Digital Platform Services Inquiry – September 2024 report revisiting general search services

Issues Paper

18 March 2024

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1. General search services

Purpose

The ninth report of the Australian Competition and Consumer Commission's (**ACCC**) 5-year inquiry into digital platform services (**the Inquiry**) will revisit competition and consumer issues in relation to general search services in Australia.

The ACCC previously examined the provision of general search services in its third interim report (**Report on Search Defaults and Choice Screens**) in 2021, as well as the Digital Platforms Inquiry (**DPI**) Final Report in 2019.[1] In both reports, the ACCC found Google Search to be the dominant search engine in Australia and that Google's pre-installation and default arrangements have likely contributed to its current dominance.[2]

Since then, general search services have been affected by numerous regulatory and industry developments. For example, legislation regulating such services has been introduced in a number of jurisdictions; including the European Union's Digital Markets Act (**DMA**), which requires designated digital platforms to provide choice screens for browsers and search engines and measures to address anti-competitive self-preferencing. In addition, changes to the market structure and the emergence of generative artificial intelligence (**AI**) as a way for consumers to search for information is claimed to have impacted general search services in a significant way. Given this, the ACCC considers that it is now timely to re-examine the provision of general search services in Australia.

The purpose of this Issues Paper is to invite written submissions from interested parties to assist the ACCC in understanding the current nature of general search services, how market dynamics have changed since the third interim report, and how these changes may impact competition and consumer issues or give rise to new concerns.

Questions to help guide your submission, along with some contextual information on the topic, are below.

Written submissions should be emailed to digitalmonitoring@accc.gov.au by **COB 17 April 2024**. In general, submissions will be published on the ACCC website. For more information about making a submission, including the treatment of confidential information, see page 16.

The ACCC is required to submit its report to the Treasurer by 30 September 2024 (the r**eport**).

Scope of this report

The Treasurer's Direction requires the ACCC to hold an inquiry into markets for the supply of digital platform services. The list of digital platform services in the Direction includes internet search engine services, which includes both general and specialised search services.

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1 ACCC, Digital Platforms Inquiry Final Report, 26 July 2019; ACCC, Digital Platform Services Inquiry Third Interim Report, 28 October 2021.

2 ACCC, Digital Platforms Inquiry Final Report, 26 July 2019, p 65; ACCC, Digital Platform Services Inquiry Third Interim Report, 28 October 2021, p 68.

The Direction does not list generative AI as one of the digital platform services that must be examined but this Report will, among other areas of focus, consider generative AI to the extent it relates to general search services. The Report will not discuss issues relating to generative AI more broadly, including privacy, online safety, or misinformation issues and will not consider new media bargaining content issues.[3]

The ACCC notes that several other government activities on the broader issues in generative AI are currently underway, including the Department of Industry, Science and Resources' 'Safe and Responsible AI in Australia' consultation, and the House Standing Committee on Employment, Education and Training's inquiry into the use of generative AI in the Australian education system.[4] The ACCC is also a member of the Digital Platform Regulators Forum (**DP-REG**), through which independent regulators collaborate on issues involving the regulation of digital platforms in Australia.[5] To date, DP-REG has published two working papers related to generative AI.[6]

What are general search services?

Consumers use general search services to navigate the internet and search for information or answers to a broad range of queries, typically through search engines operated by general search service providers. Search engines function by maintaining a large index of websites available on the internet and displaying a list of curated, ranked results (known as a search engine results page) in response to a consumer's search query. Search engines typically monetise their services by presenting paid advertisements to users.

General search services are distinct from specialised search services, which involve maintaining a smaller index of webpages that focus on a specific category. For example, Skyscanner functions as a specialised search engine where users can search for, compare and book flights.

Consumers access general search services via a range of methods:

- **Browser navigation bar**: browsers typically have default search engines embedded in their navigation bar. For example, Apple Safari uses Google as the default search engine.
- **Manual web navigation**: users can navigate to search engines by typing the URL into their browser, and many browsers have a search engine page as their home page.
- **Search applications / widgets**: mobile devices such as smartphones and tablets are typically pre-installed with search applications, widgets, and other search integrations such as iOS Spotlight. Users may use these default search apps or download a preferred search application from an app store to access search engines.
- **Voice assistants**: users can access search engines by asking queries via voice assistants (such as Google Assistant, Amazon Alexa, and Apple's Siri), available on Android and iOS smartphones and via smart speakers such as Google Nest, Amazon Echo, or Apple HomePod.

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3 More detail on the Treasurer's Direction can be found at page 18.

4 Parliament of Australia, Inquiry into the use of generative artificial intelligence in the Australian education system, 24 May 2023; Department of Industry, Science and Resources, The Australian Government's interim response to safe and responsible AI consultation, 17 January 2024.

