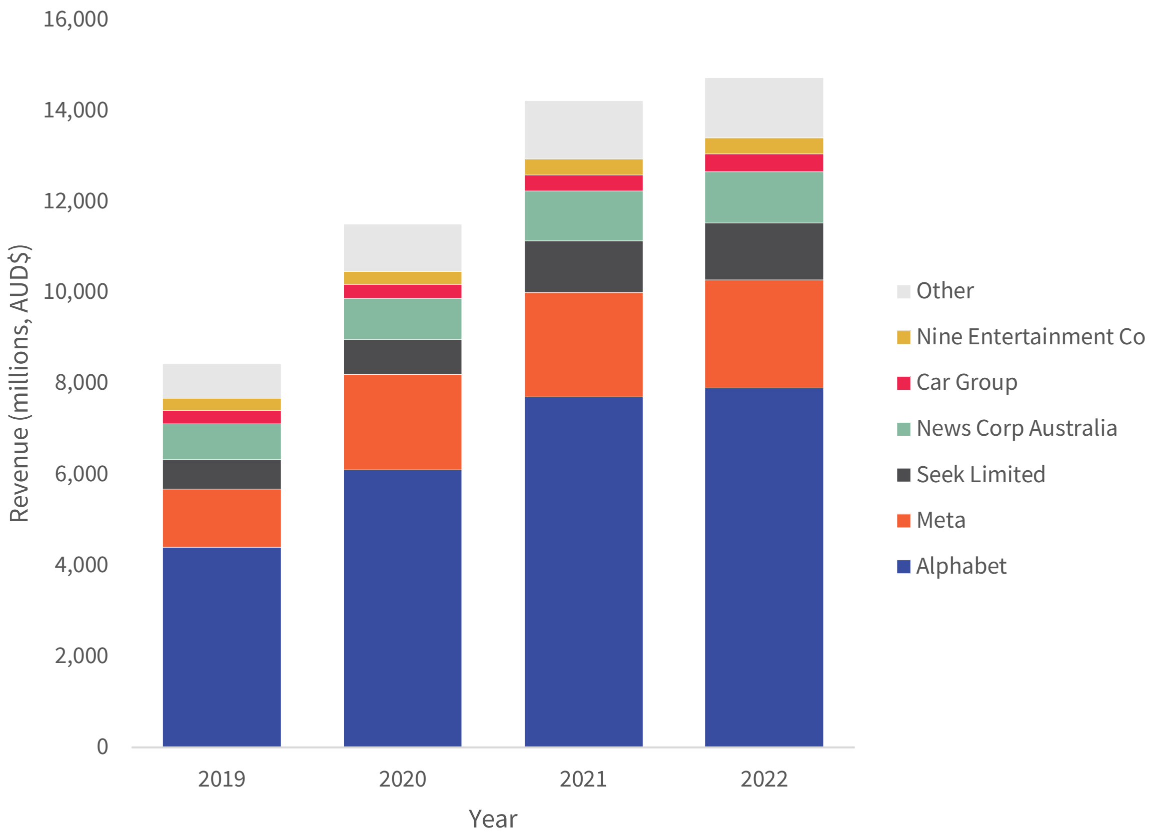
Figure 12: Growth of internet advertising (2011-2022) (millions, AUD$)



While there are various estimates of the size of digital advertising as a percentage of total advertising, the PwC Entertainment and Media Outlook 2024-2028 identifies Internet advertising as accounting for 61.3% of all advertising revenue in 2023, expected to grow to 67.8% by 2028 (PwC, 2024). An earlier study by the Australian competition and Consumer Commission (ACCC) identified online advertising as growing from 10% of total advertising in 2006 to 50% by 2018 (Australian Competition and Consumer Commission, 2019, p. 18).

Unlike other markets, this sector has been difficult to obtain a reliable breakdown of key players for, but analysis in the ACCC's digital platforms inquiry suggest that Alphabet and Meta were the largest recipients of this revenue in 2018, accounting for about 70% of all online advertising revenues in 2018. (Australian Competition and Consumer Commission, 2019, p. 18). IBISWorld (2024) has estimated that the share is as high as 55.4% for Google Australia and 16.6% for Facebook Australia (see Figure 13).

Figure 13: Revenues of internet advertising (2019-2022) (millions, AUD$)



Sources: see "Fig 13 Internet Advertising" in the Excel Workbook accompanying this report and the Broadcast Radio sector sheet in the GMIC Project—Australia open data sets for the revenues of each company covered in this figure.

Internet advertising includes sub-categories of advertising as classified advertising and emergent areas such as influencer advertising. There is a long tail of Internet advertising revenue, with 'Other' accounting for 9% of revenues. When classified advertising is considered, we find that Seek Limited (an employment website) is the third largest recipient of advertising spend, followed by News Corporation with its realestate.com.au website.

The CR4 index for Internet advertising in 2022 was 85.9, and the HHI index was 3300. The Intent advertising sector is thus highly concentrated, although it includes both digital companies such as Alphabet and Meta and the online classified subsidiaries of major traditional media companies such as News Corporation and Nine Entertainment. The latter owns the real estate site domain.com.au, which accounts for 2% of overall market share. There is evidence that the 70% market share of Alphabet and Meta is remaining stable over time.

