



Ad'ing value: The impact of digital advertising on the Australian economy and society

IAB Australia

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Ad’ing value - The role and impact of Australia’s digital advertising industry

PwC

Key findings

Contribution to Australia's economy

\$13 billion

Direct revenue of the industry in 2021

24,600 jobs

Direct jobs supported in 2021

\$94 billion (>4% of GDP)

Direct and flow-on contribution to Australia's national income (as measured by gross domestic product, or GDP) in 2021

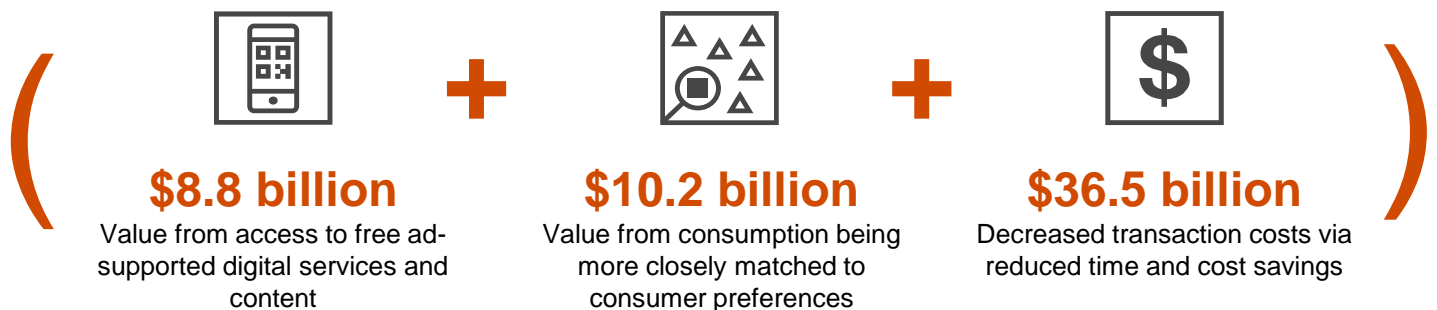
450,000 jobs (>3% of total jobs)

Direct and flow-on jobs supported in 2021

Value for the Australian community

\$55.5 billion

Total annual consumer benefit in 2021, consisting of:



\$544 annual perceived value accessing free ad-supported digital services and content

25 minutes

per transaction time saving researching products on ad-supported content

~2x ... the perceived value of free ad-supported digital services and content is twice as high (relative to income) for lower income households

\$71

per month cost saving researching or purchasing goods and services online

81% of regional Australians more easily able to stay in contact with friends and family using ad-supported services

40%

regularly finding or purchasing second-hand products online supporting the circular economy

Executive summary

The digital advertising ecosystem plays a central role in Australia's economy and society. It enables the delivery of free online content, products and services to all Australians, grows businesses, supports 450,000 jobs (24,600 directly) and contributes \$94 billion to GDP.

Digital advertising is one of this century's most dynamic and rapidly growing industries. It has experienced double-digit revenue growth in most years since the industry began reporting in 2002, and has fundamentally changed since PwC last did a report of this nature for IAB Australia in 2012. At that point, the industry's revenue was around \$3.1 billion,¹ 83 per cent of Australians were online (only 60 per cent of Australians aged 55+) ² and 19 per cent of advertising was online³. In 2021 the industry's revenue was \$13 billion,⁴ with consumer online access now at 99 per cent (98 per cent for Australians aged 55+) ⁵ and 66 per cent of advertising was online⁶.

This evolution, driven mainly by rapid technological development, has transformed the advertising landscape and opened up a wide range of opportunities for both businesses and consumers. For businesses, online advertising provides an easy access route to support their economic growth and productivity. This is particularly important for SMEs. SMEs receive 61 per cent of the sector's benefits ⁷. 44 per cent of digital advertising spend (\$5.7bn) comes from the SME segment of the economy.⁸ These businesses can now reach domestic, and international, consumers wherever their business is in Australia, much more easily and at a relatively lower access cost.

For Australian consumers, this evolution has delivered access to an expanding online ecosystem of information, news and entertainment content as well as social and search services, free of charge. Consumers highly value this. According to PwC analysis the average Australian consumer is willing to pay \$544 annually to access currently free ad-supported digital services and content. This equates to provision of a benefit of \$8.8 billion to consumers annually in ad-supported digital content and services - and approximately \$1100 per household.

In addition to free access to digital content and services, the digital advertising ecosystem enables Australian consumers to decrease their transaction costs. That is, it saves them time and money, and enables their consumption to be more closely matched to their preferences.

PwC analysis shows that consumers on average save 25 minutes per transaction by accessing ad-supported digital content and services to research products before they purchase - \$15.9 billion in time savings annually - and \$71 per month from researching or purchasing goods and services online.

Our analysis identified \$55.5 billion in total consumer benefits. In addition to \$8.8 billion to consumers annually in ad-supported digital content and services, this consists of: \$10.2 billion in increased consumer value from having consumption more closely matched to preferences; plus savings of \$36.5 billion annually for consumers from decreased transaction costs, (\$14.7 billion of which relates to decreased prices for goods and services due to increased competition between suppliers; \$15.9 billion relates to decreased transaction costs from researching online and \$5.9 billion relates to the use of free educational services online).

The ad-supported online ecosystem also provides significant benefits to society more broadly. It connects communities, supports democracy through free access to news content, provides increased access to job opportunities, education and financial information in addition to entertainment content, and supports a thriving second-hand marketplace.

According to the PwC Consumer Survey, 78 per cent of survey respondents indicated that digital content and services enable them to more easily stay in contact with friends and family. In regional areas, this was as high as 81 per cent. Use of ad-supported services also rose significantly during the COVID-19 pandemic, including online video content (up 36 per cent), social media (up 32 per cent) and digital news services (up 32 per cent).

Most critically, ad-supported online content and services are most important to lower-income consumers. For consumers on annual incomes below \$50,000, the value they attribute to content and services that are currently free was roughly double that of consumers with annual incomes of over \$80,000.

Looking to the future, Australians are increasingly living their lives online as the digital economy further develops through applications of 5G, consumer technology advancement, and greater access for all. This will continue to push the digital advertising industry to evolve - in terms of the technologies it uses; how it best reflects consumer expectations in a rapidly changing online environment; and the regulatory framework it is expected to operate within. It is clear, however, consumer demand will continue to put the industry at the centre of the digital economy.

¹ IAB Australia (2012), Online Advertising Expenditure Report
² ABS (2014), Household Use of Information Technology, Australia 2012-13

³ IAB (2012), Online Advertising Expenditure And Market Share Surpasses Newspapers According To CEASA Report, accessed at: <https://iabaustralia.com.au/news/online-advertising-expenditure-and-market-share-surpasses-newspapers-according-to-ceasa-report/>

⁴ IAB Australia (2022), Online Advertising Expenditure Report

⁵ Australian Communications and Media Authority (ACMA) - Communications and media in Australia: How we use the internet

⁶ PwC (2022), Australian Entertainment & Media Outlook 2022-2026

⁷ AlphaBeta (2022), Google's economic impact in Australia.

⁸ Internal IAB figures



1

Introduction

Introduction

Digital advertising is central to modern society

The ad-supported digital ecosystem is central to modern society. As of 2021, 99 per cent of all **Australian adults have access to the internet** while 91 per cent of Australian adults have a home internet connection, and three-quarters of these have an NBN connection.¹ Underpinning this is a varied and rapidly evolving ecosystem of media environments, platforms and creators, advertisers and agencies, and technologies, which together, allow consumers to access a wide range of content and services for free, while also delivering economic value to businesses large and small.

The rapidly evolving digital advertising ecosystem has created a wide range of benefits to businesses and consumers

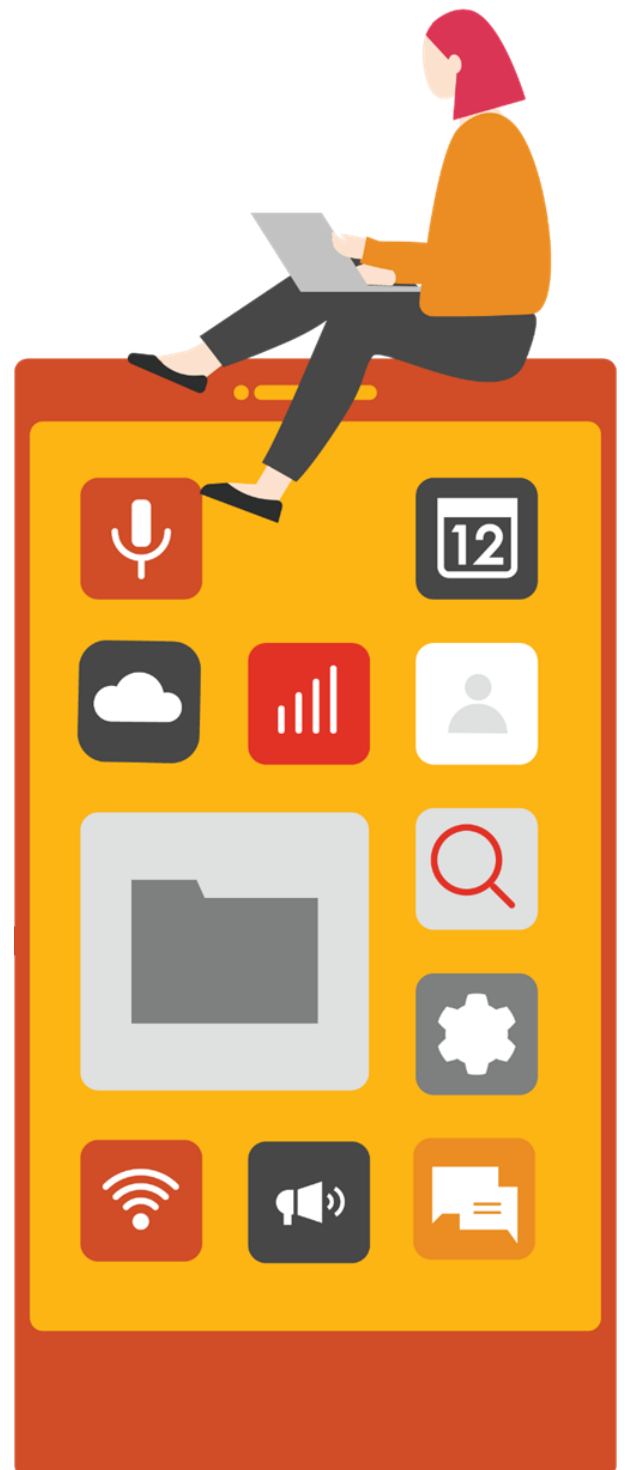
The value of advertising for businesses in general terms is broadly understood - reaching potential customers, facilitating revenue growth and improved information flow for businesses of different sizes. What is more difficult is understanding the highly complex nature of the digital advertising industry and how this evolving ecosystem has created a wide range of benefits to both businesses and consumers, given its technical nature and multiple streams. **Measuring these varied economic effects paints a picture of the large-scale impact this industry has on the Australian economy.**

Supporting Australian business

Small and medium sized businesses see particular benefit as often traditional methods of advertising were historically difficult for smaller businesses to access and manage as well as often being cost prohibitive. **Digital advertising has changed the advertising landscape, providing a low-cost and easy access route for smaller businesses** to effectively market their products and services. This activity drives further value, supporting productivity and long-term economic growth across the Australian economy.

Value to the community

In addition to the value for businesses, what is less commonly understood is the **significant value that digital advertising provides to consumers, the community and society** more generally. Digitisation is pervasive across nearly all forms of Australian life today, and with it, **ad funded variations grant Australians access to online services and content for free** - ranging from entertainment, communications, and personal utilities at home and when on the go.



¹ Australian Communications and Media Authority (ACMA) - Communications and media in Australia: How we use the internet, December 2021
Adding value - The role and impact of Australia's digital advertising industry
PwC

Introduction (cont'd)

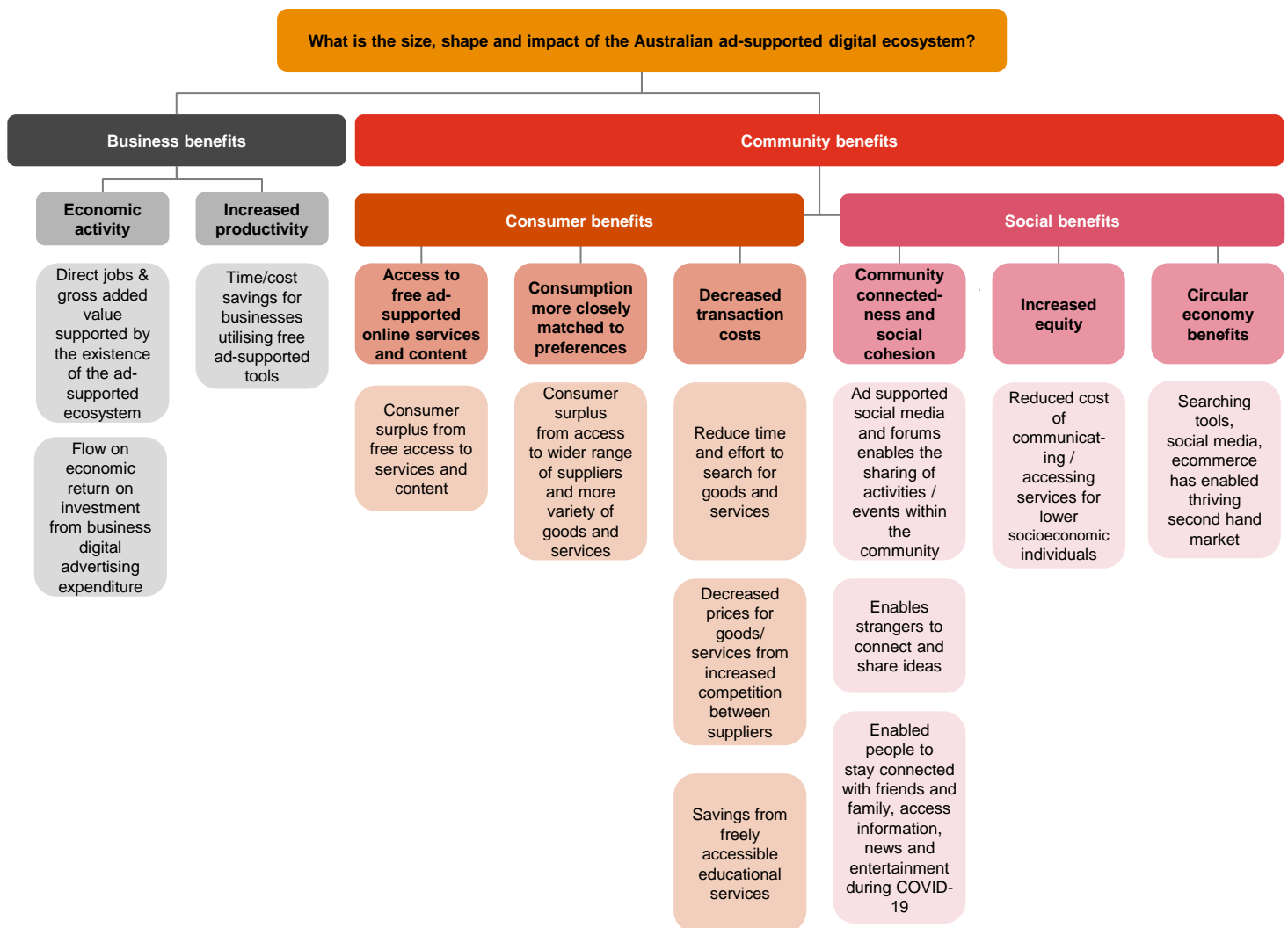
In this report we have sought to better understand these benefits and answer the questions: **'what is the size, shape and economic impact of the Australian ad-supported digital ecosystem?'**