5 Digital Platform Regulators Forum, DP-REG joint statement, 22 March 2022.

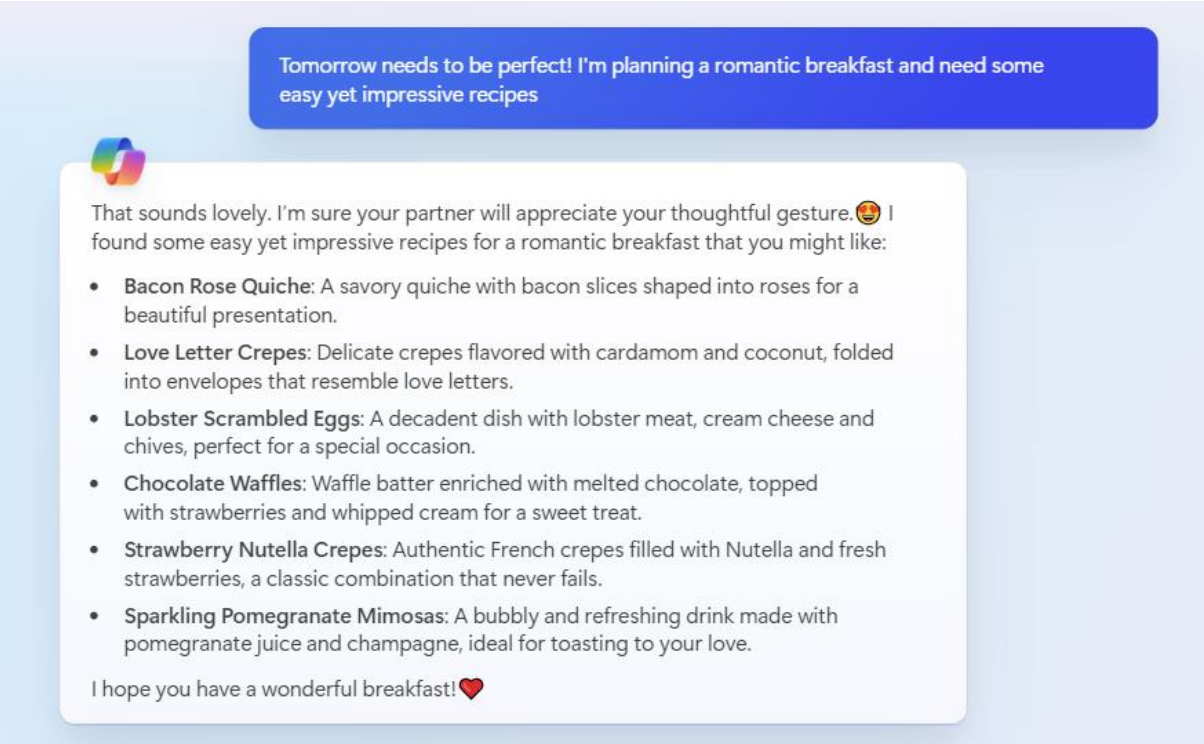
6 Digital Platform Regulators Forum, Working Paper 1: Literature summary – Harms and risks of algorithms, June 2023; Digital Platform Regulators Forum, Working Paper 2: Examination of technology – Large Language Models, October 2023.

Alternative search methods

Consumers can also use digital services other than search engines to meet their information needs, though the ACCC notes there are limitations.[7]

For example, Large Language Model (**LLM**) chatbots based on generative AI technologies have rapidly increased in popularity since OpenAI's launch of ChatGPT in November 2022. One function of chatbots is to provide answers to consumers' general search type queries, attracting speculation about whether they will disrupt traditional search engines. A number of other LLM chatbots are currently available for consumer use in Australia, including Google- and Microsoft-owned chatbots – Gemini (formerly known as Bard) and Copilot (formerly known as Bing Chat, and based on OpenAI's ChatGPT) respectively.[8]

Figure 1: Example of LLM chatbot (Microsoft Copilot) responding to a query



Source: Microsoft, What will you do with Copilot with Bing?, accessed 29 February 2024.

Further, several newer AI-powered search engines (**AI Search Engines**) have emerged in recent years, including Perplexity, You.com, Phind, Komo, Andi, and Exa. Rather than search engines that provide curated, ranked results, these AI Search Engines provide responses in a conversational style, allow users to ask follow-up questions, consolidate information from a range of sources into a single answer, and can generate content.[9]

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7 For example: the ACCC notes that some AI chatbots are currently unable to provide answers based on information as up-to-date as that of a search engine. Additionally, Large Language Model-based services currently appear to be limited in their ability to provide accurate responses and can 'hallucinate' information. OpenAI, WebGPT: Improving the factual accuracy of language models through web browsing, 16 December 2021; Teche, Macquarie University, Why does ChatGPT generate fake references?, 20 February 2023.

8 S Hsiao, Bard becomes Gemini: Try Ultra 1.0 and a new mobile app today, The Keyword (Google Blog), 8 February 2024, accessed 15 February 2024; N Edwards, Microsoft's unified Copilot is coming to Windows, Edge, and everywhere else, The Verge, 22 September 2022, accessed 19 February 2024.

9 Yusuf Mehdi, Reinventing search with a new AI-powered Microsoft Bing and Edge, your copilot for the web, Official Microsoft Blog, 7 February 2023, accessed 15 February 2024.

Recent commentary in the US has also suggested that consumers are using social media platforms to search for answers to certain queries.[10] For example, TikTok and, to a lesser extent, Reddit have been cited by US commentators as platforms that are increasingly used for certain types of searches.[11] A Google executive recently suggested that young people in the US are increasingly using TikTok and Instagram for discovery purposes.[12]

Some social media companies have integrated AI chatbots into their platforms – for instance, Meta has introduced Meta AI and Snapchat My AI.[13] The extent to which Australian consumers are using social media platforms or other search engine alternatives to meet their information needs is not clear.

Questions

1) What types of digital platform services are viable alternatives to general search services?
2) How are consumers using both general search services or other services (including AI chatbots and social media services) to find information?
3) Do digital platform services other than search engines competitively constrain Google Search? If so, which services and to what extent?

General search services in Australia

Most Australian consumers use a search engine on a daily basis, with search engines acting as a gateway to other websites and content on the internet.[14] In a similar way, browsers are a key gateway for consumers to access and use internet search engines.[15]

According to Statcounter data, Apple Safari, Google Chrome and Samsung Internet are the most popular browsers on mobile devices, while Chrome, Microsoft Edge, and Safari are most popular on desktop devices.[16] Alternative browsers available to Australian consumers on both desktop and mobile include Firefox, Opera and Brave.

All of these browsers typically embed default search engines that provide general search services. Google, for example, pays Apple a proportion of its search advertising revenue for Google Search to be the default search engine on the Safari browser.[17] The ACCC's DPI Final

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10 See for example, K Huang, For Gen Z, TikTok Is the New Search Engine, 16 September 2022, accessed 15 February 2024; M G Southern, TikTok Gains Traction As A Search Engine Among Gen Z, Search Engine Journal, 15 January 2024, accessed 15 February 2024.

11 A 2024 Adobe consumer survey suggests that over 2 in 5 American consumers have used TikTok as a 'search engine' – Adobe Express, Using TikTok as a search engine, 3 January 2024, accessed 15 February 2024; T Lorenz, Google It? People now are searching with Tiktok or Reddit, The Washington Post, 20 July 2023, accessed 20 February 2024.

12 L Liang, Google exec suggests Instagram and TikTok are eating into Google's core products, Search and Maps, 13 July 2022., accessed 6 March 2024.

13 Meta, Introducing new AI experiences from Meta, accessed 15 February 2024; Snapchat, What is My AI on Snapchat and how do I use it?, accessed 15 February 2024.