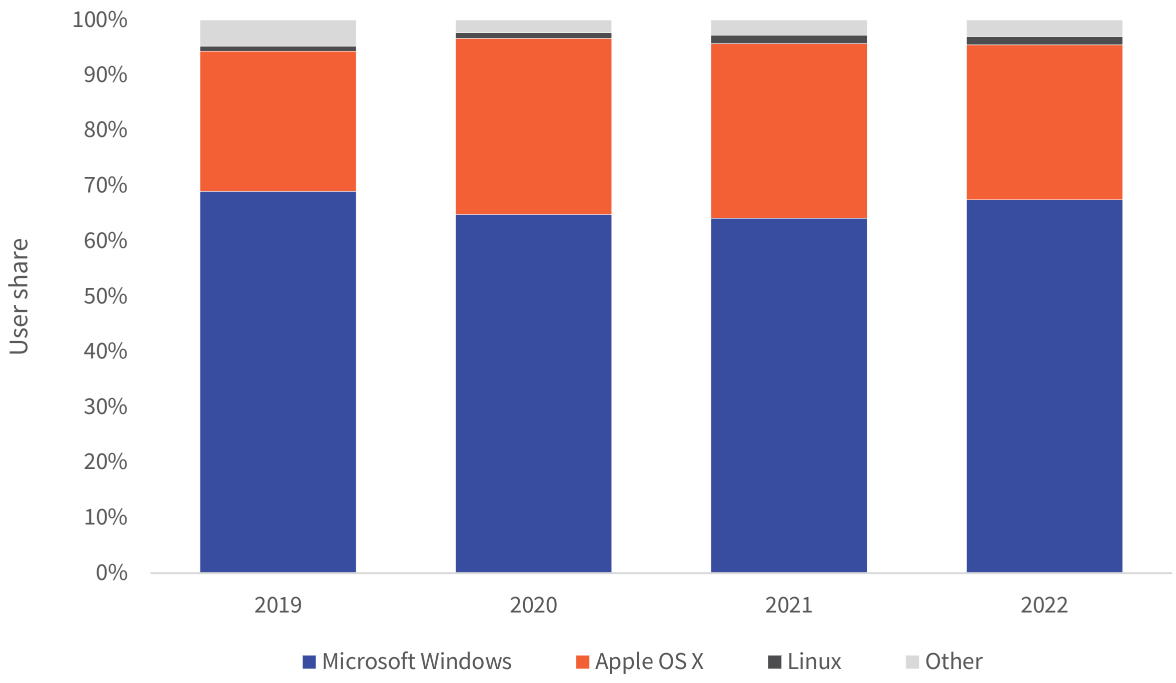
Table 12: Levels of concentration in the Australian Internet Advertising Sector (2019-2022) using CR4 and HHI

	2019	2020	2021	2022
Average CR4	84.4%	85.8%	96.1%	85.9%
Average HHI	3074	3246	3300	3300

Desktop operating systems

Results from the desktop operating system market shows Microsoft as the firm market leader with Windows having a share of between 64% and 69%. It is followed by Apple, whose OS X operating system accounts for 25% to 32% of devices. Combined, the two major firms have a clear duopoly in this sector, accounting for well over 95% of the market share, year-on-year. Linux also exists as a marginal competitor with 1% to 1.5% of the market share. HHI levels observed in this sector are indicative of a highly concentrated market, being well over the threshold of 2000 used by the Australian Competition and Consumer Commission and 2500 used by the US Department of Justice.

Figure 14: User share of desktop operating systems



Sources: see "Fig 14 Desktop OS" in the Excel Workbook accompanying this report and the Desktop OS sheet in the GMIC Project—Australia open data sets for the revenues of each company covered in this figure.

In comparing these operating systems, it is important to consider the extent to which they compete in this market. Microsoft Windows is the only operating system that exists as a standalone retail product, whereas Linux is a free, open-source operating system oriented towards enthusiasts or those with specific security concerns (Linux is a popular OS on servers). Apple's OS X is, by comparison, a bundled program that comes pre-installed on Apple devices. Therein, it is difficult to establish to what extent these products are truly in competition with one another when one considers the broader contingent factors of this sector.

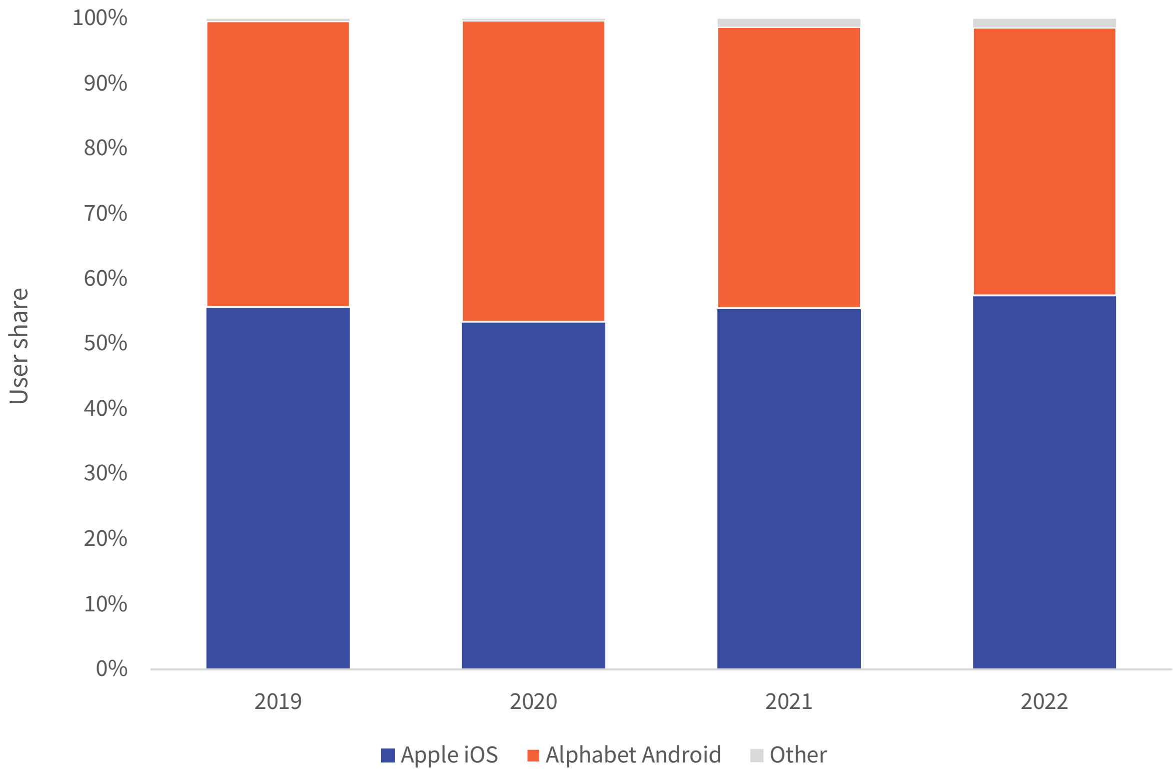
Table 13: Levels of concentration in the desktop operating systems sector (2019-2022) using CR3 and HHI