Figure 1-1 presents the framework of how we answer this question. The framework provides an overview of the types of **value and benefits delivered by the ad-supported digital ecosystem** across each of the beneficiaries. These benefits, how they are accrued and estimations of their value are explored in more detail in this report.

The remainder of this report is structured as follows:

- section 2 introduces the ecosystem in more detail - describing the size and shape of the digital advertising industry and how it has evolved into what it is today
- section 3 analyses the benefits to Australian businesses and the broader economy (as shown in the 'business benefits' branch of Figure 1-1)
- section 4 delivers an answer to the final part of the question; providing estimates for the impact of the ecosystem on consumers and the community more broadly (as shown in the 'community benefits' branch of Figure 1-1).

Figure 1-1: Benefit framework





2

An overview of Australia's digital advertising industry

2.1 The evolution of the Australian digital advertising industry

Digital advertising in Australia is one of this century's most **dynamic and rapidly growing industries**. The industry has experienced double-digit annual revenue growth in most years since industry reporting began in 2002. Despite the COVID-19 pandemic inducing a 7.1 per cent decline in overall advertising industry revenue in 2020, digital advertising posted a growth rate of 6.0 per cent in 2020 and 35.8 per cent in 2021 with advertiser spend now passing \$13 billion.¹

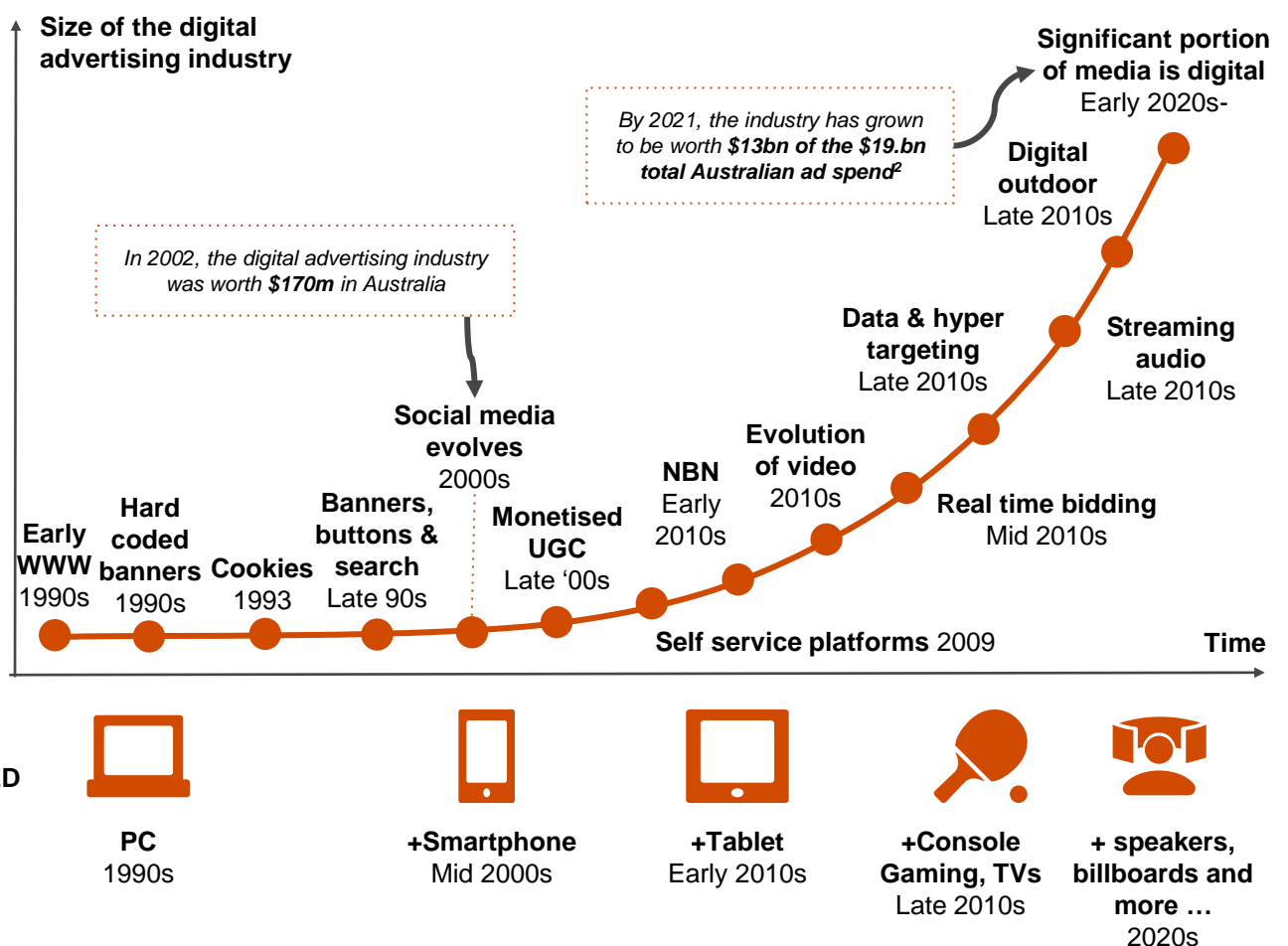
The key growth driver has been rapid technological development, driving a proliferation of new media and content services for consumers and the access behaviours they enable. This is coupled with broad developments in the technology supporting advertising for businesses looking to showcase their products and services as consumers browse and engage with content. Never before have consumers had access to so much content, nor advertisers had such a broad tool kit at their disposal to reach these consumers.

Consistent change, persistent goal

Since the 1990s, the technology that delivers digital advertising has developed from single dimensional with web-based banner advertising, to data-driven targeting and buying automation. Added to this has been the proliferation of social media services in the 2000s along with harnessing the power of user generated content, plus today's broad array of multidimensional and responsive advertising types across web, mobile, TV, out-of-home, audio and other internet-connected devices and placements. Throughout the industry's evolution, the challenge for all industry participants has remained the same - **to capture consumer attention and its subsequent monetisation**.

Figure 2-1 provides a high level overview of the evolution of the digital advertising ecosystem since the inception of the World Wide Web (WWW), outlining the key technological developments that have driven growth and change in the industry.

Figure 2-1: Digital advertising evolution



¹ 2021 IAB Online Advertising Expenditure Report produced by PwC

² 2022 PwC Entertainment & Media Outlook Report - 2021 total year advertising spend

2.1 The evolution of the Australian digital advertising industry (cont'd)

Technological evolution - The development of the digital advertising industry has been aided by rapid technological changes, with the evolution including the following advancements:



Traditional ad buying/selling models - The buyer connects and negotiates with the seller to deliver and post the ad within the specified media channel (e.g. billboards, magazines and journals, radio, TV, etc).

Hard coded banner ads - Advertisers and publishers automate delivery of how ads are placed - from simple time of day, or section of the website, to more complex audience data targeting.



Use of 'ad servers' - Delivery management function whereby ads are delivered to a wide range of websites, whilst also allowing website owners to automate the delivery of ads into their placements.

Growth of ad networks - an intermediary between websites and potential buyers, collating a range of sites into a packaged offering for advertisers to create efficiencies through a central sales house.



Development of pay per click models and early iterations of auction-led models - advertisers bid to secure positioning on search result pages and pay for advertising 'per click' when a user interacts.

Social media networks and self-service ad buying platforms - platforms that offer 'self-service' software interfaces for advertisers to create and buy adverts within the platform.



The development of real-time bidding and data-led buying ... 'programmatic' - the buying and selling of online advertising inventory on a per-impression basis through 3rd party technologies.

Digitisation of offline media - Digital variations of traditional media expanding (e.g. broadcast video on demand delivered to connected TVs, streaming audio via smart speakers, and digital outdoor billboards).



The pandemic effect

As is the case for most industries, the COVID-19 pandemic left an imprint on the Australian advertising industry. Amid the pandemic and related economic impacts, the industry has continued to rapidly transform and Australians' adoption of **digital consumption has accelerated**, with online retail for example jumping 70 per cent in the year to October 2020.¹ Shifts in consumer behaviour have been brought forward, presenting new opportunities for advertisers and greater digital access to brands for consumers.

While the pandemic brought both positive and negative disruption to the broader media and advertising industry, online and digitally-enabled media channels continue to evolve and are driving much of the growth seen across the sector.

Presently, **digital advertising is supporting growth across nearly all media channels**, from broadcast television and video-on-demand services, through gaming and news media, to podcasts and digital streaming radio. Digital out of home (DOOH) is also reported as being the leading driver of growth within the OOH sector as it transitions from paper-based billboards.

Moreover, the digital advertising sector was a beneficiary in both 2020 and 2021 thanks, in part, to online channels being able to offer greater buying flexibility, consumers' reduced mobility as lockdowns forced people to stay home and thus spent more time online, and a proximity to the point of purchase for burgeoning eCommerce offerings.



¹ ABS, Online sales, October 2020 - Supplementary COVID-19 analysis
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PwC

2.2 The ad-supported digital ecosystem today

For this report, we cover online advertising in its myriad of forms. Included are variations of paid placement of advertising in different environments aimed at sharing a message with a consumer surrounding, or spliced within, content and informational services. Direct industry revenue is typically reported across four subsegments:



Search and directories

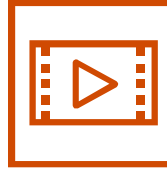
\$5.7bn

What: Ad content displayed among search engine or directory results based on targeted keywords and phrases. Ads are ranked using an auction-based system where advertisers bid on certain keywords related to their product or service to market their target audience.

Examples: Google, Amazon, Microsoft Bing

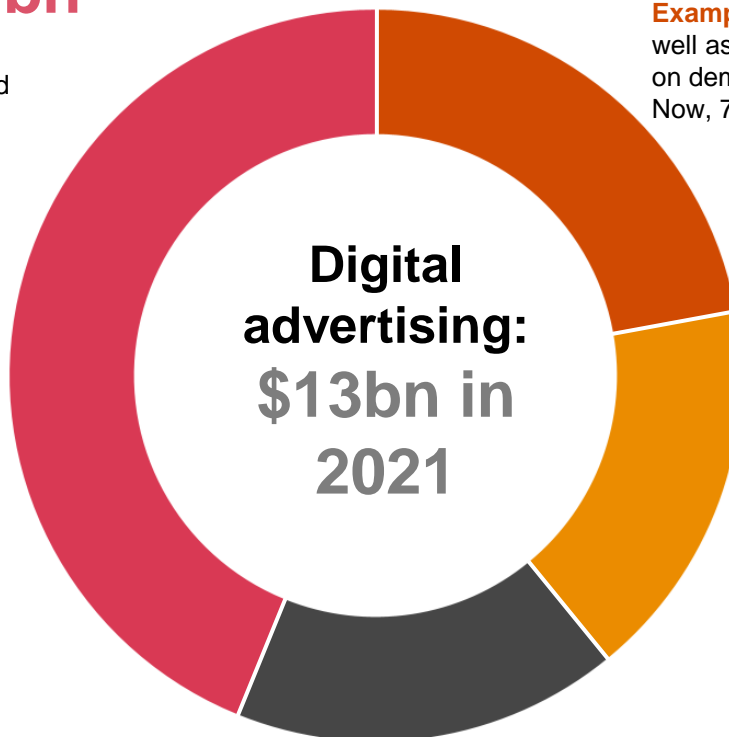
Video

\$2.9bn



What: Ad content displayed in video format via a video player providing both short and long-form, recorded and live content. Interactive video ads expand the reach of broadcast audio-visual content while also often allowing for more interactive formats and are increasingly offering in-video product purchasing.

Examples: YouTube, Facebook, Tiktok, as well as delivered through broadcaster video on demand (BVOD) platforms such as Nine Now, 7Plus, SBS On Demand and 10Play



Classifieds

\$2.2bn



What: Ad content via text or display is categorised under a relevant topic within a listing and accessed directly by the user. Online classified advertising is generally low cost or free and is effective in increasing customer reach through a simple medium. Many of the leading players are Australian developed and operated.