14 ACCC, Digital Platform Services Inquiry Third Interim Report, 28 October 2021, p 9.

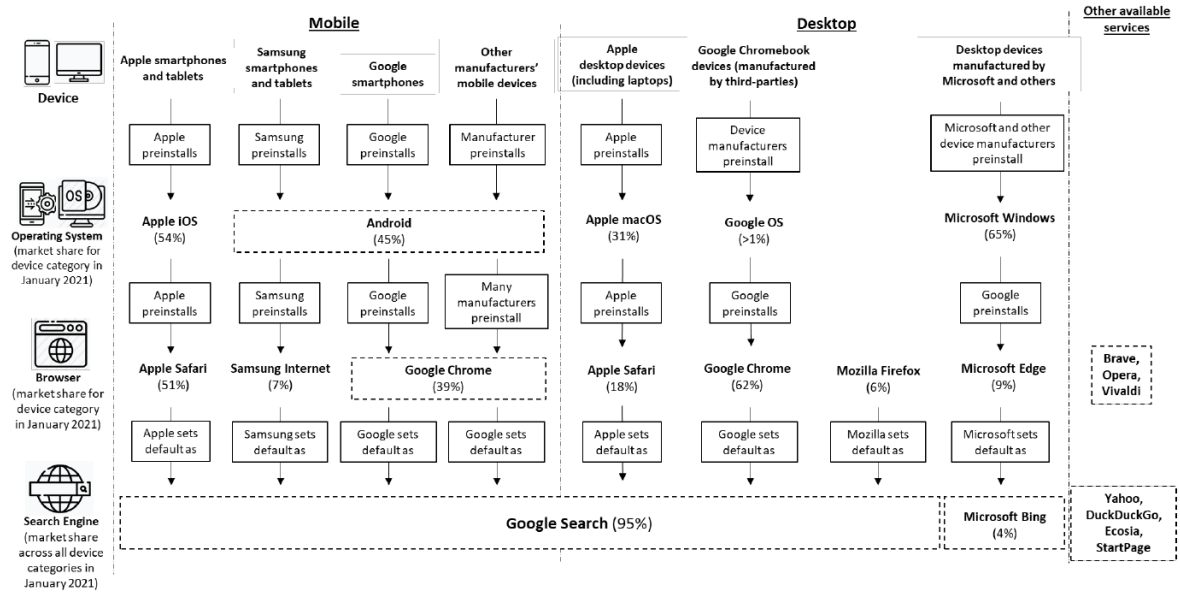
15 ACCC, Digital Platform Services Inquiry Third Interim Report, 28 October 2021, p 23.

16 statcounter, Browser Market Share Australia, accessed 20 February 2024.

17 Google reportedly paid Apple 36% of its Safari search revenue (which analysts estimated to be around USD 18 billion in 2021 and USD 19 billion in 2023), in exchange for default search engine status on search access points on Apple's devices. N Grant, Inside Google's Plan to Stop Apple From Getting Serious About Search, New York Times, 26 October 2023, accessed 19 February 2024; C Nylen, Apple Gets 36% of Google Revenue in Search Deal, Expert Says, *Bloomberg*, 13 November 2023, accessed 16 February 2024; R Goswami, Apple gets 36% of Google search revenue from Safari, Alphabet witness says, CNBC, 14 November 2023, accessed 1 March 2024.

Report (in 2019) and Report on Search Defaults and Choice Screens (in 2021) found that Google has substantial market power in the supply of general search services in Australia.[18] In the Report on Search Defaults and Choice Screens, the ACCC also found that Google's use of pre-installation and default arrangements with third party device and operating system manufacturers has likely contributed to its current dominance in search.[19] The diagram from the ACCC's Report on Search Defaults and Choice Screens below shows the landscape of search engines across devices, operating systems and browsers in Australia at the end of January 2021.

Figure 2: Key suppliers of operating systems, web browsers, and search services in Australia (January 2021)



Source: Based on ACCC information and Statcounter (Mobile Operating System Market Share Australia, Desktop Operating System Market Share Australia, Mobile & Tablet Browser Market Share Australia, Desktop Browser Market Share Australia, Search Engine Market Share Australia), accessed 5 February 2021.

Google's position in general search in Australia

Publicly available data suggests that market shares appear to have broadly remained consistent since the ACCC submitted its Report on Search Defaults and Choice Screens to the Treasurer in September 2021.

As shown in Figure 3 below, this data suggests that on desktop devices, the same data indicates that Google's share of search has declined slightly from 89.1% to 86.34% over that period, while Bing's has increased slightly from 8.4% to 11.19%.

In Australia, mobile phones are the most popular way to go online, with 95% of Australian adults having used a mobile phone to access the internet in 2023.[20] On mobile devices (where Google maintains default arrangements with most Android manufacturers and Apple for iOS), Google Search's market share has appeared to have consistently remained around

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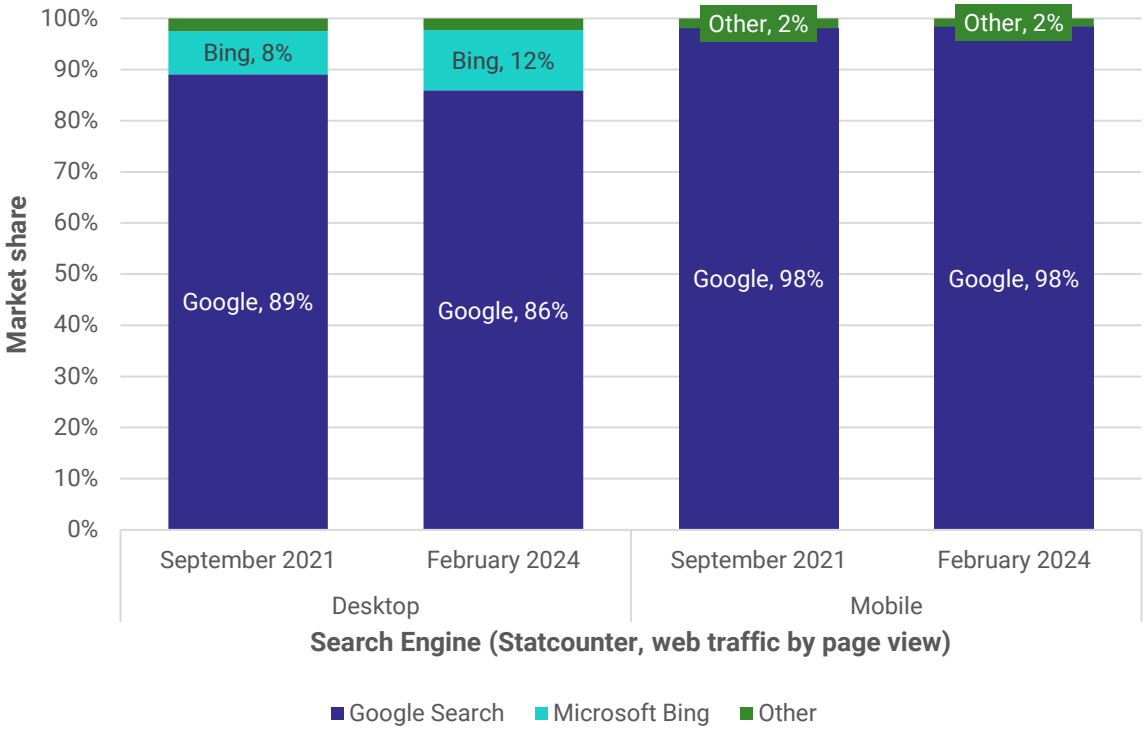
18 ACCC, Digital Platforms Inquiry Final Report, 26 July 2019, p 8; ACCC, Digital Platform Services Inquiry Third Interim Report, 28 October 2021, p 23.