	2019	2020	2021	2022
CR3	95%	98%	97%	97%
HHI	5422	5220	5125	5340

Mobile operating systems

Much like the desktop operating system segment, two key players emerge in the mobile operating system market. In Australia, Apple's iOS is the most common mobile OS, with between 53% and 57.5% of the user market. They are closely followed by Alphabet's Android operating system, which has a market share of between 41% and 46%.

Figure 15: User share of mobile operating systems



Sources: see "Fig 15 Mobile OS" in the Excel Workbook accompanying this report and the Mobile OS sheet in the GMIC Project—Australia open data sets for the revenues of each company covered in this figure.

Like desktop browsing, this market is contingent on the broader handset market, which is host to a variety of companies including Apple, Samsung, Google, Oppo, Nokia, Motorola, TCL, Nothing Phone and Xiaomi. Much like the desktop sector, so too are the levels of HHI extremely high, with numbers ranging from 5023 in 2019 down to 4996 in 2022. These figures are indicative of a highly concentrated market.

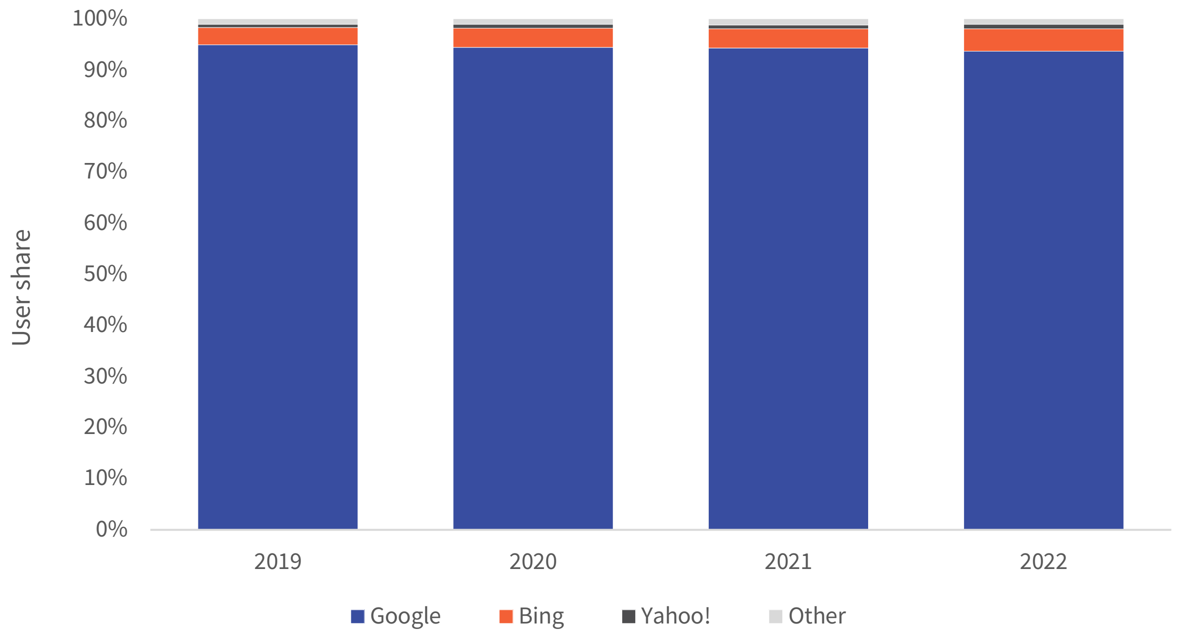
Table 14: Levels of concentration in the mobile operating systems sector (2019-2022) using CR2 and HHI

	2019	2020	2021	2022
CR2	99.5%	99.7%	98.7%	98.6%
HHI	5023	4991	4948	4996

Desktop search

Desktop search stands out as one of the most concentrated markets among the core internet applications segment. From 2019 to 2022, Google search has the largest user base, representing over 93% of the market. Indeed, this has long been the case and its dominance of desktop search has only solidified with the passage of time. The next largest operator is Microsoft Bing, with a range between 3.4% and 4.4% of the market over the same time period. Yahoo! also has a marginal share of less than 1%. Combined, these equate to a CR3 of 99 and HHI scores between 9100 and 8783.

Figure 16: User share of desktop search engines



Sources: see "Fig 16 Search Engines" in the [Excel Workbook] accompanying this report and the Search Engines sheet in the [GMIC Project—Australia open data sets] for the revenues of each company covered in this figure.

