Australian Competition and Consumer Commission Digital Platform Services Inquiry: Final Report

Amazon is pleased to contribute to the Australian Competition and Consumer Commission's (**ACCC**) Digital Platform Services Inquiry – March 2025 Final Report Issues Paper (**Issues Paper**).[1] The Issues Paper is the last of the ACCC's Digital Platform Services Inquiry (**DPSI**) series.

Previously, as part of the DPSI, the ACCC recommended an economy-wide ex-ante regulation.[2] While Treasury has responded,[3] further consultation is planned. Amazon has approached its response to the Issues Paper through the lens of the ACCC's proposed regulation. Our submission aims to help the ACCC better understand, our contribution to the Australian economy, the nature of our business, international developments, and the competitive dynamics we face in the retail, cloud and generative AI sectors.

Amazon is proud to play a part in building and providing services that deliver what Australian customers, businesses and governments need to achieve cost of living savings, greater productivity, innovation, and to deliver better services (See **Part A** below). Each of the retail, cloud and generative AI sectors where we operate are competitive, evidenced by the many businesses offering competing or alternative services, the rate of new entry and expansion, decreasing prices, and the many choices available to customers.

With respect to each sector:

- **Retail**: Consumers have an incredible range of retailers to choose from making retail an intensely competitive, growing and dynamic sector.[4] Across this sector, Amazon's sales account for a very small proportion of online sales (less than 2.5% in 2021-22[5] and sales by physical retailers were multiples larger than Amazon Australia's sales during 2020-21[6]). The sector is characterised by strong existing competitors like Woolworth's Everyday Market, Temple & Webster, eBay, Catch.com and many others, as well as the recent entry and rapid growth of new retailers like Temu. See **Part B** below.
- **Cloud**: Cloud services are available to customers, including small businesses and start-ups, on a pay-as-you go model, enabling them to access the most advanced technologies and rapidly scale their IT solution to meet their needs. This allows Australia's small businesses to focus on innovations and better compete with large incumbents, and benefits the Australian economy. For customers who require an IT solution, cloud is just one solution, and cloud only accounts for around 15% of global IT spending.[7] There is strong competition for cloud services, including between cloud service providers and on-premises IT solutions. See **Part C** below.
- **Generative AI**: The generative AI sector is a novel rapidly evolving space. Many innovative start-ups have already successfully entered and expanded in the generative AI space, and Amazon believes that entry and expansion is becoming easier. There is (and will continue to be) intense and growing competition between sellers of generative AI services in Australia and globally. This includes the providers of generative AI models themselves, the various underlying technologies (including computing products and services) and the wide array of generative AI model driven applications. We expect the expansion of generative AI businesses to continue to grow in line with rapid

[1] A reference to "we", "our", "Amazon" may be to various Amazon entities including "Amazon Web Services (AWS)" or Amazon "Commercial Services Pty Ltd".
[2] ACCC DPSI September 2022 Interim Report - Regulatory Reform.
[3] https://treasury.gov.au/consultation/c2022-341745
[4] Interim Report No. 4, p 2; ACCC Media Release, (5 August 2019). See https://www.accc.gov.au/media-release/accc-won%E2%80%99t-oppose-wesfarmers%E2%80%99-proposed-acquisition-of-catch.
[5] DPSI 4th Report, p 12.
[6] DPSI 4th Report, p 19-21.
[7] According to Gartner, worldwide IT spending is estimated to be USD 5 trillion (See, URL: https://www.gartner.com/en/newsroom/press-releases/01-17-2024-gartner-forecasts-worldwide-it-spending-to-grow-six-point-eight-percent-in-2024) and of that amount, cloud spending is estimated to constitute USD 679 billion (See, URL: https://www.gartner.com/en/newsroom/press-releases/11-13-2023-gartner-forecasts-worldwide-public-cloud-end-user-spending-to-reach-679-billion-in-20240)

innovation. We are already seeing Australian start-ups (such as Leonardo.Ai) flourish.[8] The degree of innovation in generative AI, the myriad ways it can be developed and deployed and the social and economic potential for the use of these technologies means this competition will continue. See **Part D** below.

Cloud and generative AI, the two new areas referred to in the Issues Paper, are dynamic, well-functioning sectors of the Australian economy. Each is highly innovative and delivering benefits to the economy overall including by contributing to Australia's digital ambitions and ability to scale globally. Our approach and commercial incentive is to ensure everyone can access cloud and generative AI services and AWS is focussed on building and offering services to achieve this. For example, in generative AI we are working to create and maintain an open environment for developers and deployers which drives competition across this sector.