19 ACCC, Digital Platform Services Inquiry Third Interim Report, 28 October 2021, p 68.

20 Australian Communications and Media Authority, Trends and developments in telecommunications 2022-23, December 2023, p 9.

98% from September 2021 to February 2024, with other search engines including Bing only having a small presence.

Figure 3: Market shares – desktop and mobile search engines in Australia (September 2021 and February 2024)



Source: Statcounter[21]

The ACCC is interested to understand the current competitive landscape in general search services in Australia, and to what extent it has changed since the ACCC considered this industry in its Report on Search Defaults and Choice Screens.

Questions

4) What is the level of competition for general search services in Australia? What is the competitive effectiveness of the differing search engines?

5) Since September 2021, has the market for general search services in Australia experienced any material change in

   a) Market structure?

   b) Barriers to entry and expansion?

[21] Statcounter, Desktop Search Engine Market Share Australia: September 2021 – January 2024, accessed 15 February 2024; Mobile Search Engine Market Share Australia: September 2021 – January 2024, accessed 29 February 2024.

Factors affecting competitive landscape

As part of this Report, the ACCC is considering which factors are affecting (or may affect) the competitive landscape in general search services in Australia, including:

- the impact of vertical integration and pre-installation and default agreements
- the potential introduction of choice screens and other measures that could improve competition
- entry and/or expansion of general search service providers and the emergence of new technologies including generative AI.

Preset default search on devices

Google has previously been found to be the preset default search engine on the overwhelming majority of browsers and other search access points (including search widgets, apps and voice assistants) on devices supplied in Australia.[22] This is due to Google's ownership of the Chrome browser and arrangements with Apple, original equipment manufacturers (**OEMs**) that use the Android operating system, and competing browsers.[23]

In 2021, Google reportedly paid USD 26.34 billion to business partners to secure the status of default search engines on browsers and mobile phones, a nearly 300% increase since 2014.[24] Google reportedly paid Apple 36% of its Safari search revenue (which analysts estimated to be around USD 18 billion in 2021 and USD 19 billion in 2023), in exchange for default search engine status on search access points on Apple's devices.[25] Google's agreements with Android OEMs mean that Chrome, the Google Search app and other key search access points are pre-installed on most Android devices supplied in Australia.[26]

The ACCC notes that the European Commission (**EC**) and Competition Commission of India have fined Google for imposing illegal restrictions on Android OEMs, as well as mobile network operators in the EC's case. [27] Google's exclusivity agreements with third parties are also currently under regulatory scrutiny in the US and Japan.[28]

The ACCC's Report on Search Defaults and Choice Screens found that Google's pre-installation and default agreements have the effect of extending and entrenching Google's

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22 ACCC, Digital Platform Services Inquiry Third Interim Report, 28 October 2021, p 9.

23 ACCC, Digital Platform Services Inquiry Third Interim Report, 28 October 2021, p 9.

24 K Vasant, Google shelled out $26.34 billion to secure default search-engine status in 2021, US court told, Mlex, 27 October 2023, accessed 22 February 2024.

25 N Grant, Inside Google's Plan to Stop Apple From Getting Serious About Search, New York Times, 26 October 2023, accessed 19 February 2024; C Nylen, Apple Gets 36% of Google Revenue in Search Deal, Expert Says, *Bloomberg*, 13 November 2023, accessed 16 February 2024; R Goswami, Apple gets 36% of Google search revenue from Safari, Alphabet witness says, CNBC, 14 November 2023, accessed 1 March 2024.

The ACCC previously estimated, citing the public estimates referred to by the US Department of Justice in its proceedings against Google for monopolising search and search advertising, that Google paid Apple between USD 8 and 12 billion per year globally for Google's default status for search through Safari, and to use Google for Siri and Spotlight in response to general search queries on Apple's devices.

26 ACCC, Digital Platform Services Inquiry Third Interim Report, 28 October 2021, p 68. Samsung Internet is also pre-installed on Samsung Android devices.

27 European Commission, Antitrust: Commission fines Google €4.34 billion for illegal practices regarding Android mobile devices to strengthen dominance of Google's search engine, 18 July 2018, accessed 23 February 2024 (The case is under appeal with the European Court of Justice; Competition Commission of India, 20 October 2022, accessed 23 February 2024 (the order is under appeal in the Indian Supreme Court).