Table 15: Levels of concentration in the desktop search engine sector (2019-2022) using CR3 and HHI

	2019	2020	2021	2022
CR3	99%	99%	99%	99%
HHI	9010	8935	8896	8783

Mobile search

Our audience share and concentration data for the mobile search market offers several insights. Google overwhelmingly dominates this market segment, maintaining an audience share of around 98% each year. DuckDuckGo has shown a notable increase in audience share, albeit from a tiny base, rising from 0.5% in 2019 to a peak of 0.78% in 2021, before slightly decreasing to 0.74% in 2022. Yahoo! and Microsoft have relatively stable but low shares, with Yahoo! ranging between 0.58% and 0.64% and Microsoft fluctuating slightly between 0.36% and 0.47%. Baidu's presence in the Australian mobile search market is minimal and declining, dropping from 0.11% in 2019 to just 0.02% in 2022. Overall, the market remains highly concentrated, with a HHI consistently over 9600 and the concentration ratio of the top 4 firms hovering around 99.77%, indicating marginal competition and significant dominance by Google. Again, the extent to which these high levels of concentration have been locked in over time also stands out, as does the reality that rather than gradual shift from the 'desktop internet' to the 'mobile internet' having a moderating influence, it only seems to have further girded Google's search monopoly.

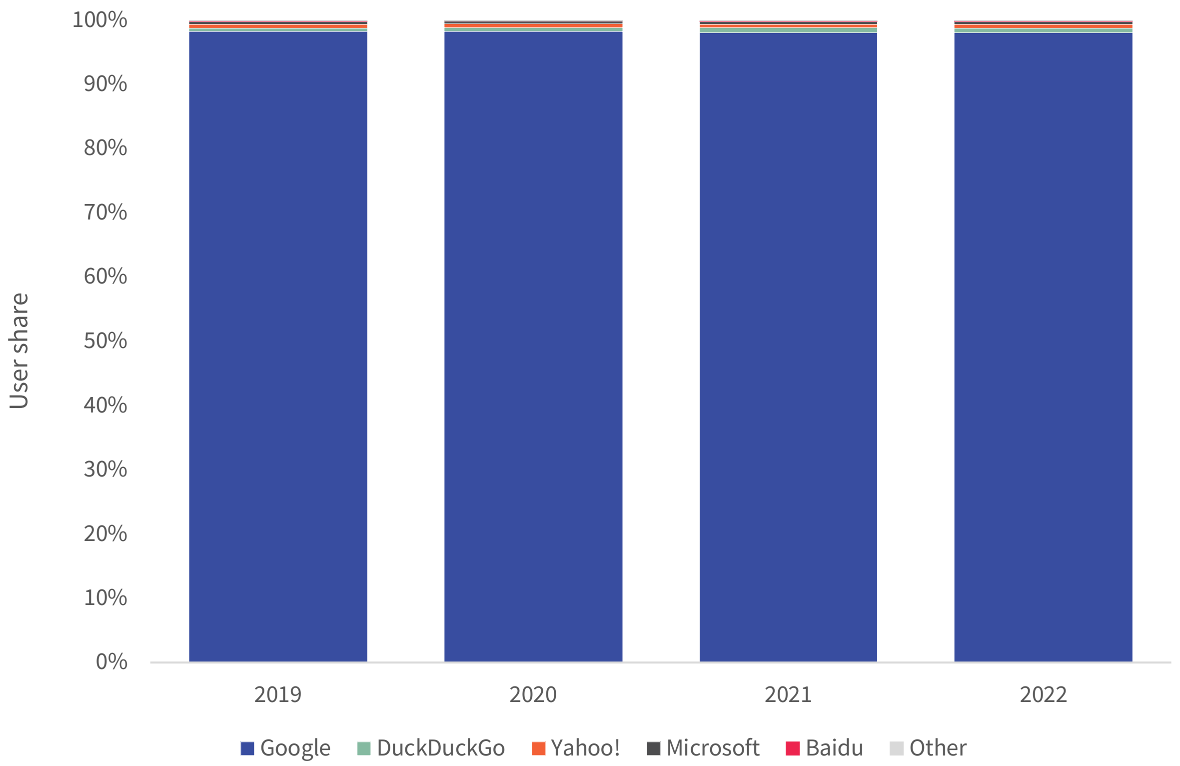
99.77%

The concentration ratio of the top 4 firms in mobile search hovered around 99.77%, indicating marginal competition and significant dominance by Google.

93%

Google search has the largest user base in the desktop search sector, representing over 93% of the market.

Figure 17: User share of mobile search engines



Sources: see "Fig 17 Search Mobile" in the Excel Workbook accompanying this report and the Search Engines Mobile sheet in the GMIC Project—Australia open data sets for the revenues of each company covered in this figure.