In respect of the Issues Paper:

- The innovations we have introduced helped make sectors like retail and IT services even more competitive and dynamic resulting in: new choices for customers (eg, bringing sellers into our retail stores allows them to sell to customers worldwide or offering small business customers pay-as-you-go scalable IT services), better more competitive prices, and increased benefits.
- The novel and untested economy-wide regulation seen in some international jurisdictions respond to specific political objectives, very different legal regimes and wholly different competitive dynamics and industry conditions.
- There is no evidence that emerging and highly dynamic sectors, where there is strong competition across all levels, require additional and novel economy-wide ex-ante regulation. The suggestion that such regulation is needed should be carefully considered given the risk of unintended consequences. As the Productivity Commission notes:

  "… government intervention such as regulatory requirements should be targeted to high-risk areas so as to avoid unduly inhibiting productivity-enhancing investment and innovation … Government can also help guide the ethical use of data and digital technologies, such as AI, facial recognition and automated processes, while avoiding stifling innovation and giving businesses and consumers confidence to invest in and use the technology."[9]

- We appreciate that, while our customer centric approach has delivered benefits to customers who in turn demand our services, our success has led regulators to raise potential concerns. In context, these concerns do not justify an economy-wide and generic one-size-fits all regulatory intervention. Such reforms are neither appropriate nor proportionate, or indeed the only option when thinking about how best to address these potential concerns while retaining the benefits our digital services deliver to Australian consumers, small businesses and the economy overall. On this point:
  - First, retail, IT and generative AI are already subject to detailed regulatory frameworks, including a strong and flexible competition law. Australian competition law also allows for alternative solutions (such as codes). In September 2024, Federal Trade Commission Chair Lina Khan said that the decision by a US federal judge in the FTC's Google is proof that existing antitrust law can tackle problems in fast-moving tech markets.[10] In addition, future competition and digital reforms are also proposed. For example, the Australian Government is conducting a consultation on guardrails to support the safe and responsible adoption of AI. If reforms are desired, updating existing competition laws is preferred to wholly new ex-ante regulations. For example, in September 2024, the Korea Fair Trade Commission (**KFTC**) announced it would abandon its ex-ante reforms and instead update its competition laws, confirming that it will retain an ex-post approach.

[8] Amazon notes that Leonardo.Ai was recently acquired by Canva.
[9] Productivity Commission, 5-year Productivity Inquiry Report (17 March 2023).
[10] Politico Morning Tech, Antitrust Law Is Working Just Fine, By Brendan Bordelon.

  - Second, there are alternative regulatory models which are better suited to Australia. For example, in already competitive sectors like retail the Japanese Government dealt with its concerns by opting for a transparency-based regulation. In another example, the South Korean Government has explored and developed industry-led digital codes. A nuanced approach like that that adopted in Japan and South Korea is more likely to deliver better outcomes for Australian consumers and small businesses compared to an experimental one-size-fits all ex-ante regulation.
  - Third, if there is evidence of anti-competitive harms in a sector, targeted sector-or-service specific regulation is more appropriate than an economy-wide regulation and is a successful regulatory model that Australia has adopted to date. For example, both Japan and South Korea have adopted or proposed legislative reforms targeting specific services, eg, app stores.[11]

- To safeguard Australia's future competitiveness and the economy's ability to harness the benefits of digital services, government should consider whether: (1) specific narrow reforms are needed in sectors where there is actual evidence of harms; or (2) alternatives such as industry codes and transparency-based rules are more appropriate where there are concerns but no evidence of anti-competitive harms. To the extent there are concerns in sectors where we operate, we welcome the opportunity to discuss these and the alternatives with government.
- Australia can afford to, and should, wait and learn from others about the effect an economy-wide ex-ante regulation would have on Australia's future innovation, investment and growth. As a recent European Commission report by Mario Draghi (September 2024) titled "*Competitiveness Coordination Framework*" found, the EU needs to reduce its regulatory burden noting that:[12] *"The problem is not that Europe lacks ideas or ambition. We have many talented researchers and entrepreneurs filing patents. But innovation is blocked at the next stage: we are failing to translate innovation into commercialisation, and innovative companies that want to scale up in Europe are hindered at every stage by inconsistent and restrictive regulations."*

In summary, for a medium-sized economy like Australia's, which has its own digital ambitions, copying an economy-wide ex-ante regulation from larger international jurisdictions for the retail, cloud and AI sectors will not best serve Australia's interests and is not needed.[13] First, international regulatory developments are highly divergent with no international consensus on any one type of ex-ante regulation. Second, there are increasing concerns about the impact ex-ante regulation has on an economy's ability to benefit from digital services and future competitiveness.[14] Third, in the retail, cloud and AI sectors, there is no evidence of serious competitive harms that support fast-tracking a novel economy-wide regulation. Finally, if there is nonetheless a desire for regulation, there are alternatives to novel untested regulation.