28 Department of Justice, Justice Department Sues Monopolist Google For Violating Antitrust Laws, 20 October 2020, accessed 23 February 2024; Japan Fair Trade Commission, The JFTC Opens an Investigation and Seeks Information and Comments from Third Parties Concerning the Suspected Violation of the Antimonopoly Act by Google LLC, etc., 23 October 2023, accessed 23 February 2024.

market power in the supply of search engine services in Australia, reducing contestability.[29] The ACCC considered that these agreements have likely foreclosed competitors from accessing users and realising economies of scale and network effects, for example, by limiting competitors' ability to access click-and-query data.[30] Click-and-query data includes data on the queries that users enter into a search engine, along with their actions in response to the results.[31] Search engines use this data to improve their search algorithms and thereby improve the quality of their offerings.[32]

In its fifth interim report of the Digital Platform Services Inquiry (the **Regulatory Reform Report**), the ACCC recommended introducing mandatory service-specific codes for certain 'designated' digital platforms to address competition issues in the supply of digital platform services in Australia.[33] The ACCC recommended that a code for search services could include measures to prohibit these platforms from entering into pre-installation arrangements that are, in practice or effect, exclusive; or to provide choice screens in respect of specific services that act as 'search access points'.[34] A code could also require designated search platforms to share certain click-and-query data (and/or facilitate data portability in respect of that data).[35]

These recommendations are largely similar to obligations being placed on 'gatekeeper' search engines by the EU's DMA and proposals of the UK's Competition and Markets Authority (**CMA**) that will inform implementation of the UK's Digital Markets Competition and Consumer Bill.[36]

Questions

6) Has the impact of exclusive pre-installation and default agreements on competition in general search services changed over time?

7) How effective would obligations on search engines prohibiting their exclusive pre-installation and default agreements be at addressing any competition issues in search? Which obligations would be more or less effective if applied in Australia?

8) What are the most effective methods of sharing click-and-query data? How could the privacy and security risks associated with the sharing of click-and-query data be mitigated?

Choice screens

There are various ways that the design of user interfaces and settings can influence users to make particular choices. Within each device ecosystem, the user interface design may present options to consumers in ways that influence consumers to remain using a default service or discourage them from switching between services.

29 ACCC, Digital Platform Services Inquiry Third Interim Report, 28 October 2021, p 9.

30 ACCC, Digital Platform Services Inquiry Third Interim Report, 28 October 2021, pp 9, 12 - 13.

31 ACCC, Digital Platform Services Inquiry Third Interim Report, 28 October 2021, p 12.

32 ACCC, Digital Platform Services Inquiry Third Interim Report, 28 October 2021, p 13.

33 ACCC, Digital Platform Services Inquiry Fifth Interim Report, 11 November 2022, p 5.

34 ACCC, Digital Platform Services Inquiry Fifth Interim Report, 11 November 2022, pp 139.

35 ACCC, Digital Platform Services Inquiry Fifth Interim Report, 11 November 2022, p 165.

36 Competition and Markets Authority, Online Platforms and Digital Advertising: Market Study Final Report, 1 July 2020.

Choice screens provide users with a selection of search engine options rather than a single predetermined default.[37] They aim to mitigate some anti-competitive effects of pre-installation and default agreements; for example, by increasing visibility and public awareness of search engines other than Google Search. Choice screens can be instrumental in raising awareness of the existence of alternatives, as demonstrated by Microsoft's roll-out of web browser choice screens in 2010, which saw an increase in other browsers' users.[38]

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The ACCC has been closely monitoring Google's rollout of the Android choice screen in the European Economic Area. On 2 August 2019, following the EC's July 2018 Android decision, Google announced that it would implement a choice screen for general search providers on all new Android phones and tablets shipped into the European Economic Area.[39] Since then, Google has implemented various iterations of the Android choice screen in the European Economic Area. Google's recent update on its preparations for the DMA describes upcoming changes to some Google products in the European Economic Area, including browser and search choice screens which will begin appearing on new devices distributed in the European Economic Area on or after 6 March 2024.[40] To meet the requirements under the DMA, Apple has also introduced a new choice screen that will surface when users in the EU first open Safari in iOS17.4 or later and prompt users to choose a default browser from a list of options.[41]

Questions

9) What elements of a choice screen would most effectively help users to overcome any potential default bias?

10) Are there other consumer behavioural interventions that could complement choice screens in informing users about alternatives to default search engines?

11) How have consumers, general search services providers, and other market participants reacted to browser and search choice screens being rolled out in the European Economic Area from 6 March 2024 in response to the EU's DMA?

Other measures to help improve competition

The ACCC has previously expressed concerns about potential self-preferencing by search providers in their treatment of third-party content in search results.[42]

The ACCC has recommended the introduction of a code for search services prohibiting certain digital platforms from providing favourable treatment to their own products and services in ranking, indexing and crawling.[43] This recommendation is largely consistent with the provisions in the EU's DMA that aim to address anti-competitive self-preferencing by a

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37 The ACCC has previously recommended the introduction of mandatory choice screens, in combination with other measures, to improve competition and consumer choice in the supply of search engine services in Australia: ACCC, Digital Platforms Inquiry Final Report, 26 July 2019, p 114; ACCC, Digital Platform Services Inquiry Third Interim Report, 28 October 2021, p 10; ACCC, Digital Platform Services Inquiry Fifth Interim Report, 11 November 2022, p 139.

38 Opera, Opera more than doubles download numbers in Europe after Choice Screen introduction, accessed 19 February 2024.

39 Android, About the choice screen, 12 June 2023,

40 O Bethell, An update on our preparations for the DMA, The Keyword (Google Blog), 17 January 2024, accessed 15 February 2024.

41 Apple, About the browser choice screen in iOS17, February 2024.

42 ACCC, Digital Platform Services Inquiry Third Interim Report, 28 October 2021, p 13.

43 ACCC, Digital Platform Services Inquiry Third Interim Report, 28 October 2021, p 124.

gatekeeper that provides its own online intermediation services, such as through an online search engine.[44]

Upcoming DMA-related changes to Google Search results in the European Economic Area

In January 2024, Google announced that it would test a number of changes to its search results page in the European Economic Area to comply with the DMA.[45]

Google has stated the changes will mean the removal of some features from the search engine results page, such as the Google Flights unit. The changes will also include the addition of a group of links to comparison sites from across the web and query shortcuts at the top of the search page to help users refine searches, including by focusing results just on comparison sites.

eu travel tech, a coalition of EU travel industry firms, has expressed strong concerns about Google's plan to comply with the DMA's self-preferencing ban.[46]

Google was required to submit its first DMA compliance report to the EC by 7 March 2024. On 5 March 2024, Google announced that it has implemented more than 20 products changes, including the introduction of dedicated units and chips to help users find comparison sites in areas like flights, hotels and shopping.[47]

Questions

12) How may search engines engage in anti-competitive self-preferencing conduct? What are the potential harms from any such conduct to businesses, consumers and other digital platform services?

13) How does anti-competitive self-preferencing conduct affect the quality of search results displayed to consumers?