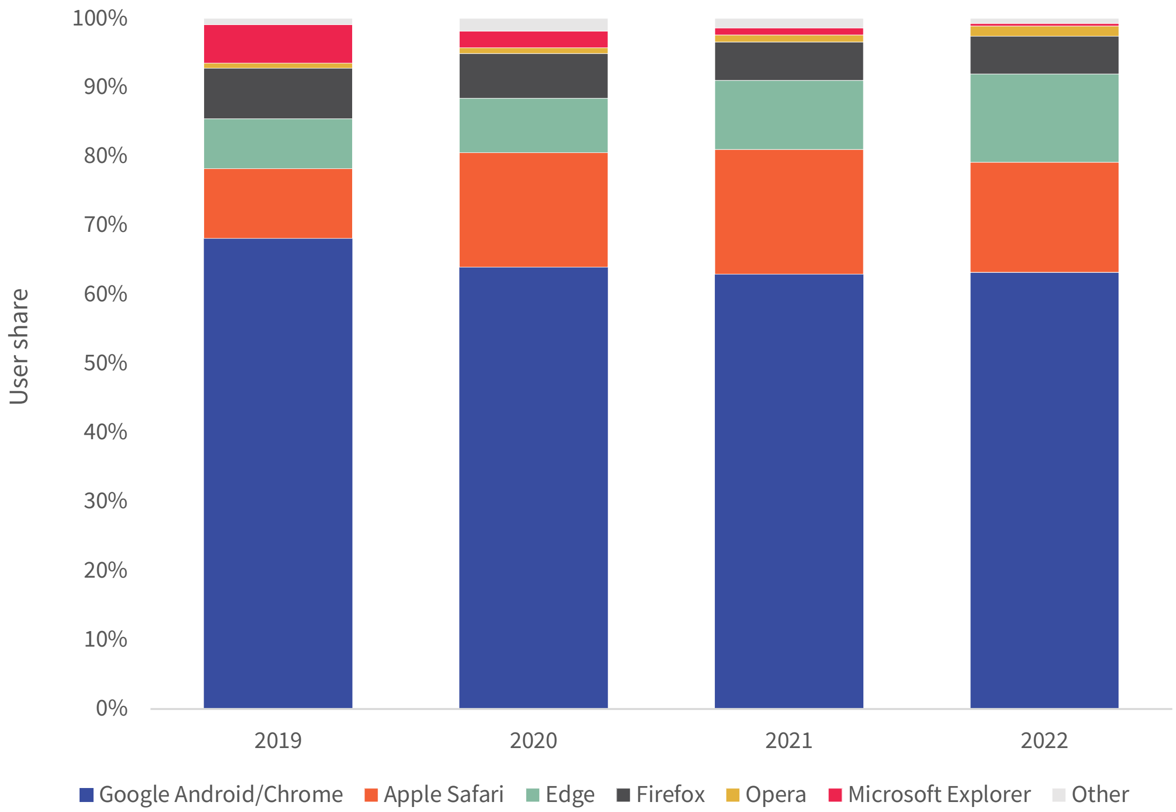
Table 16: Levels of concentration in the mobile search engine sector (2019-2022) using CR4 and HHI

	2019	2020	2021	2022
CR4	99.7%	99.7%	99.7%	99.7%
HHI	9648	9642	9605	9605

Desktop browsers

The audience share and market concentration data for the desktop browser market in Australia from 2019 to 2022 reveal several key insights. Google also dominates this market segment, maintaining an audience share of between 62-68% each year for its Chrome browser product. This is followed by Apple's Safari has increased from 10% in 2019 to a peak of 18% in 2021. Microsoft's Edge browser has seen a rapid uptake from 7% in 2019 to 12% in 2022. This has happened as they have discontinued support for their antecedent browser software, Microsoft Explorer, which has decreased from a 5.5% market share in 2019 down to .4% in 2022. Mozilla's Firefox maintained a modest market share at 7% in 2019 down to 5.5% in 2022. The market is highly concentrated, with the Herfindahl-Hirschman Index (HHI) consistently over 4400 and the Concentration Ratio of the top 4 firms (CR4) between 92% and 97.5% indicating very little competition and a significant dominance by a few firms, primarily Google.

Figure 18: User share of desktop browsers



Sources: see "Fig 18 Desktop Browsers" in the Excel Workbook accompanying this report and the Desktop Browsers sheet in the GMIC Project—Australia open data sets for the revenues of each company covered in this figure.

Table 17: Levels of concentration in the desktop browser sector (2019-2022) using CR4 and HHI

	2019	2020	2021	2022
CR4	92.8%	94.9%	96.5%	97.4%
HHI	4884	4486	4422	4448

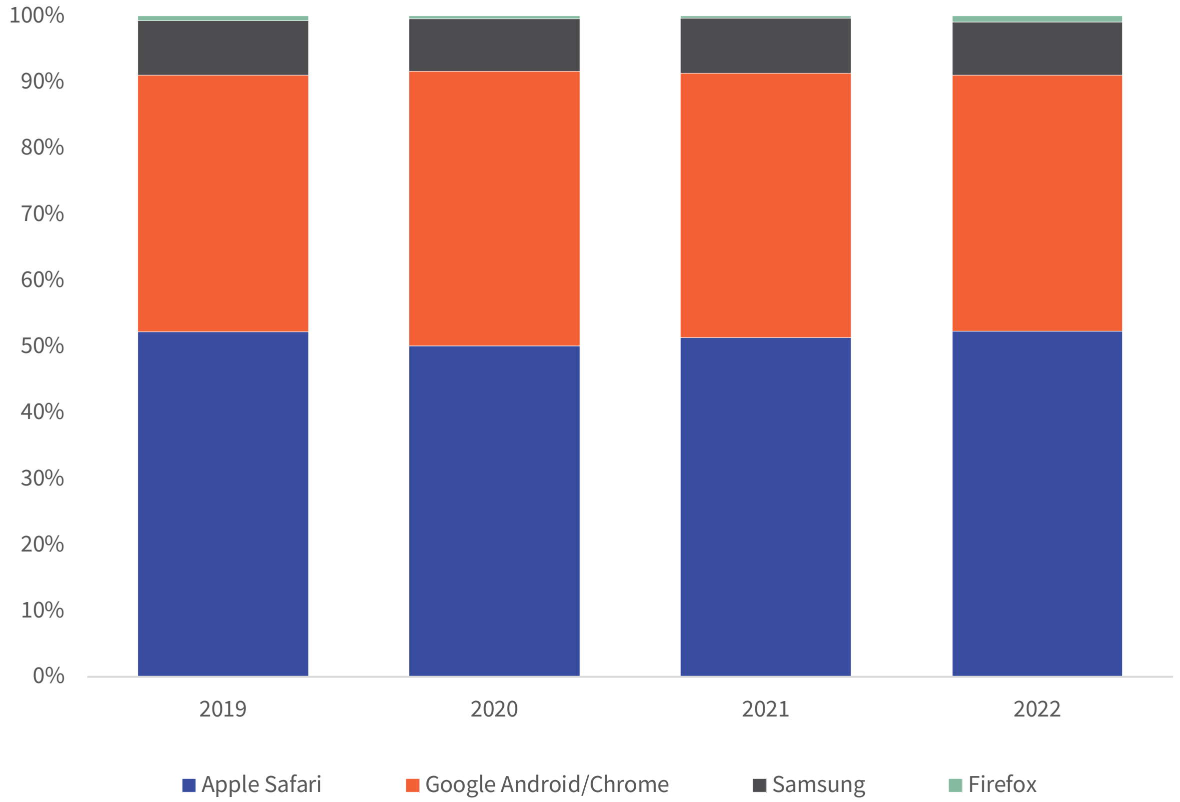
From this data emerges two insights of note. First, Google's Chrome stands out as a clear favourite among consumers, even though it is not a default browser on most devices, unlike Apple's Safari and Microsoft's Edge and Explorer. This suggests that desktop users are actively engaged in choosing a browsing service on their devices rather than defaulting to browsers bundled with their operating systems. The other trend of note is how the grandfathering of Explorer appears to have had a negligible impact on Microsoft's overall market share, with Edge effectively subsuming its prior market position.