We appreciate that the Issues Paper refers to broad regulatory concerns about digital services and we are committed to engaging with the Australian Government to understand these concerns and how to address them while ensuring the fast-evolving spaces of retail, cloud and generative AI can continue to deliver benefits to consumers, small businesses and across the Australian economy more broadly.

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[11] In 2022, South Korea amended its Telecommunications Business Act in March 2022 to ban app store operators from forcing developers to use specific payment methods. See https://www.reuters.com/technology/skorea-approves-rules-app-store-law-targeting-apple-google-2022-03-08/

[12] See https://commission.europa.eu/document/download/97e481fd-2dc3-412d-be4c-f152a8232961_en

[13] Stephen King said that recommendations for ex-ante rules for digital platforms "are not necessary". He explained that Australia and Europe are experiencing a similar drop in productivity and focusing on competition issues to solve the productivity problem is a "distraction that stops good policy, rather than helps good policy." Australia has failed to adequately use the laws it has on the books. See https://globalcompetitionreview.com/article/digital-economy-specific-rules-are-wrong-former-accc-commissioner-says

[14] Japan: Mitsuru Murase, Deputy Director in charge of Transparency Act, Ministry of Economy, Trade and Industry (METI), 9 June 2021, observed that "I believe that by stipulating many prohibitions in the law, market innovation will be stifled as a result. This is not the future we want. We hope that that the "co-regulation" scheme will work and promote mutual understanding among the parties involved, so that the industry as a whole can develop in a health manner". (translation from Japanese). See https://www.msit.go.kr/bbs/view.do?sCode=user&mId=113&mPid=112&pageIndex=1&bbsSeqNo=94&nttSeqNo=3181808&searchOpt=ALL&searchTxt=%ED%94%8C%EB%9E%AB%ED%8F%BC

AMAZON SUBMISSION

Our submission is structured as follows:

- Part A: Our services and contribution to Australia's economy.
- Part B: Ex-ante regulation and lessons and experiences in other jurisdictions and developments in digital services and updates to observations in earlier DPSI Reports.
- Part C: Cloud competition and small business.
- Part D: Generative AI.

PART A: AMAZON

Our mission is to be Earth's most customer-centric company. We work backwards from what customers want and focus on providing choice, innovative products, and value. We strongly believe this promotes competition and follow-on innovation from both established players and new entrants in the sectors in which we operate.

Through our customer-centric approach and innovative businesses, we are proud to play a part in building and providing the services that deliver what Australian customers, businesses (including micro, small, and medium-sized enterprises) and governments need to achieve cost of living savings, greater productivity, innovation, and to deliver better services.

Amazon's journey in Australia began in 2012, when we launched our cloud computing business Amazon Web Services (**AWS**) Asia-Pacific Sydney Region, and continued in 2017 with our launch of amazon.com.au (the **Amazon Retail Store**). In summary:

Investments to date

- We have invested more than $15 billion to date across all of our businesses in Australia, including more than $5 billion in 2022 alone, and now employ more than 7,000 people across the country.

Amazon Web Services

- AWS's investment in two Australian cloud infrastructure regions, launched in 2012 (Sydney) and 2023 (Melbourne), supports the Australian Government's commitment to critical technologies[15] and contributes to economic activity and productivity in Australia. For example, AWS's recent $6.8 billion investment in the Asia Pacific (Melbourne) Region is estimated to support an annual average of over 2,500 full-time equivalent jobs at external businesses, and add $15.9 billion to the Australian gross domestic product by 2037.[16]
- AWS plans to invest an additional $13.2 billion into Australia from 2023 to 2027.[17] This will contribute an estimated $35 billion to Australia's total GDP by 2027 and support an estimated annual average of 11,000 full-time equivalent (**FTE**) jobs at local vendors.[18] Our investment includes capital and operating expenditures associated with constructing, operating, and maintaining our Regions and supports jobs at local vendors across the supply chain.