14) To what extent would changes to Google Search results in the European Economic Area in response to the DMA address competition concerns relating to anticompetitive self-preferencing by search engines? Would a similar change be beneficial to competition in Australia?

The increasing role of generative AI in search

The increasing use of generative AI as a search tool is something that could significantly impact the market for general search services in Australia and globally. The ACCC is looking to understand the potential impact of generative AI on the competitive landscape in general search services.

The deployment of generative AI in search is still at an early stage and rapidly evolving. In its Initial Report on AI Foundation Models, the UK's CMA noted that the potential impact of generative AI on online search is complex and will depend on various factors, including whether AI chatbots will replace or complement search engines.[48]

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44 Article 6(5) of the DMA states that a designated gatekeeper shall 'not treat more favourably, in ranking and related indexing and crawling, services and products offered by the gatekeeper itself than similar services or products of a third party'.

45 O Bethell, An update on our preparations for the DMA, The Keyword (Google Blog), 17 January 2024, accessed 15 February 2024.

46 For example, eDreams Odigeo, a member of eu travel tech, has said Google's announced changes would still enable Google to continue to engage in self-preferencing of its own services : N Lomas, Google's search tweaks draw fire as EU self-preferencing ban looms, TechCrunch, 24 January 2024, accessed 22 February 2024.

47 O Bethell, Complying with the Digital Markets Act, The Keyword (Google Blog), 5 March 2024, accessed 6 March 2024. For Google's own description of aggregator units and refinement chips, see Google Search Central, New Search experiences in European Economic Area: Rich results, aggregator units, and refinement chips, 15 February 2024, accessed 6 March 2024.

48 Competition and Markets Authority, AI Foundation Models: Initial Report, 18 September 2023, p 65.

Questions

15) To what extent do consumer-facing LLM-based chatbots compete with general search services at present?

16) How has generative AI been integrated into search engine services so far? In terms of their utility and effectiveness in finding information for consumers, how do they compare with general search services?

17) Have any noticeable trends emerged in relation to consumers' preference for traditional search engine result pages versus AI-generated search results presented in a natural language format?

18) Will the integration of generative AI into search engine services lead to new or additional monetisation strategies in general search services beyond an advertising-based model?

19) Have developments in generative AI affected the nature and terms of syndicated search agreements? To what extent do AI-powered search features rely on major general search service providers' syndicated data or search index?

There has been some public speculation that LLM-based services could disrupt general search services provided by search engines by displaying more relevant, comprehensive, and direct responses to users.[49] On the other hand, generative AI could also help large digital platforms, including the two largest providers of general search services, Google and Microsoft, to maintain and defend their market positions.[50] Large digital platform service providers may have a competitive advantage in developing or accessing the most efficient and sophisticated LLMs, given their superior access to data, computing power and financial resources, as well as economies of scale.[51]

Google's Search Generative Experience , currently available to users of Google Search in around 120 countries (not including Australia), is powered by several of Google's in-house AI foundation models. Google has announced that it is experimenting with using its latest flagship general model Gemini, which is already available for public use via Google's AI chatbot Gemini (formerly Bard), to improve user experience with Search Generative Experience.

Microsoft's flagship generative AI offering Copilot is available in Bing's mobile and desktop interfaces as a dedicated tab on the home page and search result pages. Copilot is powered by OpenAI's ChatGPT. Microsoft has formed a strategic partnership with OpenAI that includes investment of around USD 10 billion in OpenAI.

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49 Digital Platform Regulators Forum, Working Paper 2: Examination of technology – Large Language Models, 25 October 2023.

50 Digital Platform Regulators Forum, Working Paper 2: Examination of technology – Large Language Models, 25 October 2023.

51 Competition and Markets Authority, AI Foundation Models: Initial Report, 18 September 2023; Federal Trade Commission, Generative AI Raises Competition Concerns, 29 June 2023, accessed 22 February 2024.

Compared to the significant progress made by Bing and Google Search in integrating generative AI features, smaller privacy-focused search engines have encountered difficulties in sustaining their generative AI offerings:

- DuckDuckGo used ChatGPT technology to offer DuckAssist, a feature that could generate natural language answers to search queries using Wikipedia.[52] DuckAssist was discontinued in April 2023, one month after its launch, reportedly due to Microsoft preventing syndicated downstream search providers from using the Bing search index to develop their generative AI tools.[53]
- In May 2023, ad-free subscription-based search engine Neeva shut down around 3 months after launching NeevaAI, which mostly used in-house LLMs and was marketed as 'authentic, real-time AI search'.[54] Neeva's then CEO Sridhar Ramaswamy said while AI developments were 'game changing', the biggest barrier for Neeva to build economies of scale was to secure default status on search access points, which is critical to access users.[55]

Some firms have launched new AI-powered search products that aim to compete directly with search engine services. For example, Perplexity AI markets itself as 'an alternative to traditional search engines' whereas Arc Search claims to offer a new search experience by combining various elements of a browser, a search engine, an AI chatbot and a website.[56] OpenAI, which already offers a feature called 'ChatGPT Browse with Bing' to paid users, is also reportedly developing a web search product.[57]

AI-powered search features have also been integrated into a number of web browsers available to Australian consumers.[58] In addition, generative AI also appears to have facilitated the expansion of search access points to digital platform services that did not traditionally offer general search features, although these type of search products still require the use of a major search service. For example, Bing has been integrated into Meta's flagship AI chatbot MetaAI, which is available (as of February 2024, only in the US) on WhatsApp, Messenger, Instagram and Ray-Ban Meta Smart Glasses and Quest 3.[59]

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52 T Germain, DuckDuckGo Releases Its Own ChatGPT-Powered Search Engine, DuckAssist, Gizmodo, 9 March 2023, accessed 22 February 2024.

53 L Nylen and D Bass, Microsoft Threatens Data Restrictions In Rival AI Search, Bloomberg, 25 March 2023, accessed 15 February 2024.

54 D Pierce, Neeva, the would-be Google competitor, is shutting down its search engine, The Verge, 21 May 2023, accessed 15 February 2024.

55 C May, Google search 'excellence' marred by dysfunctional markets, former executive says at US monopoly trial, Mlex, 3 October 2023, accessed 15 February 2024.

56 D Pierce, Arc Search combines browser, search engine, and AI into something new and different, The Verge, 29 January 2024, accessed 22 February 2024.