"desktop users are actively engaged in choosing a browsing service on their devices rather than defaulting to browsers bundled with their operating systems"

Mobile browsers

Like the desktop browsing sector, mobile browsers also show leading market positions from Apple and Alphabet. The largest market share at 52%, held by Apple's Safari is indicative of the popularity of their handset devices. Alphabet's Chrome Browser has the next largest share at 38%. Unlike the desktop market, Microsoft Explorer has a marginal presence (0.02%) alongside Mozilla Firefox (0.95%). The stronger representation of the Samsung browser in this market (8%) suggests that mobile users are more likely to use their default browser services, whereas Chrome in the desktop market has significant success as a third-party application.

Figure 19: User share of mobile browsers



Sources: see "Fig 19 Mobile Browsers" in the Excel Workbook accompanying this report and the Mobile Browsers sheet in the GMIC Project—Australia open data sets for the revenues of each company covered in this figure.

Table 18: Levels of concentration in the desktop browser sector (2019-2022) using CR4 and HHI

	2019	2020	2021	2022
CR4	97.4%	97.7%	97.8%	98.9%
HHI	4139	4140	4150	4214

As with all core internet applications, mobile browsing is a highly concentrated market, with a HHI or 4214 in 2022. A CR4 of 99% shows that most of that market share is controlled by only a few operators, with Apple and Alphabet being the largest players.

Core internet applications grouped results

The table below shows that the average CR4 scores for core internet applications are consistently high, ranging from 97% to 98% between 2019 and 2022. This indicates that the top four firms in each market segment consistently account for nearly all of the market share, although often it is constituted of even less players – for instance, duopolistic markets seen in desktop and mobile operating systems. Similarly, the average HHI scores are also very high, ranging from 6191 to 6354. These scores are well above the 2500 threshold used by the US Department of Justice to indicate a highly concentrated market.

These findings are consistent with the analysis presented throughout the report, which highlights the dominance of a few key players, particularly the tech giants Alphabet, Apple, and Microsoft, across various core internet applications. The data suggests that these companies have maintained or even strengthened their market positions over time, with little sign of significant competition emerging. This raises concerns about potential barriers to entry, reduced consumer choice, and the potential for anti-competitive behaviour.

Table 19: CR4 and HHI averages for core internet applications (2019-2022)

	2019	2020	2021	2022
Average CR4	97%	98%	98%	98%
Average HHI	6354	6236	6191	6231

Conclusion

The study has focused upon revenue trends as well as market concentration and economic dominance in Australian media markets, across the many sectors that make up the three broad categories of telecommunications and Internet access, online media and traditional media services, and core Internet applications. It has used revenue as a common basis for measuring market concentration, and we have found that, information and data sources for Australian media industries are quite robust.

Using the three-fold categorisation of markets as non-concentrated, moderately concentrated and highly concentrated, as developed by the US Department of Justice (2010) using the Herfindahl-Hirschman Index (HHI), our research found that almost all Australian media markets are moderately concentrated or highly concentrated. We note that radio has seen a market that has become more concentrated over the period of 2019-2022.

Table 20: Concentration rankings across the network media economy in Australia

Low Concentration (100 ≤ 1,500)	Moderate Concentration (1,500 ≤ 2,500)	High Concentration (2,500 ≤ 10,000)	Monopoly
	ISP market	Wireless	Multichannel video distribution
	Broadcast television	Wireline	
	Online video services	Newspapers	
	Radio	Internet Advertising	
		Desktop operating systems	
		Mobile operating systems	
		Desktop search	
		Mobile search	
		Desktop browsers	
		Mobile browsers	

2.5x

Telecommunications company Telstra operates across five market segments and is roughly 2.5 times larger in terms of revenue than the second largest company, Google.