Examples: Seek, Domain, REA, CarSales



\$2.2bn

Display & other forms of online ads



What: A wide ranging category, covering adverts typically combining text, images and other interactive content either static or animated. Pervasive across the web and online environments, these ads appear alongside, or natively within content covering everything from text-based web pages, social media feeds, audio streaming, within games and even OOH billboards. The ability to deliver advertising with interactive features, be that to click through to the advertiser website, or within the ad itself, coupled with broad reach and ability to use data for targeting and decision making underpin this category's popularity with advertisers.

Examples: Facebook, The Guardian, news.com.au Spotify, SMH, Yahoo!, mobile and console gaming

Source: IAB Australia Online Advertising Expenditure Report 2022

2.2 The ad-supported digital ecosystem today (cont'd)

In addition to these media channels, the buying and selling of placements, and delivery of adverts into the media, is underpinned by a variety of other businesses and forms of increasingly sophisticated advertising technology ('ad tech'). Ad tech can be described as **'technology involved in connecting a buyer and a seller of advertising, inclusive of transacting, delivery, and measurement, across internet-enabled media channels'**.¹

Ad tech encompasses the platforms and programs involved in online advertising, designed to support the creation, tracking and management of digital advertising campaigns. The use of these technologies and services by marketers is typically aimed at improving the return on investment (ROI) of their advertising campaigns.

Businesses offering these support services to the digital ecosystem include:

- 1** **Direct to Publisher/Self-service Platforms** - allowing access for buyers to create and run campaigns within media properties
- 2** **Ad servers** - variations supporting both buyers and sellers in the management of digital advertising placements
- 3** **Ad Networks** - aggregation of media, of any type giving a single point of transaction for a broad range of sites and placements
- 4** **'Programmatic'** - technologies inclusive of 'Exchanges', 'Supply Side Platforms' (SSPs) and 'Demand Side platforms' (DSPs)
- 5** **Measurement and analytics** - providing service users with insight into the performance of their media properties and advertising campaigns
- 6** **Data and Data Management Platforms (DMPs)** - aggregating user data for targeting and insights purposes
- 7** **Optimisation technologies** - such as verification tools and creative (messaging) management tools
- 8** **Agencies** - providing planning, buying, management and design services (media and creative services)

The emergence of programmatic

One of the biggest evolutionary steps the digital advertising industry has seen in the last decade or so is the emergence of 'programmatic' trading of advertising spots. Initial variations of the underpinning technologies were first launched in the mid-late 2000s, with applications by both publishers and advertisers being rapidly adopted. By the mid-2010s this had become mainstream, **accounting for 42 per cent of display advertising buying by early 2022**.²

Programmatic trading sees buyers and sellers each using technology to instantaneously aid both the transaction and delivery of advertising. Buyers typically use a DSP to purchase placements sellers have made available through a SSP, with the transaction occurring typically via an auction.

This form of advertising trading takes a number of subforms. Advertisers are often able to take advantage of a variety of data sources to aid in their buying decision-making and, as the trading occurs on a per-impression basis, are afforded greater control over where, when, and to whom their ads are delivered.

Example technologies: Google, Hivestack, Index Exchange, Pubmatic, The Trade Desk (TTD), Vistar, Xandr

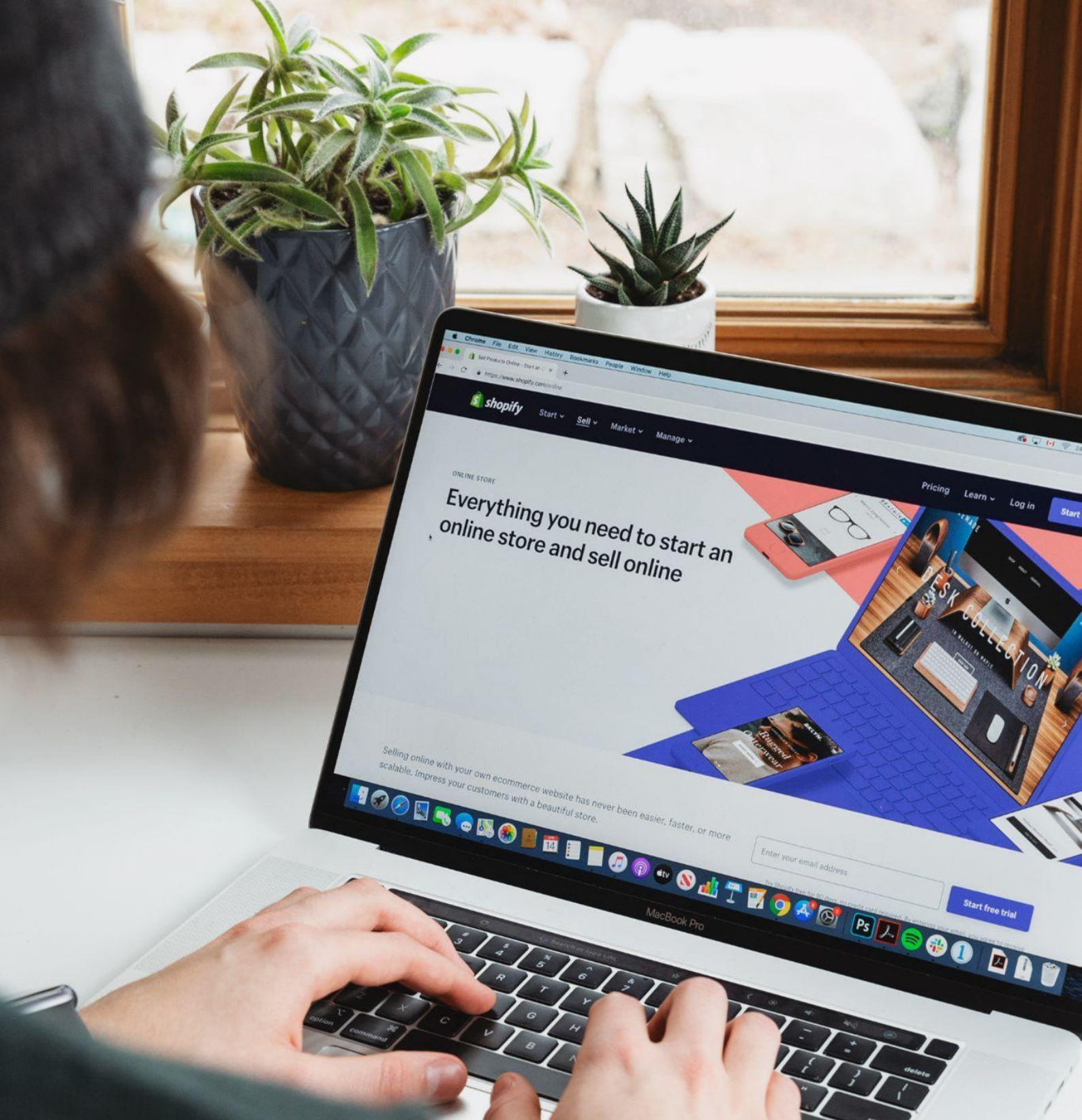
The benefits to business of the emergence of programmatic trading include:

- **Market access:** small and medium-sized publishers given greater scope to monetise their inventory via technology that would previously have required a physical sales team.
- **Transactional efficiency for buyers:** only purchase inventory 'wanted' for placements with perceived relevance to the target audience, using data and algorithms as the decision making aids
- **Process efficiency:** reduced need for negotiation between buyers and sellers as pricing is set by the auction.
- **Yield maximisation for sellers:** an auction dynamic allows for ad placements to be sold at the 'market rate' rather than human negotiated rate.

While all benefits have been noted, it is our understanding that the rapidly evolving nature of the sector means these are continually in flux with new technologies often seeking to solve market inefficiencies.

¹ October 2021 The advertising technology industry - its evolution and composition produced by PwC

² April 2022 IAB Australia Quarterly Revenue report



3

Growing Australian business

Growing Australian business

This section provides an overview of the size, shape and impact of the digital advertising sector on the Australian economy in terms of:

- **direct employment and revenue supported**
- **total contribution to the Australian economy when the flow-on effects along the supply chain and across the economy are included.**

Australia's digital advertising sector plays a large role in the economy and provides value to a wide range of participants - including businesses across the country. The growth in the Australian digital advertising market exhibits this with significant revenue growth over the past decade, **rising from around \$3.1 billion in 2012¹ to pass \$13 billion in 2021 - a compound annual growth rate of over 17 per cent.²**

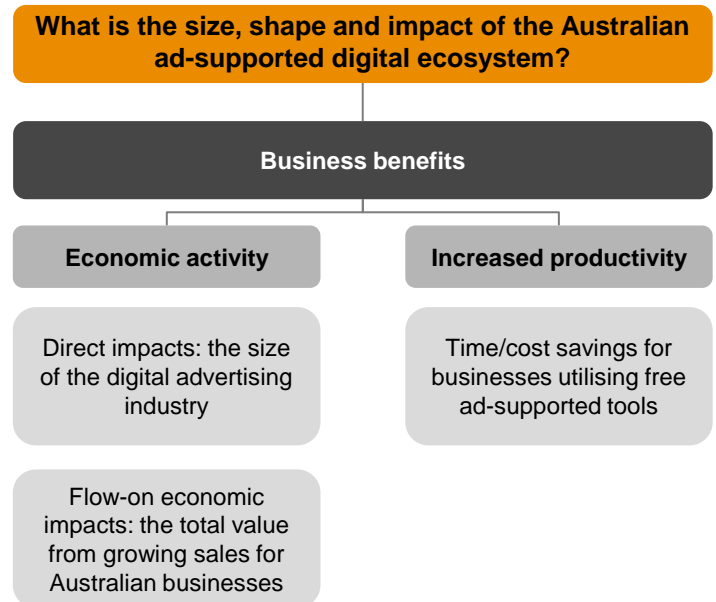
The market has also seen a significant expansion in the range of services and businesses that are involved in the ecosystem. The estimated value of digital activity in Australia's economy in 2019-20 was \$109 billion.³ The Australian Government's digital economy strategy outlines a goal for all businesses to be digital businesses by 2030.⁴ As more Australians spend more time online, so too the breadth and depth of services afforded to them has grown - both for consumers and for marketers to advertise through.

For marketers the coupling of large audiences and technology in digital forms of advertising provides a significant opportunity. In addition to large audiences, further benefits associated with online advertising are often cited to include the:

- **ability to deliver advertising in a wide range of formats**
- **low barriers to entry via self-service technology**
- **availability to utilise data for audience targeting and in-flight optimisation**
- **speed to market and flexible buying mechanisms.**

A comprehensive understanding of the total economic contribution of the ad-supported digital ecosystem to Australian businesses requires both qualitative and quantitative analysis. In addition to the increased economic activity generated by the existence of the ad-supported digital ecosystem, the services and tools it provides also deliver a productivity benefit to businesses. These benefits are represented within the overall value framework in Figure 3-1. A detailed description of the economic approach taken to quantify these benefits is available in Appendix A.

Figure 3-1: Business benefit framework



This report analyses the overall economic benefits of digital advertising activities based on two major components:

- **Direct impacts on the economy** - This is measured by the digital advertising sector's contribution to employment and profits to business owners. These are major components of an industry's gross value added (GVA).⁵ The GVA generated by the digital advertising industry is equivalent to its direct contribution to Australia's gross domestic product (GDP).
- **Flow-on (or indirect) impacts on the economy** - These are created by the stimulation of economic activity up and down the digital advertising value chain. That is, the existence of digital advertising products and services provides opportunities for other businesses to reach potential customers with greater efficiency, and stimulates employment and activity across Australian businesses.

These benefits and the value they provide to businesses and the economy more generally are explored in further detail in this section.

¹ IAB Australia, (total advertising revenue for the year to September 2012)

² IAB/PwC (2022), Online Advertising Expenditure Report CY21

^{3,4} Australian Government (2022), Digital Economy Strategy Update 2022

⁵ The GVA contributed by sector can also be measured by the value of the output (the price they charge for their products and services), less the value of inputs (the cost of factors of production) required to produce goods and services.

3.1 Direct impacts: the size of the digital advertising industry

3.3.1 Digital advertising industry revenue

Digital advertising generates significant economic contributions to the Australian economy. These contributions are driven largely by industry employment and the direct value delivered to businesses from expenditure on digital advertising.

In 2021, the digital advertising industry generated over

\$13bn in revenue in Australia

Source: IAB/PwC (2022), *Online Advertising Expenditure Report CY21*

The two largest contributors to the industry are Search and Directories, and Video. These two categories together account for over two thirds of total industry revenue. Section 2.2 depicts the break-down of industry revenue across all online advertising categories in further detail.

3.3.2 Digital advertising industry employment

Employment is another key metric that allows for the assessment of direct economic value in the digital advertising industry. Employment includes part-time and full-time jobs, as well as project-based work.

In 2021, the digital advertising industry directly supported over

24,600 jobs in Australia

Source: PwC analysis

This represents jobs across the core industry, including from the broadcasting and publishing sectors (whether within standalone digital businesses or embedded within hybrid digital businesses) and the ad tech sector. As the use of advertising technology grows, the industry is increasingly supporting a **highly skilled workforce**, such as **computer programmers** and **system engineers**. By training up workers in such a hotly-demanded part of the workforce, the digital advertising industry is supporting the expansion of Australia's digitally-equipped workforce and helping prepare the nation for the digital future.

3.3.3 Small and medium sized enterprises

Advertising as a whole facilitates innovation across businesses of different sizes and supports productivity and growth across the Australian economy. Digital advertising provides a particular benefit to small and medium sized enterprises (SMEs). More traditional advertising mediums can be less accessible and cost prohibitive for SMEs. Digital marketing techniques allow these companies to reach a global audience in a way that is cost-effective, scalable and measurable.

While enterprise buyers equate to the largest proportion of total spend, SME users of the digital advertising industry support a significant portion of the direct employment and revenue creation.