57 A Holmes, OpenAI Develops Web Search Product in Challenge to Google, The Information, 14 February 2024, accessed 15 February 2024.

58 For example, Microsoft Edge's Copilot sidebar; Brave Browser's Leo AI Assistant and Opera's Aria and ChatGPT integration.

59 Meta, Introducing New AI Experiences Across Our Family of Apps and Devices, 27 September 2023, accessed 29 February 2024.

Questions

What impact is generative AI having on the supply of general search services in Australia and markets outside Australia? In particular:

20) Is generative AI making it easier or harder to start supplying, or to expand supply of, general search services? In particular:

   a) Do general search service providers with their own AI models, or strategic partnership with AI developers enjoy significant advantages over others in integrating generative AI into their search engine services?

   b) What barriers do smaller and new providers face in integrating generative AI into their search engines?

21) What is the role, if any, of click-and-query data in the integration of generative AI into general search services? What impact has generative AI made on the use of click-and-query data to improve search algorithms?

22) What other competition and consumer issues have emerged, or will likely emerge, from the integration of generative AI into search engines?

23) How easily can digital platform services integrate with generative AI and expand into providing general search? Would such expansion have any impact on competition among general search services?

Search quality

Changes to search quality over time

Search quality is an important dimension on which search engines compete for consumers. The ACCC notes that the metrics to measure search quality can be varied and wide-ranging, and that different consumers may value different elements. The ACCC is interested to understand further what elements of search are most valued by consumers. For example, they may include the relevance of results, ease of use, attractiveness of interface, privacy, volume of advertising and rewards for users.[60]

A number of studies and reports have suggested that search quality may have decreased over time, including:

- that webpages with low quality, highly optimised affiliate marketing content are ranking in high positions in organic search results[61]
- an increase in the amount of low-quality, AI-generated webpages that optimise for website keywords to ensure higher-ranking search engine results,[62] including a downwards trend in text quality across multiple search engines[63]

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60 Competition and Markets Authority, Online Platforms and Digital Advertising: Market Study Final Report, 1 July 2020, p 78.

61 Affiliate marketing is where online sellers (often general online retail marketplaces such as Amazon) provide a commission to publishers when consumers purchase a product or service following a referral from the publisher. J Bevendorff et al. suggest that webpages with a high number of affiliate marketing links may be associated with lower quality information. See J Bevendorff et al., Is Google Getting Worse? A Longitudinal Investigation of SEO Spam in Search Engines

62 N Nguyen, Beware the Top Google Search Result. It Might Be Wrong. The Wall Street Journal, 18 February 2024, accessed 5 March 2024.

63 J Bevendorff et al., Is Google Getting Worse? A Longitudinal Investigation of SEO Spam in Search Engines, January 2024.

- the appearance of paid search results has become increasingly similar to the appearance of organic search results, potentially making it more difficult for consumers to identify paid results[64]
- increasing use of Search Engine Optimisation techniques by popular websites to improve their organic search rankings by general search engines has led to a decrease in the quality of webpage design.[65]

The ACCC is interested to understand whether search quality has changed over time and the extent of any change.

Questions

24) How do consumers evaluate the quality of general search services?

   a) What features or aspects of quality do consumers value?

   b) Of the aspects of quality identified in response to the question above, which matter most to consumers choosing a search engine?

25) Has the quality of organic search results improved, stagnated, or decreased over time? To what extent?

26) How do general search service providers evaluate the quality of general search services? What data do they need?

27) How has the relationship between organic search results and paid search results changed over time?

28) To what extent have paid search results affected search result quality?

29) To what extent would AI-generated content and AI-powered search impact search quality and webpage quality?

30) What other ways has search quality changed over time?

Competition in the supply of general search services and its effect on search quality

The ACCC is seeking to understand whether the level of competition in the market for the supply of general search services in Australia has an impact on the quality of general search services. Such considerations could be:

- whether search engines' strategies in relation to quality vary depending on the competitive pressure they experience in Australia
- whether competition dynamics in Australia allow rival search engines to compete effectively. The ACCC's Report on Search Defaults and Choice Screens found that there were very high barriers to entry and expansion, and reduced competition is likely to result in lower search quality.[66] Similarly in the UK, the CMA noted that Google's exclusivity agreements with third parties create high barriers to expansion for rival search engines,

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64 G Marvin, A visual history of Google ad labeling in search results, Search Engine Land, 28 January 2020, accessed 5 March 2024; J Porter, Google's ads just look like search results now, The Verge, 24 January 2020, accessed 5 March 2024.

65 M Sato, How Google perfected the web, The Verge, 8 January 2024, accessed 5 March 2024.

66 ACCC, Digital Platform Services Inquiry Third Interim Report, 28 October 2021, p 12.

making it more difficult for rivals to grow their customer base, monetise search, and invest to improve their search quality.[67]

The ACCC is also interested in understanding what other factors relating to market dynamics affect search quality.

Questions

31) How has the state of competition in Australia for general search services affected different search engines' quality?

32) What has been the impact of competition in Australia on general search service providers' incentives to improve search quality?

33) To what extent is the reported decline in the quality of search services a result of a general decline in the quality of webpages over time? Has this decline in quality been influenced by search result ranking policies of major search engines, or by other factors?

34) To what extent are the barriers to consumers switching search engines impacting the quality of general search services?

35) What other factors affect search quality in Australia? To what extent have they affected search quality?

2. Making a submission

The ACCC invites written submissions from interested stakeholders, including:

- operators of general search services
- consumers and consumer groups
- other digital platform service providers
- other interested stakeholders.

We may also directly contact market participants to request specific information.

Written submissions to this Issues Paper should be emailed to digitalmonitoring@accc.gov.au by **COB 17 April 2024**.

We encourage you to provide your views on the issues that are most relevant to you. You do not have to address every question in this Issues Paper. In preparing your submission, please include as much evidence as possible to support your views.

You may provide your submission to the ACCC in the form of a public or confidential submission. However, the Inquiry is a public process and, in general, submissions will be published on the ACCC website. The ACCC's process for dealing with confidential submissions is set out below.

[67] Competition and Markets Authority, Online Platforms and Digital Advertising: Market Study Final Report, 1 July 2020, p 13.