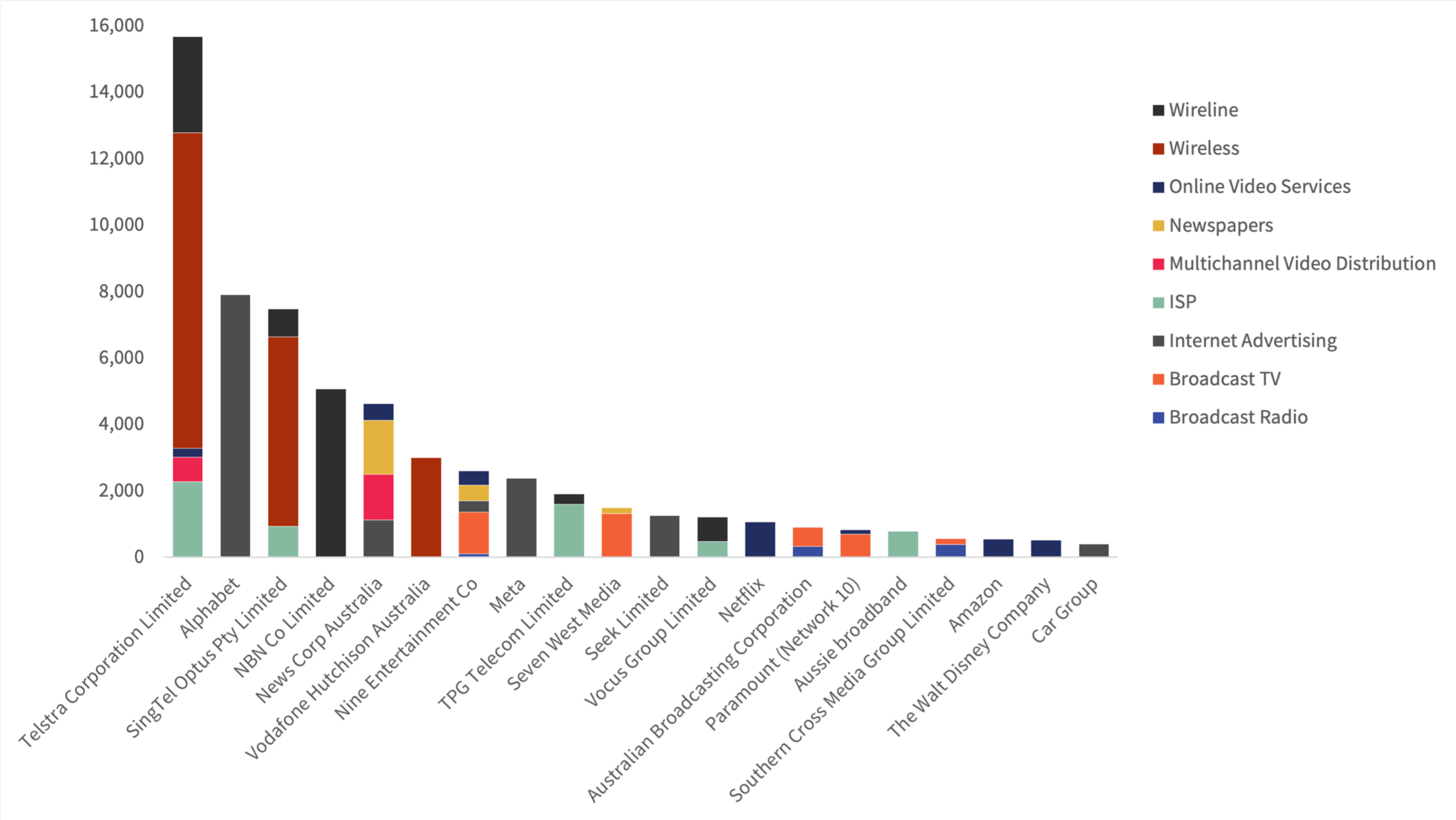
$62.1bn

The value of the network media economy in Australia is $62.1 billion. The revenue of the top four telecommunications operators account for half.

In two of the markets analysed – broadcast television and radio – the findings are complicated by the presence of the Australian Broadcasting Corporation (fully funded by government) and the Special Broadcasting Service majority funded by government). These two markets would be considered highly concentrated if the focus was solely upon commercial advertising revenue. Of special note, and contrary to early techno-optimistic beliefs, nearly all core elements of the internet have amongst the highest concentration levels of the sectors we cover.

Moving from individual media markets to the question of who are the Top 20 media players across all media segments, it is notable that the largest media player by a considerable margin is the major telecommunications company Telstra. Operating across five market segments under consideration, it is roughly 2.5 times larger in terms of revenue than the second largest company, Google and telecommunications company Singtel Optus. Indeed, four-out-of-five of the largest companies are telecommunications companies, with the broadband provider NBN Co and Vodafone Hutchinson Australia next on the ranks after Singtel Optus 4. Altogether, the top four telecommunications operators account for half of the overall network media economy valued at $62.1bn in revenue in 2021. The size of the top 20 based on revenues is shown in Figure 20, below.

Figure 20: Revenues of the top 20 Australian telecommunication, internet and media companies (2021) (millions, AUD$)



Sources: see "Fig 20 Top 20 Companies 2021" in the Excel Workbook accompanying this report and the relevant sector sheets in the GMIC Project—Australia open data sets for the revenues of each company covered in this figure.

The largest company based in traditional media services in Australia is News Corporation, which is the 5th largest company in overall revenues. News Corporation is the dominant player in newspapers and is part-owner (with Telstra) of the monopoly video distribution service Foxtel. It also has a presence in online video services derived from genre-based spinoffs from its Foxtel service, Kayo (sports) and Binge (entertainment). The other largest media companies are Nine Entertainment (broadcast TV, newspapers, online video services), Seven Network (broadcast TV, newspapers), the government-funded Australian Broadcasting Corporation (broadcast TV, radio) and Network 10 (broadcast TV, online video services).

One of the more interesting markets is that of online video services. The availability of revenue information for this sector is patchy, as many of its largest operators are either global media players (Netflix, Disney +) or part of complex digital businesses (Amazon Prime, Apple TV). But it is a market where there is genuine evidence of both disruption of traditional media oligopolies in broadcast TV, and the entry of traditional media players into streaming, such as Nine Entertainment (Stan), News Corporation (Binge, Kayo) and Network 10 (partnership with Paramount.

The most concentrated markets were those for online and mobile services. These are to a substantial degree dominated by four global players: Google/Alphabet, Apple, Meta, and Microsoft. The extent of their market dominance is not fully captured in the data gathered as it is difficult to discern the relationship between dominance over the means through which media content is accessed (search, mobile etc.) and the capacity to shape media content industries. However, the concerns of traditional media companies about digital dominance, as manifested in Australia through the News Media and Digital Platforms Bargaining Code and proposals to set local content standards for video streaming services, point to the underlying tensions arising from overwhelming market dominance in such digital markets.