Amazon's Retail Store

- Amazon operates 20 warehousing and logistics facilities throughout Australia, including our world-leading advanced robotics facilities in Western Sydney.[19] We are constructing our second

[15] Australian Government Critical Technologies Statement, 22 May 2023
[16] https://anz-resources.awscloud.com/anz-pdf-content/aws-economic-impact-study-aws-investment-in-victoria
[17] About Amazon, 4 July 2024
[18] Austrade, 17 April 2023
[19] About Amazon, 9 April 2024

advanced robotics facility in North Melbourne,[20] which is expected to add 2,000 local jobs. We have committed to two new fulfilment centres near Sydney's new airport, with an investment of almost $500 million, which will create over 1,000 new jobs in the region. This is in addition to our existing operations in Western Sydney, where we've invested $1.5 billion since 2018, creating over 3,000 local jobs.

- We offer a diverse range of job opportunities ranging from IT, HR and technology professionals, to associates who pick, pack and ship items to customers in our high-tech, industry-leading workplaces. The majority of jobs we create are permanent full-time roles, with leading pay and comprehensive benefits such as subsidised private healthcare and 20 weeks of maternity pay.
- We continue our commitment to Australia, with plans to invest a further $1.6 billion in opening five new fulfilment operational sites by 2026, creating another 4,500 jobs once fully operational.

Renewables

- Between 2020 and 2022, we invested an estimated $467 million in seven utility-scale renewable projects, which has contributed $187 million to Australia's GDP.[21]

We provide the retail and IT services many Australians use and love. Through our investment and commitment to Australia, our focus on the customer, and continual innovation to improve the services we offer to our customers, we have brought both productivity gains and deflationary benefits to millions of Australians (see **Section B4** below). Our services in retail and IT promote competition and follow-on innovation across the economy.

We also support the Australian Government's vision for a future digital Australia. For example, we help enable Australian startups to succeed with a range of programs and initiatives. Australian startups including Swoop Aero, Illuvium, Immutable, Propeller Aero, Brighte, FloodMapp, Law-On-Earth, Mr Yum, Omniscient Neurotechnology (o8t) and Reejig are building their businesses with the use of AWS to rapidly scale in Australia and around the world. AWS also has a dedicated startup team that supports startups as they launch, grow, and scale.

We also share the Australian Government's vision of addressing the country's growing tech skills shortage by having 1.2 million people in tech jobs by 2030.[22] Amazon is committed to bridging the cloud skills gap in Australia and has trained more than 300,000 individuals across Australia with cloud skills since 2017.[23]

Our investments in Australia are helping to drive greater economic activity and returns for our customers and partners, producing positive spillover effects throughout the broader economy. In addition to our substantial investments aiding the Australian Government's priorities in supporting jobs, innovation, and critical skills across the modern digital economy, we have consistently championed competition and customer choice in the economy and we welcome the competition that this brings.

[20] About Amazon, 9 August 2023

[21] https://www.aboutamazon.com.au/news/company-news/partnering-with-the-australian-government-to-deliver-cloud-innovation-in-national-security-defence. For more see https://www.aboutamazon.com.au/news/sustainability/amazon-meets-100-renewable-energy-goal-seven-years-early

[22] https://techcouncil.com.au/newsroom/getting-to-1-2million/

[23] https://anz-resources.awscloud.com/anz-pdf-content/aws-economic-impact-study-aws-investment-in-victoria

PART B. INTERNATIONAL REGULATORY AND PLATFORM DEVELOPMENTS

Issues: The Issues Paper invites submissions on the impact and potential or anticipated impacts of international regulatory and other significant developments on digital platform services.[24]

Overview: For an economy like Australia's, which has its own digital ambitions, copying an economy-wide ex-ante regulation from international jurisdictions may not best serve Australia's interests. There is also no evidence supporting the need to fast-track such regulation and Australia is in the fortunate position where it can afford to wait and learn from other jurisdictions about the effect an ex-ante regulation could have on future innovation, investment and growth.

We note the following key points. First, there are divergent international regulatory developments. The UK Digital Markets, Competition and Consumers Act (**DMCC**) differs from the EU Digital Markets Act (**DMA**) and each is different to the German regulation (**UPSCAM**).[25] Second, there is no international consensus on the need for ex-ante regulations. Third, there is increasing concern within jurisdictions that have adopted ex-ante digital regulation about their impact on their economies' future digital competitiveness, including whether their ex-ante regulation will deliver the outcomes promised. Fourth, there is no evidence of competition harms in retail, cloud and generative AI. Each is highly competitive, evidenced by the many players providing services, rates of entry and expansion by new players, decreasing prices, and the choices available to customers. Fifth, Australia has a well-developed, flexible competition law framework that allows for alternative solutions (such as codes) to new regulation. Finally, Government has undertaken various competition and consumer reforms and further reforms are proposed by Government and time should be allowed for these to take effect.