In 2021, the proportion of digital advertising spend by SMEs was approximately

44% of the total expenditure in Australia

Source: Internal IAB figures

Although SMEs form a minority share of expenditure, they account for an oversized share of the benefits of digital advertising. Recent analysis shows SMEs receive 61 per cent of the sector's business benefits with 74 per cent of SMEs reporting cost savings, time savings or business growth compared to 68 per cent of large businesses.¹



¹ PwC (2021), Examination of the value created by the advertising technology industry in Australia. AlphaBeta (2022), Google's economic impact in Australia.

3.2 Flow-on economic impacts: the total value from growing sales for Australian businesses

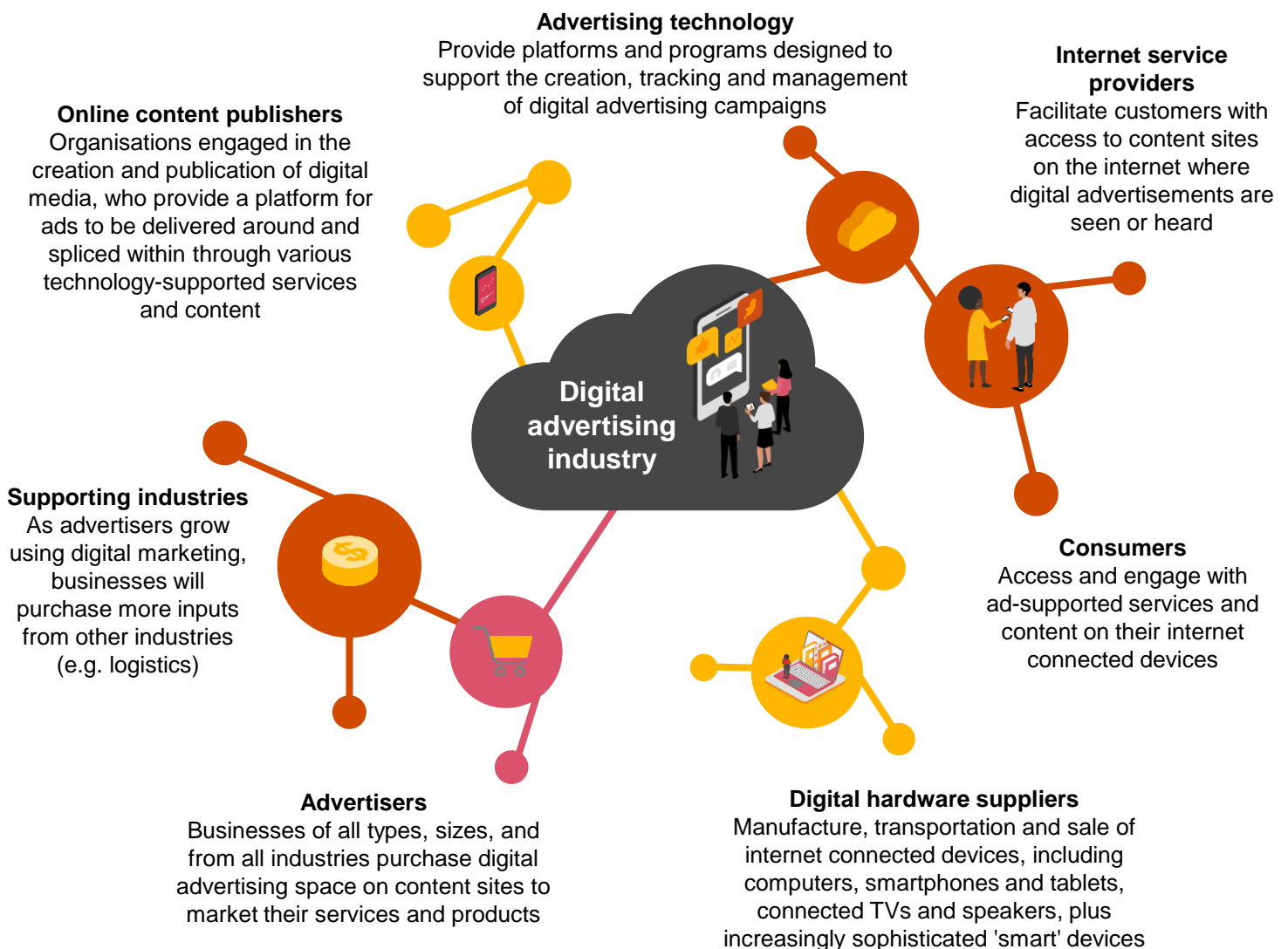
The direct employment and economic contribution presents the value delivered by businesses within the digital advertising value chain. In addition to this, there are flow-on benefits from the activity of the industry, which include:

- **increased demand by the digital advertising industry for products and services from other industries** - for example, the manufacturing of a wide variety of mobile and in-home personal devices hosting digital advertisements
- **increased consumer spending in the economy by employees of businesses involved along the industry's supply chain** - for example, as the skilled workforce directly employed within the digital advertising industry spend their income in the community, stimulating flow-on economic activity.

The unique nature of the advertising industry does, however, provide a much more significant contribution to the economy than this. **Digital advertising also enables businesses from all sectors to market their products and services in online media channels to generate increased sales and growth.**

In developing the modelling for this report, we utilised data from industry sources including Analytic Partners, Kantar and Mutinex to incorporate an estimate of the return on investment delivered by digital advertising. As such, the digital advertising industry impacts the economy beyond those direct impacts discussed in Section 3.1. The industry provides value across a wide variety of beneficiaries in complex and dynamic ecosystem. Some of the key participants are mapped in Figure 3-2.

Figure 3-2: Australia's digital advertising industry ecosystem participants



3.2 Flow-on economic impacts: the total value from growing sales for Australian businesses (cont'd)

3.2.1 Overall economic contribution

The total economic contribution from the digital advertising industry encompasses all of the impacts described above - and includes both the direct and flow-on benefits.

The industry's total contribution is the equivalent of over 4 per cent of GDP (\$94 billion), or over 3 per cent of total employment (450,000 jobs) in Australia in 2021-22.

These impacts also flow through to stimulate household consumption (increased expenditure by individuals) and investment (increased expenditure by businesses) by \$54 billion and \$29 billion.

3.2.2 Industry impacts

Digital advertising is used by all types of Australian businesses, although its impact varies across industries. The industry with the most significant employment and output impacts is unsurprisingly the communications industry - where the digital advertising industry itself sits.

The industries who most heavily invest in marketing are also those that see some of the largest employment and output impacts. Over 55,000 jobs are supported in the Retail and Wholesale Trade industries, which include some of the largest spenders on digital advertising; fast-moving consumer goods (FMCG), automotive and technology retailers.¹

Key sectors supplying to the digital advertising industry are notable in their impacts. Arts and recreational services are one of the largest sectors impacted both by employment and output that is underpinned by demand for creative artists, musicians and writers who contribute to the production of digital advertising content.

3.2.3 Increased productivity for businesses

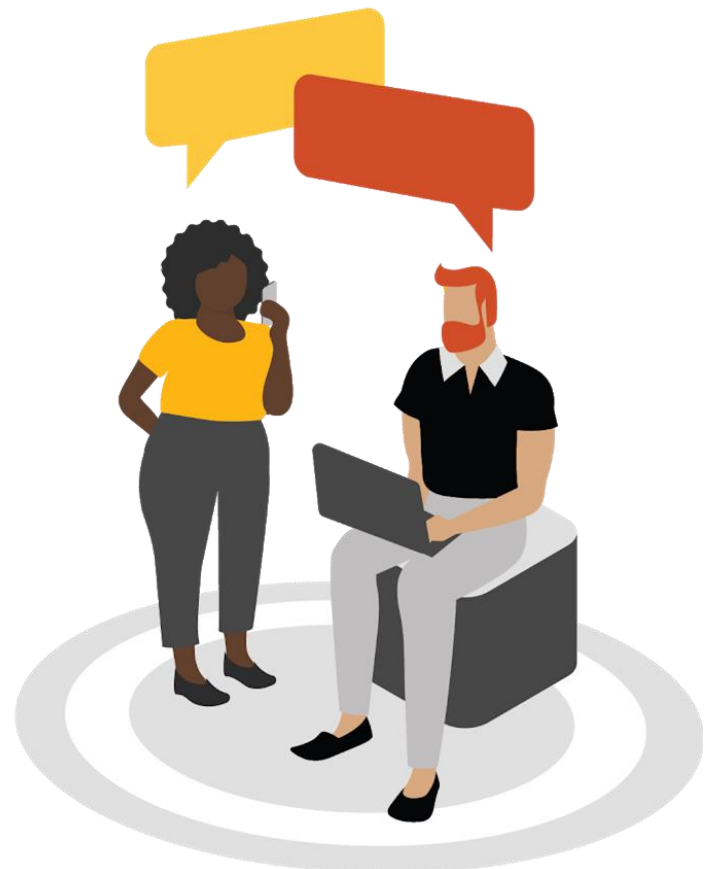
Although not included in the above analysis, there are additional benefits to businesses through the value of ad-supported services and content on productivity. Australian businesses use the services and content provided by the ad-supported digital ecosystem to drive down input costs and improve efficiency. For example, utilising search engines to access information online. Similar studies have estimated that online search tools can save employees an average of 52 hours annually.¹ This represents significant efficiency gains for businesses, facilitating revenue growth, improved information flow and supporting long-term economic growth across the Australian economy.

The digital advertising industry's contribution to the Australian economy in 2021 was:

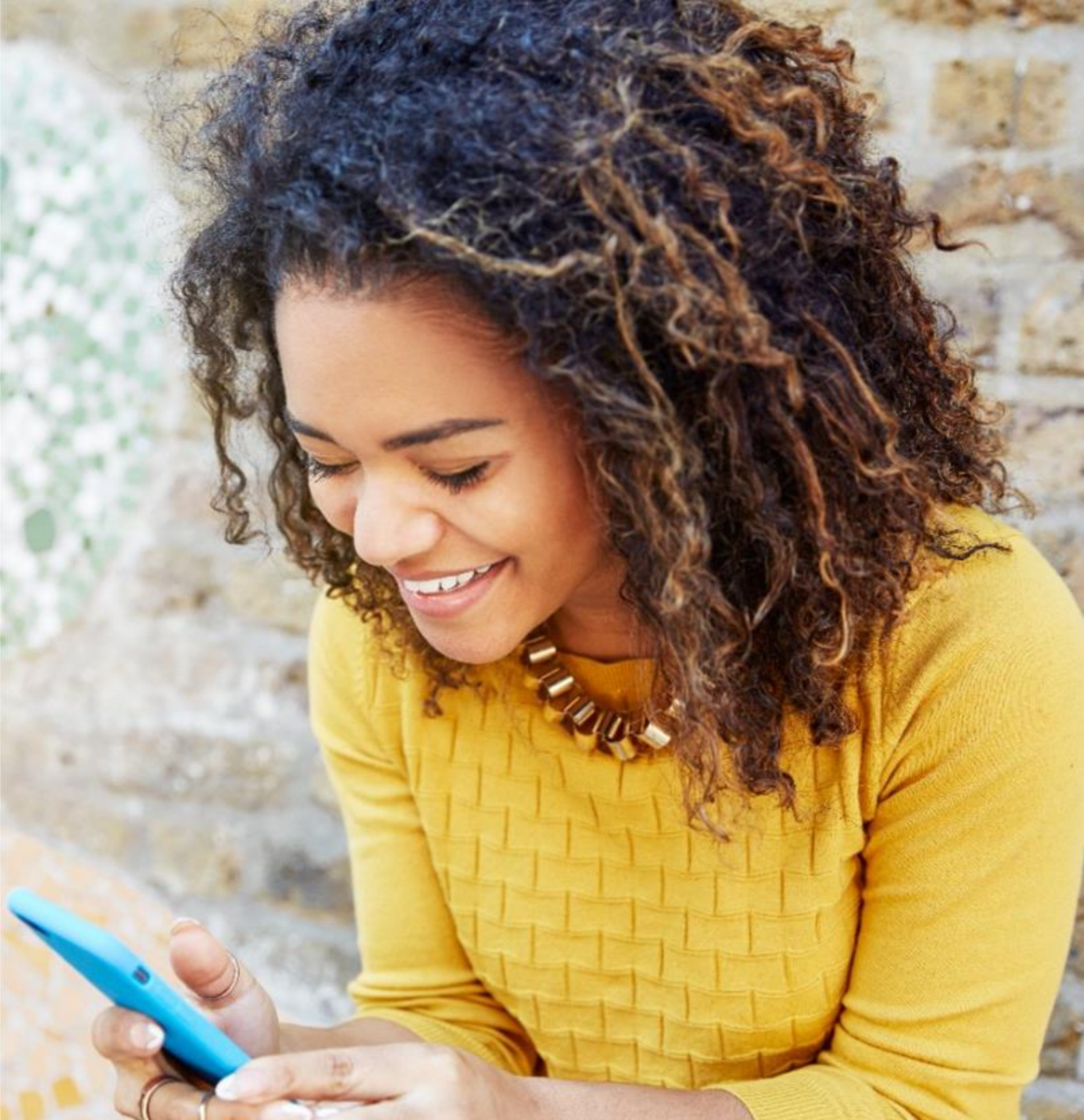
>4% (\$94bn) to GDP (national income)