Overall, once we examine the network media economy in aggregate in Australia, several factors stand out. First, the Australian media economy grew from $63bn to $69.5bn dollars between 2019 and 2022. Second, telecommunications dominate insofar that they account for the lion's share of revenue, outstripping total revenue for the traditional and online media services—which had total revenue of $28bn in 2022—by a sizeable margin. It is likely that the big tech companies would also rank high (or higher) amongst the top 20 companies in Australia but a gap in publicly available revenue data regarding their Australian operations leaves us with an obvious omission from this report. Nonetheless, drawing on our earlier discussion of internet advertising (see page 31), it is possible that Google Australia's advertising revenue was as high as $7.1bn dollars in 2021, which would make Alphabet the second largest operator in this study. Following the same logic, Meta would have an estimated revenue of $2.1 billion, making it the eighth largest company on the top twenty rankings in Figure 20. Third, from the standpoint of this aggregate view of the media economy, concentration levels appear at this highest level of aggregation to be not particularly high.

That said, we must bear in mind that this observation at the most general level of observation does not obviate conclusions at the sectoral and mid-range level of analysis that we have documented, step-by-step throughout this report. Indeed, as we have observed, the top firm—Telstra—accounts for 25% of the total and the top four telecommunications operators account for half of all revenue across the network media economy. Rounding out the top ten companies reveals several more traditional media companies that have long loomed large in the country, such as: News Corp (5th), Nine Entertainment (7th), TPG (a telecoms company) (9th) and Seven Network (10th). The public service broadcaster, ABC, ranks fourteenth on the list. Altogether, the top ten entities accounted for 84% of the media economy. The HHI at this aggregate level was 1167 in 2022.

While none of those metrics strikes us as being especially high on their own, a closer look highlights some areas of concern. The broad nature of aggregate measurements underplays the influence of individual players. This becomes clear when we examine the more detailed analyses of specific sectors like telecoms, internet access, and traditional or online media.

In final consideration, the Australian results in relation to the select cases that have reported so far as part of the GMIC Project reveals that Australia ranks at the very high end of the scale in comparison to the United States, South Korea, China, Italy and France, where it sits alongside Switzerland and Canada. Of the countries that have reported so far, only Brazil has higher aggregate levels of concentration. These observations substantiate the long-reputed, but not often carefully verified, views that media concentration levels in Australia are amongst the highest in the world.

Table 21, below, illustrates these points.

Table 21: Media and Internet Concentration: Select International Comparisons 2021/2022 (Sources: GMIC Project country reports)

	United States	South Korea	China	Italy	France	Switzerland	Canada	Australia	Brazil
CR1	11.3%	15.4%	17.9%	19.6%	21.1%	26.1%	23.7%	25%	32.0%
CR4	36.1%	40.9%	42.0%	42.7%	54.2%	56.2%	60.7%	58%	82.6%
CR10	56.4%	56.0%	65.4%	67.3%	77.6%	74.7%	79.6%	84%	99.4%
HHI	432.3	542.2	648.0	689	935.3	1076.7	1137.4	1167	2165.9
Big Tech + Streaming	19.4%	-	29.6%	10.2%	12%	21.2%	18%	19%	13.1%

Some key takeaways from this study and areas for further research include:

1. The rise of digital distribution and over-the-top (OTT) systems is rapidly undermining the business models of traditional media. In some instances this is enhancing consumer choice, as with online video services, but in most cases it is simply eroding the advertising revenue base of established media companies, which creates pressures for further market concentration. This is apparent across radio, broadcast TV and newspapers.
2. The level of foreign ownership and control over Australian media is most likely increasing. With the exception of wireless and wireline services, where Telstra and NBN Co. dominate, the general pattern is one of the gradual erosion of the revenue base of established Australian-owned media companies, who are consolidating in order to survive.
3. This will raise issues around the capacity to pursue socio-cultural and other objectives for Australian governments in the media area. The ability to regulate for accuracy in news, Australian content in TV and radio, and equitable geographical distribution of services such as telecommunications, have historically derived from the major players in these industries being Australian-based. As audience traffic migrated to global platforms, such measures are challenged, as seen with the difficulties in setting Australian screen content quotas for online video services.
4. Nine Entertainment Co and News Corp appear to have made a strong pivot into online markets, each with a notable stake in internet advertising and online video services. Other print and broadcast giants in Australia, such as Seven West, Paramount and Australian Community Media appear to have much smaller footprints in these markets in Australia.
5. The implications of dominance over the digital and mobile distribution spaces by a small number of global digital conglomerates (Google/Alphabet, Apple, Microsoft, Meta and Amazon) for media markets in Australia are poorly understood. One obvious area in which their impact is being felt is in advertising, with Google and Meta dominating the growing digital advertising market, and the decline in traditional advertising channels. But in an age of increasingly data-driven capitalism and artificial intelligence, this dominance may be even greater. This has public policy implications that are not fully clear at this stage.
6. With the possible demise of the News Media Bargaining Code following the pending withdrawal of Meta from its existing contracts, one option for funding journalism going forward is a Digital Advertising Tax. On our estimates of the size of the Internet Advertising market, a 2% tax on digital advertisements placed and carried on Australian platforms could generate $A300 million in revenue, which

could be committed to a Fund to provide ongoing support for Australian journalism. About 70% of this tax would come from Alphabet and Meta, but it would not require the provisions about being a news distributor that the current NMBC requires, and which Meta has contested. It would also be future-proofed should Google Search pivot from links to news publishers to AI-generated search results.

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