Treatment of confidential information

The *Competition and Consumer Act 2010* (the **CCA**) allows interested parties that provide feedback to the Inquiry to make claims for confidentiality in certain circumstances. The ACCC invites interested parties, where appropriate, to discuss confidentiality concerns with the ACCC in advance of providing written material.

The ACCC can accept a claim of confidentiality from a party if the disclosure of information would damage their competitive position, the ACCC is satisfied the confidentiality claims are justified, and it is not necessary in the public interest to disclose the information. The ACCC will consult with a party where possible and appropriate prior to publishing any information over which that party has claimed confidentiality.

Making a claim of confidentiality

1. So that the ACCC can consider whether the confidentiality claim is justified, you must provide reasons why the information is confidential and why disclosure of the information would damage your competitive position.
2. If you are claiming confidentiality over all of your submission, you must provide reasons why all of the information in your submission is confidential. As the Inquiry is a public process, please consider whether there are any parts of your submission that may be published without damaging your competitive position.
3. If you are claiming confidentiality over a part of your submission, the confidential information should be provided in a separate document and should be clearly marked as 'confidential' on every relevant page. Alternatively, you may wish to provide (1) a public version for publication on the ACCC website with the confidential information redacted, and (2) a confidential version with all of the confidential information clearly marked.
4. Contact us at digitalmonitoring@accc.gov.au if you have any questions.

3. Scope of the Inquiry

In December 2019, the Treasurer directed the ACCC to conduct a five-year inquiry into markets for the supply of digital platform services. The ACCC is required to provide a report to the Treasurer every six months. The goods and services specified in the Treasurer's Direction for the Inquiry are:

(a) digital platform services

(b) digital advertising services supplied by digital platform service providers

(c) data collection, storage, supply, processing and analysis services supplied by:

   a. digital platform service providers

   b. data brokers.

Services included under the Inquiry definition of digital platform services are:

(a) internet search engine services (including general search services and specialised search services)

(b) social media services

(c) online private messaging services (including text messaging, audio messaging and visual messaging)

(d) digital content aggregation platform services

(e) media referral services provided in the course of providing one or more of the services mentioned in paragraphs (a) to (d)

(f) electronic marketplace services.

The ACCC is required to take into consideration a number of matters in holding the Inquiry, including:

(a) the intensity of competition in the markets for the supply of digital platform services

(b) practices of individual suppliers in the markets for digital platform services which may result in consumer harm

(c) market trends, including innovation and technology change, that may affect the degree of market power, and its durability, held by suppliers of digital platform services

(d) changes over time in the nature of, characteristics and quality of digital platform services arising from innovation and technological change, and

(e) developments in markets for the supply of digital platform services outside Australia.

The full Ministerial Direction can be found on the ACCC's website.

To date, the ACCC has published reports on the following topics:

- Online private messaging services
- App marketplaces
- Web browsers and general search services
- General online retail marketplaces
- Regulatory reform
- Social media services
- Expanding ecosystems of digital platform service providers.

The eighth interim report will be provided to the Treasurer by 31 March 2024. That report will consider competition and consumer issues in relation to data collection, storage, supply, processing and analysis services supplied by data firms in Australia.

4. Glossary of terms used

Term	Description
ACCC	Australian Competition and Consumer Commission
AI	Artificial Intelligence is the ability of computer software to perform tasks that are complex enough to simulate a level of capability or understanding usually associated with human intelligence
Apps	A software program that allows the user to perform a specific task either on a designated device or online
Browsers	An application that enables users to visit webpages on the internet, such as Google Chrome, Firefox, Safari, and Microsoft Edge
Choice screen	Choice screens allow users to choose their preferred service (such as a search engine) as the default on a device, operating system or application, rather than relying on the preinstalled or pre-set default
Click-and-query data	Click-and-query data includes data on the queries that users enter into a search engine, along with the actions they take in response to the results
CMA	Competition and Markets Authority (UK)
Desktop device	Personal computer devices, including laptops
DMA	Regulation (EU) 2022/1925 of the European Parliament and of the Council on contestable and fair markets in the digital sector and amending Directives (EU) 2019/1937 and (EU) 2020/1828 (Digital Markets Act). It aims to prevent gatekeepers from imposing unfair conditions on businesses and consumers and ensure the openness of important digital services. Obligations imposed by this legislation commenced applying to relevant 'gatekeeper' platforms from 7 March 2024
DPI Final Report	The final report to the ACCC's Digital Platforms Inquiry, published in July 2019
EU	European Union
Generative AI	Generative AI is a type of AI that can create content such as text, images, audio, video or data, usually in response to plain language prompts entered by a user, using 'natural language processing'. Generative AI adopts a machine learning approach for turning inputs and outputs into new outputs by analysing extremely large data sets to derive relationships between inputs and outputs
LLM	'Large language models' or LLMs are a type of language model that form the basis of certain generative AI systems, a subset of 'artificial intelligence' or AI. These terms can be contested and difficult to define. A language model is a mathematical model of a language – an equation describing the statistical relationships between words or characters. Given some starting words (called the 'context' or 'prompt'), a language model can be used to predict what characters or words will follow from these starting words (called the 'completion'

	for that prompt) – similar to the 'auto complete' functionality in many smartphone messaging apps
Mobile device	Smartphones and tablet devices
OEM	An Original Equipment Manufacturer or OEM is a company that manufactures and supplies a hardware that integrates and uses software services and applications. Examples of OEMs include Apple, Samsung, Sony, Huawei and Xiaomi. They are also referred to as a 'device manufacturer' or 'device maker'
Operating systems	Operating systems manage computer hardware (e.g. processing, memory, and storage) and all other programs in a computer or mobile device. In the traditional IT stack, operating systems sit above hardware and below middleware and applications
Report	The ACCC's Digital Platform Services Inquiry's September 2024 Interim Report
Search service	A software system designed to search for information on the internet, generally returning a curated, ranked set of links to content websites
Specialised search service	Search engines that specialise in different types of search. For example, Expedia provides vertical search services for travel
Upstream search services	Search services that crawl the internet for new or updates websites, maintain an index of websites and use algorithms to determine which results to serve in response to a query
Voice assistant	Software accessed via an application or device that uses voice recognition, speech synthesis and natural language processing to perform tasks or services for an individual based on commands or questions. Examples include Google Assistant, Siri and Alexa
Widget	A component of a mobile device's home screen or user interface that displays information or provides a specific way for a user to interact with the operating system or an app