>3% (450,000) full time equivalent jobs

Source: PwC analysis



¹ IAB (2022), Online Advertising Expenditure Report 2022



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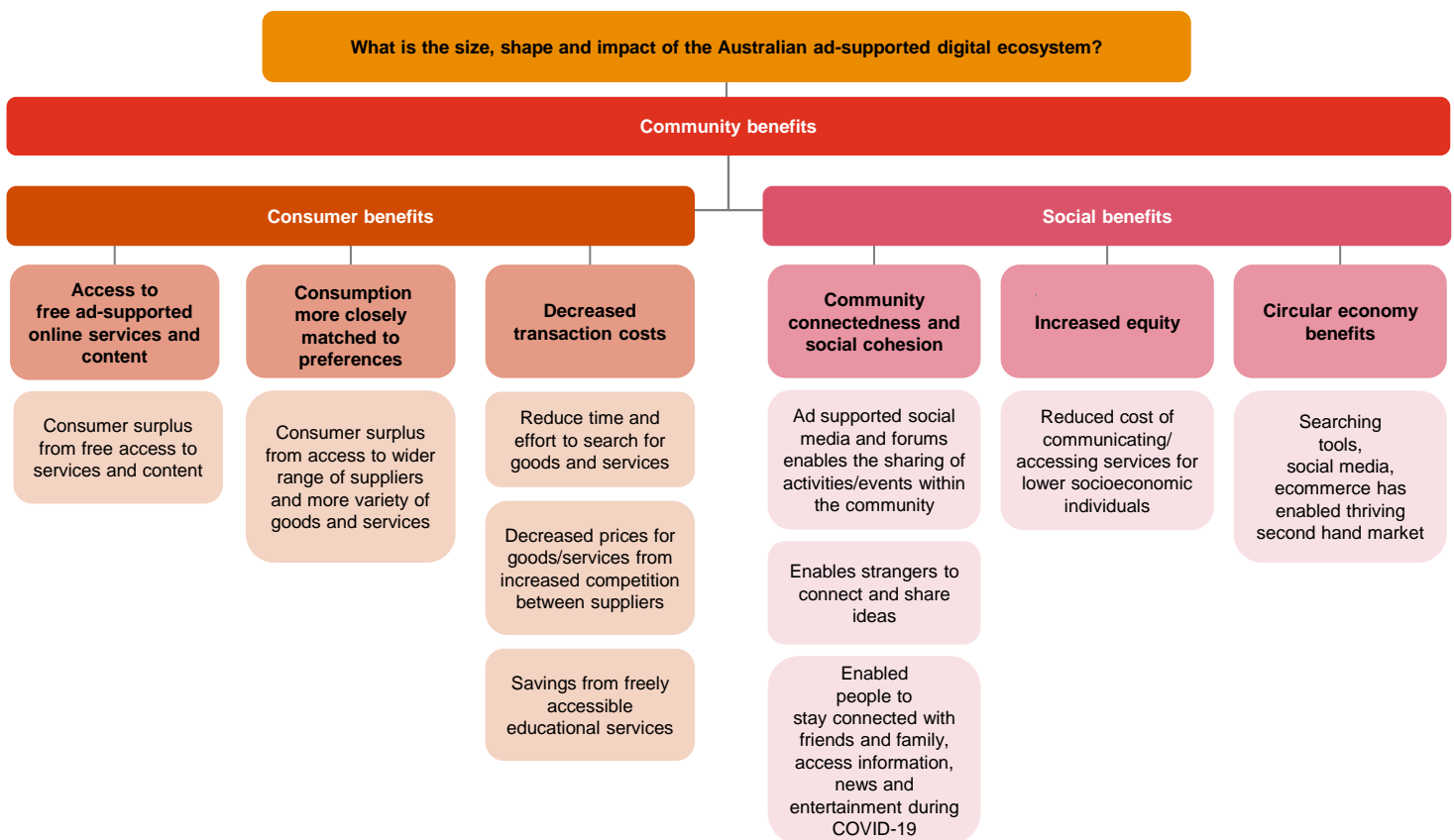
Creating value for the
Australian community

Creating value for the Australian community

The ad-supported digital ecosystem enables a wide range of online information, products, content and services to be enjoyed by all consumers - from accessing news, information and entertainment to online shopping, using communication applications, paying bills, or simply doing research. **Digital advertising enables access to this vast online ecosystem free of charge.**

This delivers significant value to the Australian community, as shown in the community benefits portion of the overall value framework in Figure 4-1. As identified in the framework, these benefits flow through to both consumers individually as well as society at large. This section of the report assesses these two categories of benefits, as set out in the community benefits framework.

Figure 4-1: Community benefits framework



The benefits to consumers are captured under three categories:

- **access to free ad-supported digital services and content**
- **consumption more closely matched to preferences**
- **decreased transaction costs.**

The social benefits are captured through:

- **community connectedness and social cohesion**
- **positive environmental impact**
- **increased equity.**

To determine the value of the benefits of the ad-supported digital ecosystem, we commissioned an online survey (PwC Consumer Survey) in order to understand how Australians value the ad-supported digital ecosystem.

Where possible, these benefits have been assessed quantitatively. The benefits to society more generally are presented qualitatively within this report, highlighting the positive impacts on communities that the ad-supported digital ecosystem drives.

The digital advertising industry provides benefits valued at approximately

\$55.5bn to Australian consumers annually

Source: PwC analysis

4.1 Benefits to consumers

4.1.1 Access to free ad-supported digital services and content

Free online services and content are largely funded by the operation of the digital advertising industry. Without online ads, many of the services we use everyday would either not be available, or only be available on a paid subscription basis. In turn, consumers receive a benefit, or consumer surplus, from having free access to these services that is attributed to the existence of the digital advertising industry.

To estimate the value of this benefit, we need to understand the value that individuals place on having access to these digital services and content. As part of the PwC Consumer Survey, consumers were asked to estimate the maximum value they would pay for 20 different types of online services and content if they were only offered on a monthly subscription basis, rather than for free with advertisements.

This provides us with an estimate for consumers' willingness to pay for these services and content.¹ This 'willingness to pay' methodology is commonly utilised to understand individuals' valuation of products and services which are not traded (i.e. not bought and sold).

The average Australian consumer is willing to pay

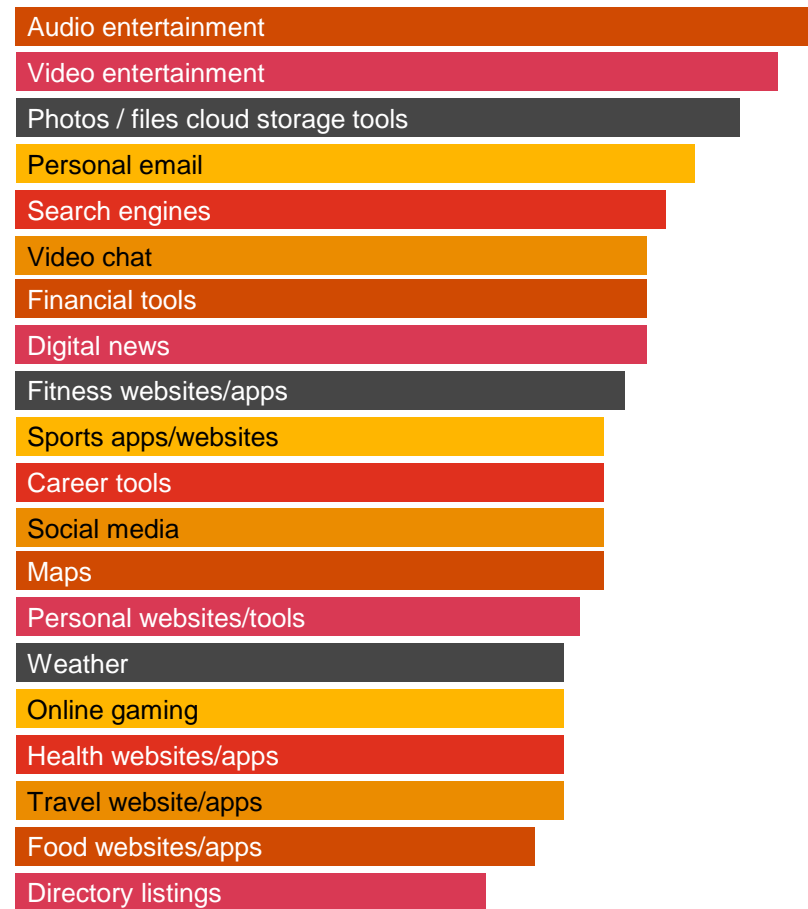
\$544

annually to access currently free ad-supported digital services and content

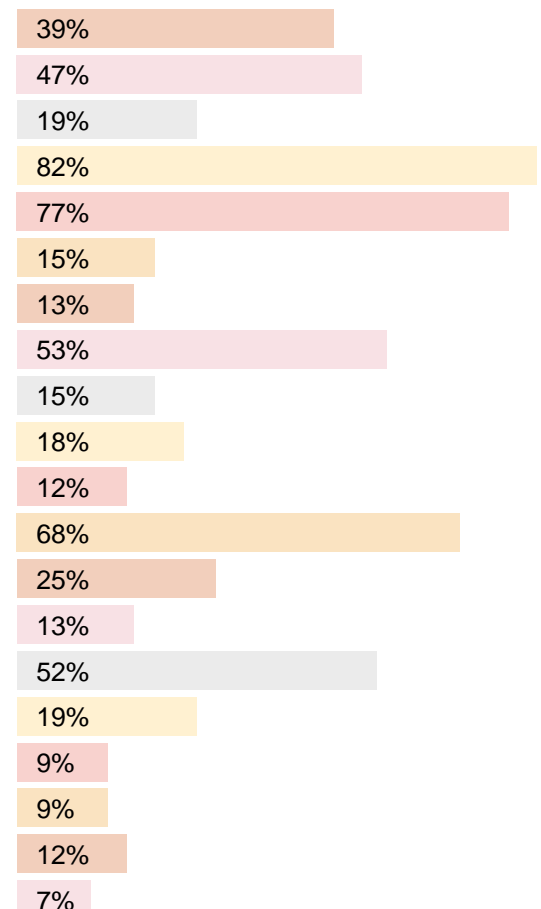
Source: PwC survey of consumers

Figure 4-2: Consumer willingness to pay for free ad-supported digital services and content

Types of services and content ranked by average consumer willingness to pay



Proportion of Australians that use content or service at least once per day



Source: PwC survey of consumers

4.1 Benefits to consumers (cont'd)

4.1.1 Access to free ad-supported digital services and content (cont'd)

The average willingness to pay measures represent population-wide values, rather than the value assigned by only the users of these services and content. As a result, we see two types of services and content at the higher end of the value spectrum. Those that are:

- **lower value, higher use** ie services that are used by a high proportion of Australians more often (e.g. social media and email)
- **higher value, lower use** ie those that provide significant value to users but which are not as widely used by all consumers (e.g. entertainment and file storage tools).

Personal email and search engines are the most commonly utilised services, with over three quarters of survey participants utilising both every day. The value these services provide for everyday convenience is not lost on consumers, with an average annual willingness to pay of \$29 for personal email and \$28 for search engines.

Despite this, the types of ad-supported services and content dominating consumers valuation are largely those providing free access to media and content. The two services most highly valued by consumers are video and audio entertainment. The educational and entertainment value that these free content services provide to consumers is estimated at a combined \$74 annually on average.

The total value these services and content provide to Australians is

\$8.8bn annually in increased consumer welfare

Source: PwC analysis

4.1.2 Consumption more closely matched to preferences

Consumer surplus from access to wider range of suppliers and more variety of goods and services

The ad-supported digital ecosystem also provides value to consumers by supporting access to a wider range of suppliers and more variety of goods and services. Consumers now have access to a wider range of suppliers and products from using search tools, social media and other ad-supported services and content (e.g. fitness/health applications). This enables Australians to more easily purchase goods from interstate and international suppliers, meaning they are able to access a wide range of products that they otherwise might not have been able to without the ad-supported digital ecosystem. In turn, consumers may find it easier to find the exact product they want, delivering a consumer surplus gain.

The PwC Consumer Survey shows that Australians derive value from having access to a wider range of goods and services.

Buying products that are only available in other parts of Australia is an important factor in

72%

of consumers' decision to use the internet for shopping

Having a wider range of products and services to select from is an important factor in

90%

of consumers' decision to use the internet for shopping

Source: PwC survey of consumers



4.1 Benefits to consumers (cont'd)

4.1.2 Consumption more closely matched to preferences (cont'd)

In 2012, IAB estimated the benefit resulting from access to a wider variety of goods and services to be worth \$5.4 billion to Australian consumers.¹ **Since 2012, the online retail market has grown by 330 per cent.**² Technological advancement in digital advertising has grown significantly, with consumers easily able to find products and services that match their preferences through search, social media and other ad-supported services and content.

Improved feedback loops

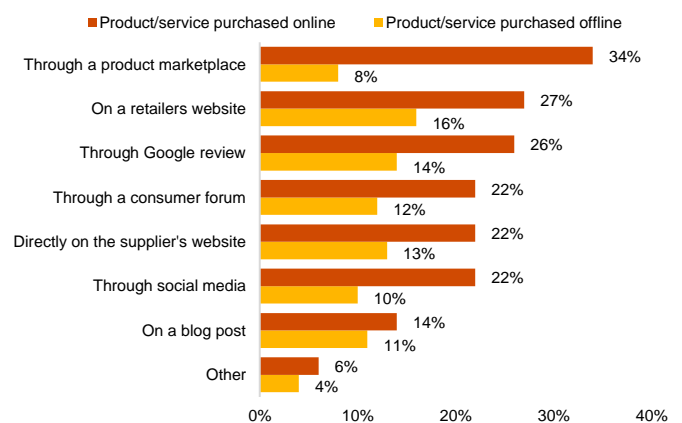
This benefit is supported further by the ad-supported digital ecosystem through the improved feedback loop that the industry has enabled between consumers and producers. The cost of providing feedback to suppliers has reduced - online reviews, social media, email and other ad-supported forums have lowered the direct costs of communication with product and service providers.

In turn, increased online engagement has enabled consumers to more easily provide insights regarding their preferences. Suppliers are able to more easily tailor to consumer needs, improving the feedback process and further facilitating the benefit of increased access to a wider variety of goods and services.

The benefit of having access to a wider range of goods and services is valued at **\$10.2bn** annually in increased consumer welfare

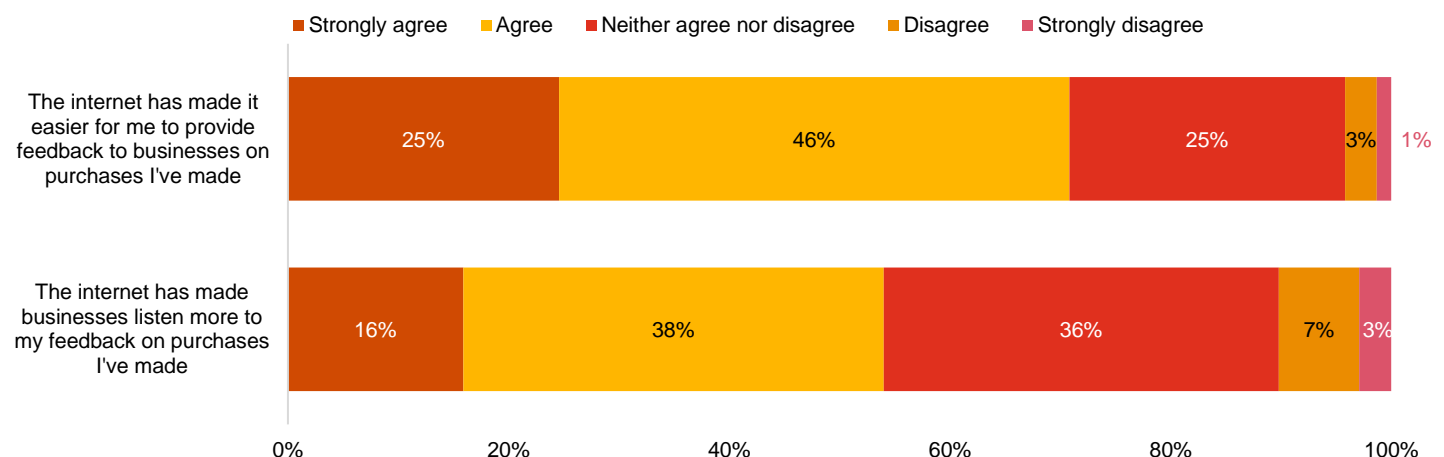
Source: PwC analysis

Figure 4-3: How often consumers research products and services online before purchasing



Source: PwC survey of consumers

Figure 4-4: Consumer sentiment on online feedback



Source: PwC survey of consumers

¹ IAB (2013), Digital Dollars – How digital advertising is fuelling the Australian economy & society

² NAB (2012), Online Retail Sales Index Monthly Update, accessed at: <https://business.nab.com.au/online-retail-sales-index-monthly-update-december-2012-2762/>

4.1 Benefits to consumers (cont'd)

4.1.3 Decreased transaction costs

We analyse the impact of the ad-supported digital ecosystem on consumer transaction costs in three ways (as shown in Figure 4-1):

1. Reduced time and effort to search for goods and services
2. Decreased prices for goods and services from increased competition between suppliers
3. Savings from freely accessible educational services

Each of these are described in turn below.

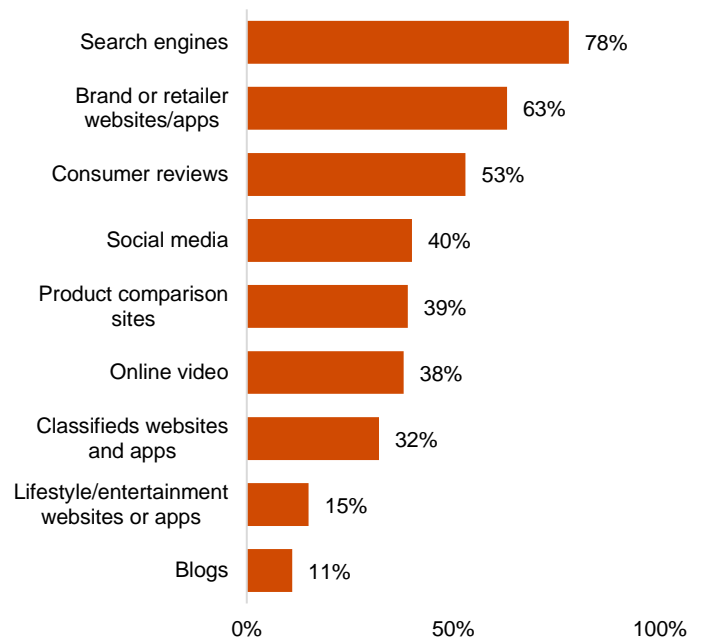
1. Reduced time and effort to search for goods and services

The online marketplace offers a suite of services and content to assist consumers with identifying products and services they require. Many of these functions are critically supported by digital advertising. This includes but is not limited to search engines and directly on brands' or retailers' websites. Social media applications, product comparison sites and online reviews also provide consumers with the knowledge and information they need to make informed purchasing decisions at the free click of a button.

These services and content are now an integral part of everyday life.

These services and content can dramatically reduce the costs that consumers face in discovering products and services - through the value of their time.¹ Utilising this concept, we are able to estimate the social value of decreasing the time and effort required to find goods and services.

Figure 4-5: Proportion of Australians who use services and content to research products



Source: PwC survey of consumers

The share of Australians researching products or services online before making a purchase at least once a year is

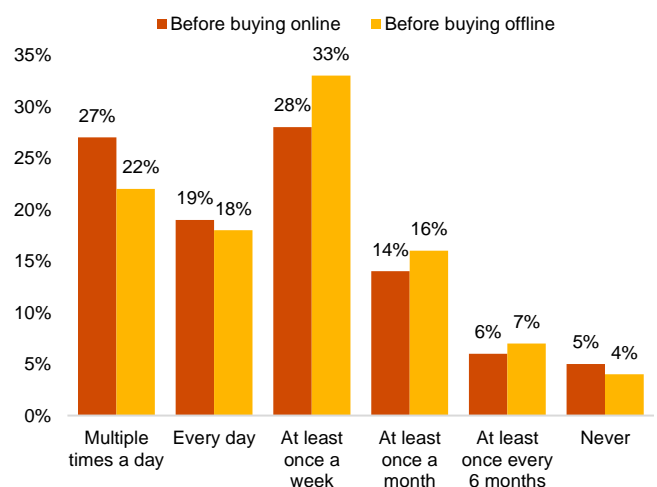
95% for online purchases

96% for offline purchases

Source: PwC survey of consumers

We find that almost three quarters of consumers utilise digital tools and content to research products they purchase online at least once a week. Even for offline purchases (e.g. in store), 73 per cent of consumers are researching products and services at least once a week using digital tools and content.

Figure 4-6: How often Australians use services and content to research products



Source: PwC survey of consumers

¹ Consumers place a value on their time that is often equated to the value of their wage for economic and social evaluations. Intuitively, if an individual is willing to give up their time to work, their wage is at least equal to their valuation of their time. This is a commonly utilised concept of revealed preference in economic and social analysis. See for example Pedram Sendi & Werner Brouwer (2004) Leisure time in economic evaluation: theoretical and practical considerations

4.1 Benefits to consumers (cont'd)

4.1.3 Decreased transaction costs (cont'd)

The PwC Consumer Survey shows that on average consumers save 25 minutes per transaction by utilising digital services and content to research products and services before they purchase.¹ We conservatively assume that consumers engage in one online and one offline transaction that they research digitally each week based on the survey data presented in Figure 4-6.

The benefit of decreased transaction costs from researching online is valued at

\$15.9bn annually in the value of time savings

Source: PwC analysis

2. Decreased prices for goods and services from increased competition between suppliers

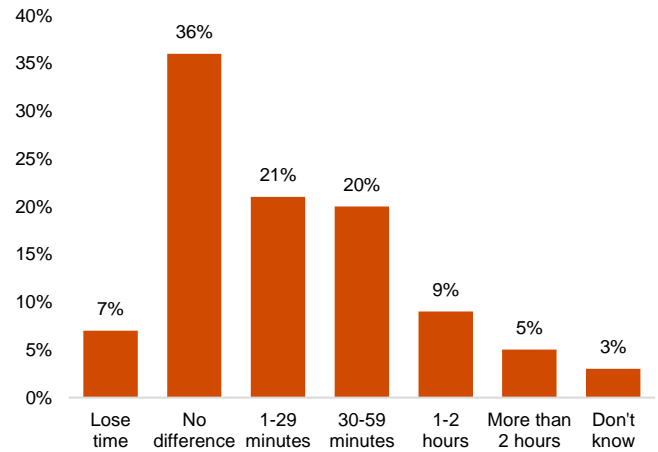
The existence of the ad-supported digital ecosystem delivers further benefit to consumers through its impact on competition and prices. The ad-supported digital ecosystem has enabled consumers to compare prices of goods and services from a wide range of suppliers instantaneously. These services and content improve price transparency in the marketplace and allow consumers to find the products they want at lower prices.

The benefit of decreased prices for goods and services from increased competition between suppliers is valued at

\$14.7bn annually in consumer expenditure savings

Source: PwC analysis

Figure 4-7: How much time Australians save using online services and content to research products



Source: PwC survey of consumers

We estimate that Australian consumers save per month an average of

\$71 from researching or purchasing goods and services online

Source: PwC survey of consumers

The PwC Consumer Survey reveals that the key driver for consumers to research or purchase goods and services online is to save money. To value the welfare gain of decreased prices for goods and services, we asked consumers to estimate how much they save on a monthly basis by researching or purchasing goods and services online - the total benefit is then applied to a sample of Australian consumers who utilise the ad-supported digital ecosystem.

¹ PwC analysis based on estimates from the PwC Consumer Survey

4.1 Benefits to consumers (cont'd)

4.1.3 Decreased transaction costs (cont'd)

3. Savings from freely accessible educational services

Free online educational resources are now commonplace thanks to the ad-supported digital ecosystem. Consumers can access varying levels of tutorials, courses and educational tools that allow them to gain new skills, prepare for academic programs or explore a new topic of interest.

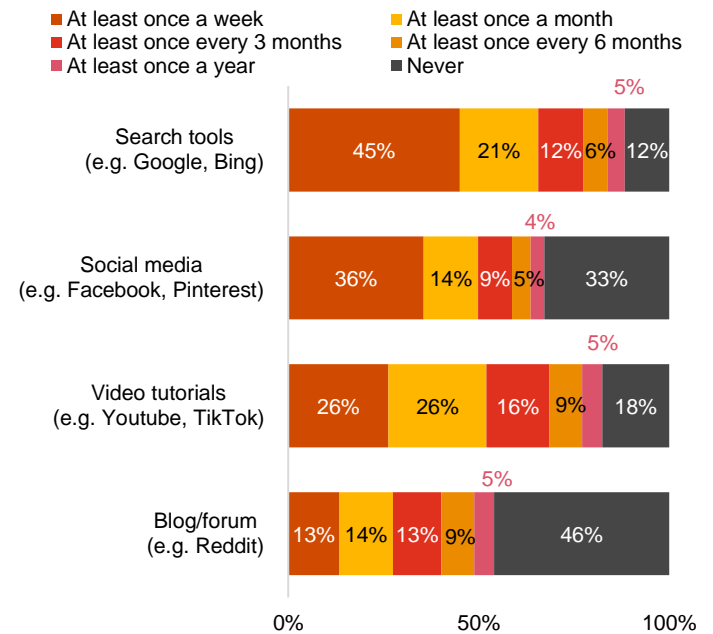
The PwC Consumer Survey reveals that over 73 per cent of respondents use a free online educational resource at least once a month to do a task that they would otherwise have to pay for. Of the 73 per cent that use a free online education resource, a further three quarters do so at least once a week.

Before the ad-supported digital ecosystem made freely available educational resources possible, access to many of these resources would have incurred costs such as:

- purchasing an equivalent educational resource (e.g. books, video tutorial)
- paying for the service directly (e.g. handyman).

These costs all represent savings/ benefits to the consumer from accessing educational services online.

Figure 4-8: How often consumers use online services to research how to do a task



Source: PwC survey of consumers

Australian consumers estimate they save per task an average of

\$86

from utilising the internet to educate themselves on how to do it

Source: PwC survey of consumers

In valuing the consumer welfare benefit to Australians, we conservatively assume that consumers undertake a task that they otherwise would have paid for once every three months on average - saving \$86 in doing so. This is based on evidence from the PwC Consumer Survey, revealing that 73 per cent of consumers use educational resources online at least once a month.

The benefit from using freely accessible educational services online is valued at

\$5.9bn

annually in consumer expenditure savings

Source: PwC analysis

In total, across the three subcategories of areas that consumers save time or costs as a result of the ad-supported digital ecosystem we estimate \$36.5 billion in consumer benefits.

The benefit of decreased transaction costs is valued at a total of

\$36.5bn

annually in time and cost savings

Source: PwC analysis

4.2 Benefits to society

In addition to the business and consumer benefits derived from the ad-supported digital ecosystem in Australia, our research has also sought to better understand the broader societal value - of which there are numerous benefits - which may otherwise come at a cost to consumers or government.

An example is the access to a broader range of on-demand news and information services provided by short and long form video services. This now affords Australians a greater range of sources of information at times that suit them. Consumers receive a benefit but also society at large through widening the dissemination of information.

As technology and access develops, these benefits are also perceived to be improving. In 2021, 99 per cent of Australians had access to the internet - with the average Australian having four devices connected to the internet. For older individuals aged 55+, 98 per cent had access in 2021, up from 76 per cent pre-pandemic in 2019.

4.2.1 Community connectedness and social cohesion

The ad-supported digital ecosystem has allowed consumers to easily access communication services and content that can enhance social cohesion and community connectedness. Connecting online through channels including social media and video chat present opportunities to connect with people from all over Australia and the world. This strengthens social cohesion and community connectedness and can have positive effects on mental health and emotional wellbeing. The positive impact of online channels in strengthening and connecting communities is evidenced by the PwC Consumer Survey:

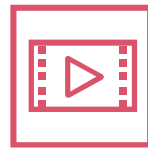
- 78 per cent of survey respondents indicate that digital services and content have enabled them to **more easily stay in contact with friends and family** - in regional areas, this was as high as 81 per cent
- 52 per cent of people surveyed said that the internet has **improved access and attendance at events in their local communities**.

Access to these online communication channels became particularly important for Australians during the COVID-19 pandemic. Nationwide lockdowns saw millions of people confined to their homes for months at a time. Being able to contact and communicate with family members and friends was important for maintaining mental health and emotional wellbeing.

Having access to entertainment that didn't require physical social interaction also became critical. Free ad-supported video and audio content provided Australians with the ability to unwind and keep entertained during this difficult time.

Ensuring Australian communities were up to date with the latest COVID-19 news and information was also an important part of the response to the virus - another avenue where the ad-supported digital ecosystem delivered value.

Figure 4-9: Increased use of services and content during COVID-19



36%

of Australians used free video entertainment more often



32%

of Australians used free social media tools more often

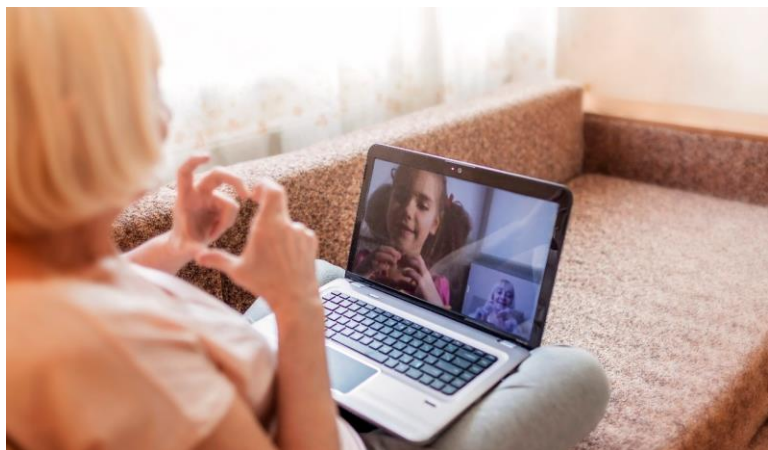


32%

of Australians used free digital news more often

Source: PwC survey of consumers

These ad-supported digital services and content provided critical support for Australians during this time. Multiple ad-supported digital services and content rose in use, as evidenced by the PwC Consumer Survey.



4.2 Benefits to society (cont'd)

4.2.2 Increased equity

Providing access to online services and content is crucial in supporting inclusivity and equity in an era underpinned by the digital economy. It is important to ensure that the services and content online are readily accessible to all individuals and communities. The ad-supported digital ecosystem goes a long way towards supporting digital equity, providing free access to online services and content. The PwC Consumer Survey shows that for consumers on annual incomes below \$50,000 the average willingness to pay for these services and content was \$350 annually (1.2 per cent of incomes). As a proportion of income, this was roughly double that of consumers with annual incomes of above \$80,000 - the average willingness to pay was \$570 (0.7 per cent). This shows that free ad-supported content and services are worth relatively more to lower income Australians and represents a substantial benefit for those individuals that might not otherwise be able to afford to pay directly for the services.

The survey reveals that Australians recognise this value.

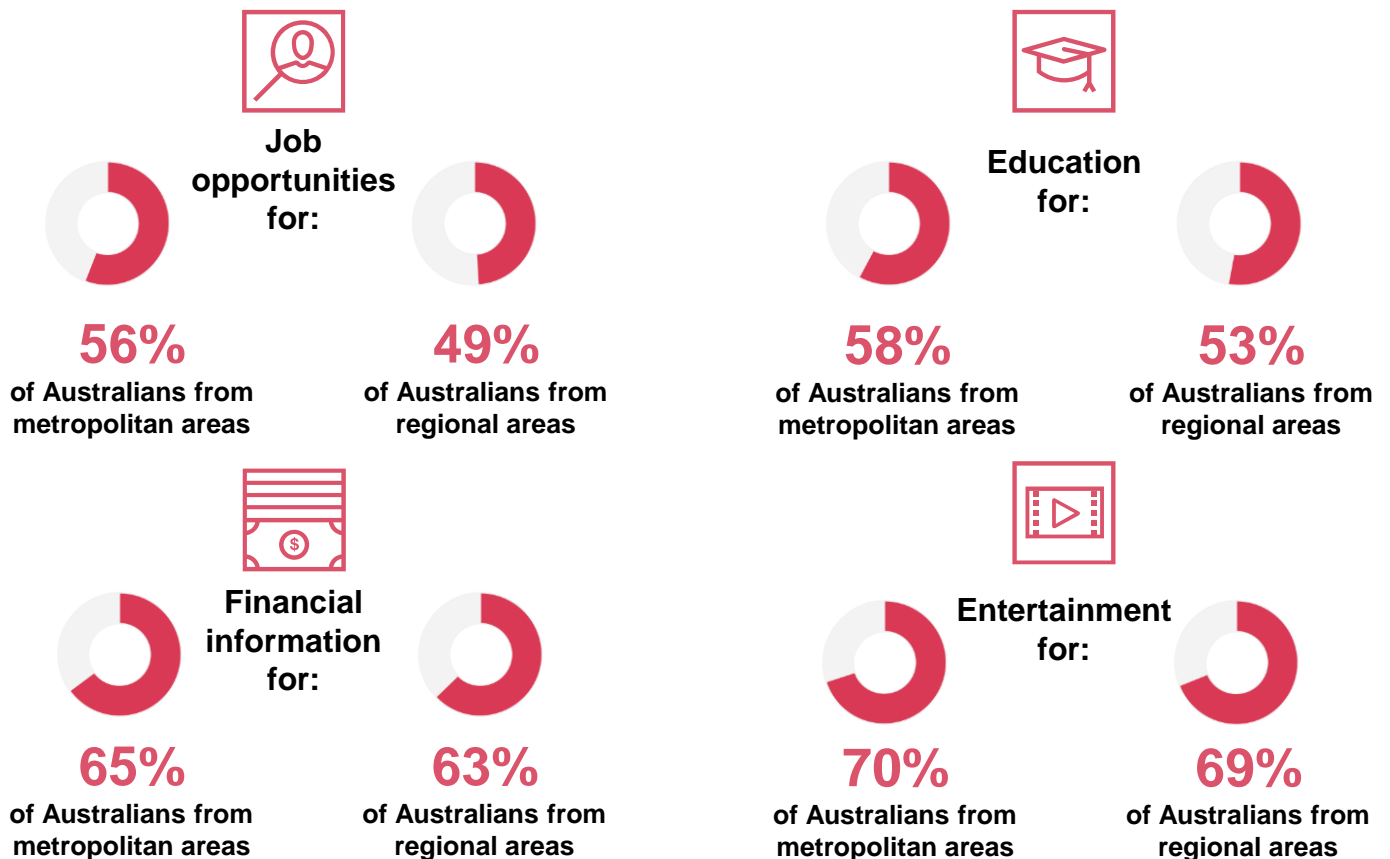
Figure 4-10 shows the ad-supported digital ecosystem has made it easier for Australians to access a number of services and content.

The digital ecosystem is now a near-essential resource for finding employment in Australia. Every day, thousands of jobs are listed online across the country. Websites such as SEEK, Jora and LinkedIn are funded by classified advertising, allowing Australian job hunters to search, find and apply for jobs free of charge. Notably, digital job advertising breaks down the location barrier. Individuals can access job opportunities from anywhere, thereby supporting improved reach for regional employees and employers.

Access to educational resources has also been improved. The information age - characterised by rapid technological advancement - has meant that educational tools are now available at the tap of a button. The ad-supported digital ecosystem plays an essential role in this shift; ensuring that educational information is equitably accessible and distributed.

Figure 4-10: How the ad-supported digital ecosystem has increased ease of access to services and content

The internet has made it easier to access...



Source: PwC survey of consumers

4.2 Benefits to society (cont'd)

4.2.2 Increased equity (cont'd)

The ad-supported digital ecosystem has also provided Australian's with a pathway to access financial information and services. Stock market information and corporate news is available online for free, making investment, saving and other information supporting fiscal responsibility accessible to all Australians. As shown by the PwC Consumer Survey, 65 per cent of Australians indicate that the internet has made it easier to access financial information.

In the digital age, millions of Australians now turn towards internet connected devices for entertainment. The ad-supported digital ecosystem has opened up a suite of accessible resources for Australians, providing free access to online gaming, reading, listening to music and podcasts or watching videos. As an input into mental and social wellbeing, this drives another important equity benefit.

4.2.3 Circular economy benefits

The ad-supported digital ecosystem also supports the circular economy by contributing to a thriving online second-hand marketplace. In 2020, the second-hand economy was worth \$46 billion in Australia.¹ Clothing and other types of manufacturing is responsible for large consumption of water and energy, and the creation of large quantities of chemical pollution, waste and carbon emissions.

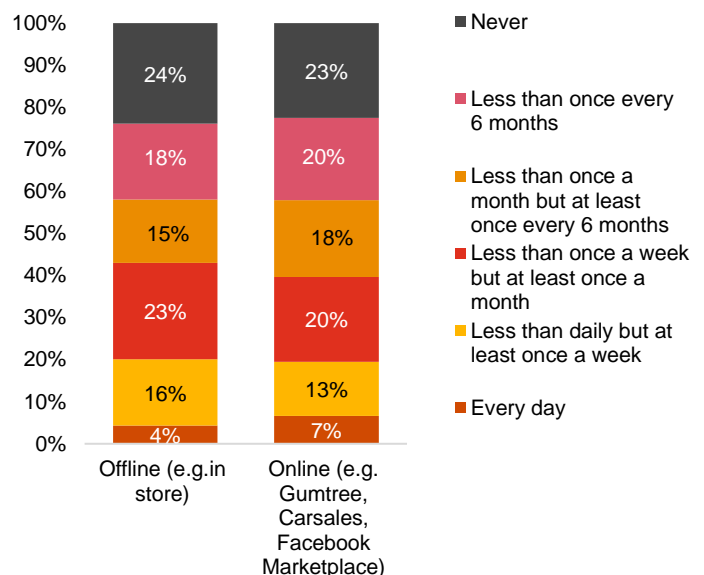
Through by-passing the manufacturing process, the second-hand market provides significant environmental benefits:

- a reduction in landfill
- a reduction in carbon and chemical pollution from production
- lower water and energy consumption.

The impacts of second-hand trade on the environment can be substantial. For example, an analysis on European digital second-hand marketplaces found that 19.1 million tonnes of carbon dioxide emissions were potentially saved by people who chose to buy and sell used items from a select number of digital websites.² No similar analysis has been conducted in relation to the Australian marketplace. As such, the value of the circular economy benefit is not monetised in this report.

The PwC Consumer Survey reveals that Australians commonly utilise the internet to engage in the second-hand marketplace: 40 per cent of respondents indicate that they purchase or find second-hand products online at least once a month, with half of those engaging at least once a week.

Figure 4-11: How often consumers purchase second-hand goods



Source: PwC survey of consumers



¹ Gumtree (2020), Second Hand Economy Report

² Adevinta (2020), Adevinta Sustainability Report 2020



5

Future outlook: Opportunities and challenges

5. Future outlook: Opportunities and challenges

Australia's digital economy is continuing to grow and the opportunities abound

Digital technology is continuing to change how Australians work, learn and engage. A thriving digital economy has been critical to Australia's resilience through the COVID-19 pandemic and will continue to be critical to the nation's future growth and prosperity. The potential benefits to the Australian economy through the full effects of digitalisation have been estimated to be as much as \$315 billion over the next decade, with the potential to create up to a quarter of a million new jobs by 2025.¹ If Australia wishes to make the most of these opportunities, the right economic environment needs to be created alongside having the right regulatory framework in place to enable businesses to thrive and consumers to benefit.

There are also challenges in realising these opportunities

Challenges facing the sector in meeting these opportunities include:

1. Digital inclusion is much improved but there's still some way to go

While investment to improve access and the digitisation of services in the response to COVID-19 restrictions has made a significant difference to improved digital inclusion, there is still some way to go according to the latest Digital Inclusion Index.² It will be an ongoing challenge to ensure all benefit from the digital economy.

2. Ensuring a sustainable online ecosystem for all

Ad tech services perform a critical role in the digital economy. They help Australian businesses ensure their ads reach consumers and are valuable for many online publishers to monetise advertising space and fund online content. However, digital advertising technologies have evolved quickly and are highly complex in that a single transaction can involve many ad tech providers. Continued evolution needs to be fostered, while ensuring accessibility and not over complexity for industry participants.

3. Ensuring we have the right regulatory framework to manage the significant amounts of data the digital economy generates into the future

Data plays a central role in all online business regardless of the size and type of the business, the product or the market. The COVID-19 pandemic and its ongoing presence and impact, has heightened the importance for businesses to evolve online. The role of data in that evolution – including with consumers – should be recognised as a key component in ensuring our economy is well placed to withstand the ongoing economic pressures.

Data also plays a central role in the lives of all Australians. The challenge for lawmakers will be setting the right regulatory parameters to ensure individuals' privacy is protected and also ensure the smooth functioning and development of all online interactions and activities – for individuals, business and the economy. As a society we need the right balance to provide consumers with the content and services they expect, while also meeting their expectations when it comes to privacy protection.

Digital advertising and data protection are not mutually exclusive; and both serve public interests. Enabling access to data in ways which respect consumer privacy and choice can provide social and economic benefits and enable investment in data-driven innovation. Delivering this balancing exercise appropriately is no simple task and requires a framework that is flexible and adaptable.

4. Meeting the digital workforce supply gap

More digitally skilled workers will be required to maximise the digital advertising industry's growth opportunities. In response to what the Minister for Skills and Training described as a 'skills shortage crisis', he stated that:

Digital skills are now core foundation skills for Australians of all ages and essential to jobs now and in the future.

A robust skills and training sector is critical to driving a productive workforce – this will deliver a stronger economy and more affordable goods and services.³

The sector's future growth and sustainability will be shaped by the success in growing a more digitally enabled workforce.

¹ Australian Government (2022), Digital economy strategy 2022 update; Telstra and PwC (2021) Be What's Next. Embracing the Digital Economy in Australia

² Thomas, J., Barraket, J., Parkinson, S., Wilson, C., Holcombe-James, I., Kennedy, J., Mannell, K., Brydon, A. (2021). Australian Digital Inclusion Index: 2021. Melbourne: RMIT, Swinburne University of Technology, and Telstra.

³ Husic, E, O'Connor, B. (2022), Media release - Digital and Tech Skills Compact, 3 September.



A

Appendix A - Overview of economic approach

Overview of economic approach

A.1. Business benefits

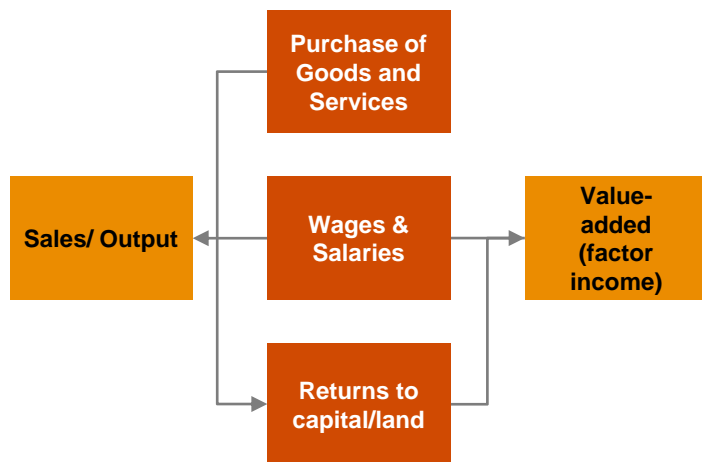
This study reports the overall economic benefits of digital advertising activities to the Australian economy in terms of employment and revenue supported by the ad-supported digital ecosystem in Australia as well as total economic contribution (direct and flow-on) of the ad-supported digital ecosystem to the Australian economy.

A.1.1. Direct impact

Direct economic contributions are largely driven by the digital advertising industry employment and operational activity. The direct impacts provided in this study are measured using available data on the industry revenue and employment numbers.

Figure A-1 describes the sales and output metrics that this study used to measure the direct impacts of digital advertising on the Australian economy:

Figure A-1: A simplified representation of sales/output metrics



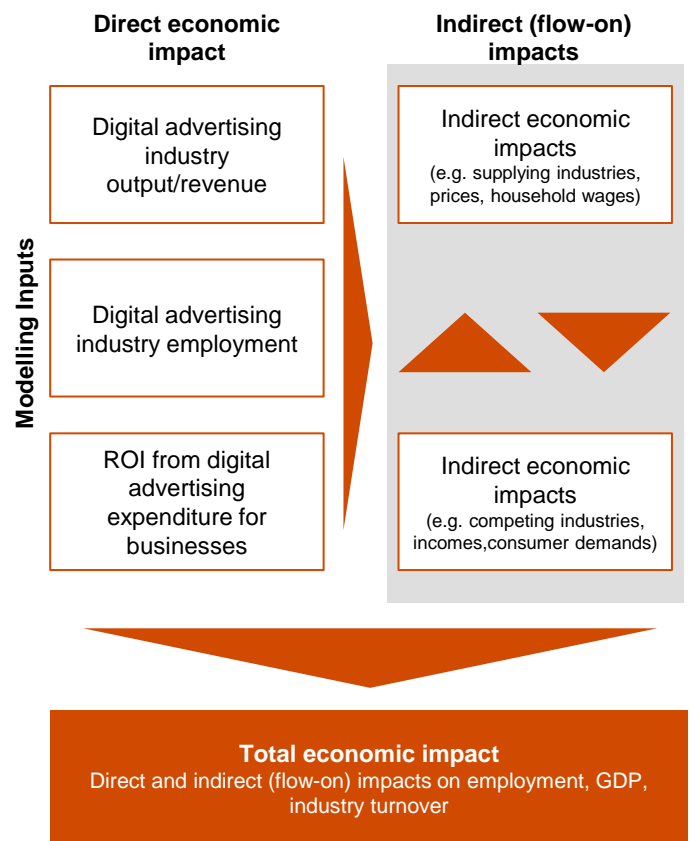
- **Output** is a measure of the value of the goods and services produced by an industry or sector, where the value reflects the cost of labour, capital, and intermediate inputs of goods and services, including imports.
- **Value-added (or factor income)** represents the sector's contribution to Australian GDP. The figure therefore excludes value that is added from other industries, and from imports.

Estimates of the direct economic contribution of the digital advertising industry activities to the Australian economy are measured on the metrics of sales/output and employment. The estimates have been developed using a mix of industry data.

A.1.1. Flow-on impact

To model the wider economic impacts of digital advertising in Australia, it is necessary to employ modelling techniques that can incorporate information about the linkages of the ad-supported digital ecosystem within the broader economic context. This study utilises an economy-wide modelling to identify the linkages across the economy and estimate the overall economic benefits of digital advertising in Australia.

Figure A-2: A simplified representation of the economy-wide modelling approach



Model inputs and assumptions

The analysis uses the direct impacts including the digital advertising industry revenue, employment and the return on advertising investment (ROI) from digital advertising expenditure for businesses (SMB and large businesses) by advertising type as inputs into the modelling.

Overview of economic approach (cont'd)

Model inputs and assumptions (cont'd)

The measurement of ROI from advertising, be that digital or otherwise, is not an exact science, with a wide range of methodologies practiced by advertisers and modelling techniques operated by measurement and analytics businesses in the sector. This modelling is typically built specifically for the individual advertiser need, channel mix, and market situation, with no industry standard or benchmark reporting. In modelling a total average ROI for digital advertising in Australia we utilised representative sample data from third party marketing investment analytics providers including Mutinex and Analytic Partners, while also reviewing publically available study data including from Nielsen, the Institute of Practitioners in Advertising (IPA), WARC and other publications. The data provided covered advertisers across a range of categories and spend levels subsetting to the IAB Australia reported digital channels and modelled to cover enterprise and small business capability.

The ROI from digital advertising expenditure represents the amount of revenue added due to the use of digital advertising services. This can be translated to an increase in businesses' productivity in terms of real cost savings in production, utilising the same amount of factors of production (e.g. labour, capital, goods and services).

To estimate the linkages between the digital advertising industry activities and the Australian economy, we implemented a modelling scenario that examined the overall economic benefits of the digital advertising industry activities to the Australian economy.

A.2. Community benefits

The community benefits generated by the ad-supported digital ecosystem were investigated using a social welfare framework, which sought to estimate the additional consumer and social surplus generated by the services and content it supports. A framework was developed to explore the benefits enjoyed individually by consumers and collectively by the community.

In order to value the benefits of the ad-supported digital ecosystem to consumers, PwC and IAB commissioned Pureprofile to deliver an online survey in September 2022. In total, 1,029 responses were received from a representative sample of Australian internet users aged over 18. The survey sought to gather insights from consumers across all states, ages, gender and socioeconomic status in order to understand how Australians understand the value of the ad-supported digital ecosystem.





B

Appendix B - Glossary of terms

Glossary of terms

Ad funded - a media property whose predominant revenue source is the sale of space around or within content for advertising purposes

Ad network - an aggregator or broker of advertising inventory for many sites. Ad networks are the sales representatives for the Web sites within the network.

Ad serving - the delivery of ads by a server to an end user's computer on which the ads are then displayed by a browser. Ad serving is normally performed either by a Web publisher, or by a third-party ad server. Ads can be embedded in the page or served separately.

Agency - companies offering advertiser businesses services advising on how and where to advertise and the messaging to show. Businesses also offer advertising placement buying capabilities as well as creative production services.

Banners - a graphic image displayed on a webpage page used as an ad.

Broadcast Video on Demand (BVOD) - video content from traditional Australian broadcasters such as 7, 9, 10, SBS and the ABC, which includes high-quality, professionally-produced content available online and on-demand. These platforms are typically interspersed with advertising and are delivered through mobile apps as well as connected TVs.

Clicks - a metric which measures the reaction of a user to a digital ad. There are three types of clicks: click-throughs; in-unit clicks; and mouseovers

Cookies - a file on the user's browser that uniquely identifies the user's browser. There are two types of cookies: persistent cookies and session cookies. Session cookies are temporary and are erased when the browser exits. Persistent cookies remain on the user's hard drive until the user erases them or until they expire. Often used by media properties to track user activity and advertisers for campaign performance measurement.

Data Management Platform - collects, organizes, and activates audience data from various sources. It then uses that data to build profiles often used for publishing, advertising and user personalization initiatives

Demand Side Platform (DSP) - a programmatic advertising platform that allows advertisers to bid automatically on digital ad inventory from publishers via SSPs and Exchanges. A demand-side platform can automate the decision-making process on bidding for ads

Exchange - a digital marketplace that enables advertisers and publishers to buy and sell advertising space, often through real-time auctions

Hyper-targeting - the ability to deliver advertising content to specific demographic or interest-based segments within an advertising campaign

Impressions - a measurement of responses from a Web server to a page request from the user browser, and is recorded at a point as close as possible to opportunity to see the page by the user. Typically used as a measure of how many digital ads have been delivered by an advertiser campaign.

Keywords - specific word(s) entered into a search engine by the user that result(s) in a list of websites related to the key word. The key word can be purchased by advertisers in order to direct the hyperlink opportunity to the advertiser's site or to serve an ad related to the user's search

Media property - a catch-all-term covering websites, apps, television channels and radio stations, newspapers and magazines, out-of-home billboard networks and other places where content is published with the intent of being consumed by an external audience.

NBN - National Broadband Network

Online - an internet connected media property

Source: IAB (US) Glossary of terminology and PwC analysis

Glossary of terms

OOH / DOOH - Out Of Home advertising, also known as Outdoor, is advertising experienced outside of the home. This includes billboards, wallscapes, and posters seen while 'on the go'. It also includes place-based media seen in places such as convenience stores, medical centers, salons, and other brick-and-mortar venues. DOOH is the digital, screen-based, variation to the traditional form of paper-posted OOH medium.

(Paid) Search - Paid search is a form of digital marketing where search engines such as Google, Bing and Amazon allow advertisers to show ads on their search engine results pages (SERPs).

Paid search works on a pay-per-click (PPC) model, whereby the advertiser pays each time a user clicks on the ad. Formats include text ads, which are shown at the top or bottom of the organic search results, or shopping ads shown above the search results. Also referred to as Search Engine Marketing (SEM).

Programmatic - the use of automated technology for the process of buying and selling digital advertising space. Typically utilises some form of real-time data and/or algorithms within the trading process.

Real-time-bidding (RTB) - Real-time bidding is a subcategory of programmatic media buying. It refers to the practice of buying and selling ads in real time on a per-impression basis in an instant auction. This is usually facilitated by a supply-side platform (SSP) or an ad exchange.

Social Media - websites and applications that enable users to create and share content or to participate in social networking.

Streaming audio - delivery of a audio content such as music, podcasts, live radio and similar over the internet

Supply Side Platform (SSP) - a technology used by publishers to coordinate and manage the supply and distribution of ad inventories. SSPs help digital media owners and publishers sell ad space.

Target Audience - the intended audience for an ad, usually defined in terms of specific demographics (age, sex, income, etc.) product purchase behavior, product usage or media usage.

UGC - user generated content, such that is not created or distributed by professional broadcasters.

Video - Ad content displayed in video format via a video player providing both short and long-form, recorded and live content. Interactive video ads expand the reach of broadcast audio-visual content while also often allowing for more interactive formats and are increasingly offering in-video product purchasing).

WWW - world wide web

Yield - the advertising revenue received by a publisher, on a per-spot basis.

Source: IAB (US) Glossary of terminology and PwC analysis

Example vendor glossary

	Ad tech technologies / services	Example businesses providing these technologies / services (non-exhaustive)
1	Direct to Publisher/Self-service Platforms - allowing access buyers to create and run campaigns within media properties	Facebook / Instagram Ads Manager, LinkedIn, Spotify Ad Studio, TikTok for Business, Twitter Ads
2	Ad servers - variations supporting both buyers and sellers in the management of digital advertising placements	Flashtalking, Freewheel, Google Ad Manager, ironSource, Kevel, Magnite, Max, Openx, Smar, Sizmek, Xandr.
3	Ad Networks - aggregation of media, of any type giving a single point of transaction for a broad range of sites and placements	Applovin, Criteo, Google AdMob, Google AdSense, Google Ads, ironSource, Mopub, Outbrain, Quantcast, Taboola, Unity Ads, Verizon Media
4	'Programmatic' - technologies inclusive of 'Exchanges', 'Supply Side Platforms' (SSPs) and 'Demand Side platforms' (DSPs)	<p>Exchanges: Google Ad Manager, Index Exchange, Openx, Microsoft Advertising, Smartyads, Mopub</p> <p>SSPs: Adform, Openx, Pubmatic, Amazon, Google Ad Manager, Sharethrough, Hivestack, Verizon, Magnite, Vistar Media, Xandr Monetize, Mopub, Zynga</p> <p>DSPs: Amazon Advertising, Max, Mediamath, Amobee, The Trade Desk, Google Display And Video 360, Ironsource, Xandr Invest</p>
5	Measurement and analytics - providing service users with insight into the performance of their media properties and advertising campaigns	App Annie, Google Analytics, Comscore, Nielsen, Dynata, Firebase, Webtrends
6	Data and Data Management Platforms (DMPs) - aggregating user data for targeting and insights purposes	Amobee, Liveramp, Lotame, Oracle, Mediamath, Nielsen, Eyeota, Oneview.
7	Optimisation technologies - such as verification tools and creative (messaging) management tools	Doubleverify, Integral Ad Science, Moat, Protected Media, Google Ad Manager. AMillionAds, Flashtalking, Genero, Google Campaign Manager, Facebook Ads, Sizmek
8	Agencies - providing planning, buying, management and design services (media and creative services)	EssenceMediaCom, Initiative, Havas, Kaimera OMD, Resolution, Starcom, UM, Wavemaker, Zenith; BBDO, BMF, Clemenger, DDB M&CSaachi, McCann, R/GA, 72&SUNNY



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