B1. International Regulatory Developments

The international ex-ante regulations identified in the Issues Paper are novel and complex and do not provide a blueprint for Australia for the following reasons: (1) the political and policy objectives motivating the various international regulations are often unclear (eg, some regulations appear designed to promote a local champions policy); (2) each international regulation has various unique features (eg, the German regulation[26] differs from the EU DMA regulation); (3) Germany and the UK have each taken very different approaches to the formulation of their ex-ante regulation; (4) while international jurisdictions like Brazil, Japan, India, and South Korea have consulted on an economy-wide ex-ante reforms, there is no consensus between them on the scope or form of any such regulation and consultation is ongoing in these jurisdictions; and (5) the US, Singapore and Taiwan considered but rejected economy-wide ex-ante reforms.

Of the regulations outlined in the Issues Paper, the EU's DMA and the UK's DMCC were only implemented recently.[27] It is therefore too soon to know whether the DMA or DMCC will deliver on their promises or result in adverse outcomes (eg, fewer innovative technologies). Indeed, the European Commission will not conduct its first review of the DMA and report its findings to the European Parliament and Council until May 2026,[28] three years after most of the DMA provisions became effective. That will be the first detailed consideration of whether this novel ex-ante regulation is effective. Similarly, the German UPSCAM regulation will be reviewed next year.

[24] Issues Paper, pp, 3; 8.
[25] See section 19a the German Competition Act, the Gesetz gegen Wettbewerbsbeschränkungen.
[26] See section 19a the German Competition Act.
[27] The EU DMA became applicable on 2 May 2023. The UK DMCC received Royal Assent on 24 May 2024.
[28] DMA, Article 53.

Apart from the fact governments are only just beginning to road-test these new ex-ante regulations, concerns are increasingly being raised by academics, commentators, and even regulators about: (1) costs, (2) time-frames, and (3) harms to end-consumers and the wider economy of these jurisdictions. In particular, these concerns relate to the negative impact ex-ante regulations appear likely to have on the future digital innovation, investment and growth of these economies.

The Australian Government should carefully consider whether the fast adoption of an ex-ante competition regulation for digital services is consistent with Australia's interests, noting Government's policy objectives of developing a dynamic, innovative and productive digital economy. In particular, we urge the Government to consider whether: (1) there is sufficient evidence of consumer or competitive harms across the entire digital economy that justify an economy-wide ex-ante reform; (2) absent such evidence, narrow and specifically designed reforms are more appropriate, and (3) further work is needed to understand the impact ex-ante regulation will have on its policy objectives.

In terms of the ex-ante regulation referred to in the Issues Paper:

- *EU DMA*: The DMA creates a regulatory framework imposing broadly framed obligations that designated gatekeepers. The DMA reflects a European approach to adopting highly prescriptive regulations for its economy. The DMA was a hastily enacted response to political pressure in the EU to protect local businesses and, in effect, codified outcomes in EU competition proceedings in the years preceding adoption of the DMA. It is also notable that the DMA was enacted without supporting evidence of competitive harms across all of the many regulated digital services.

  The DMA is the first prescriptive ex-ante competition regulation that fundamentally shifts competition regulation away from an evidence-based enforcement framework (which has operated in many countries for decades) to a purely administrative model. The DMA is therefore a novel and untested approach to regulation in a dynamic sector.

  At the time of its implementation, the European Commission did not prepare a robust impact assessment of how the envisaged rules would impact digital investment, innovation and consumers. This has led EU academics and businesses to increasingly question and raise concerns about the long-term implications of this legislation for EU's digital economy.[29] The evidence emerging in the EU points to significant costs and harms to businesses. For example:

  - Research suggests that due to services like Google being forced to remove features such as maps, bookings and reviews from search services, clicks from Google ads to hotel websites decreased by 17.6%.[30] Google has said that "*Under the DMA, we've had to remove useful Google Search features for flights, hotels and local businesses*."[31]
  - Media reports note that: On 21 June 2024, Apple announced it will delay the launch of three features in the EU (Phone Mirroring, SharePlay Screen Sharing enhancements and Apple Intelligence) because of regulatory uncertainties due to the DMA.[32] On 18 July 2024, Yann LeCun, Meta's chief AI scientist, announced that Meta would not launch its multimodal AI

[29] See, Evans, David S., "Why Europe Must End Its 30-Year Digital Winter to Ensure Its Long-Run Future", PYMNTS, April 18, 2024, At URL: https://www.pymnts.com/opinion/2024/why-europe-must-end-its-30-year-digital-winter-to-ensure-its-long-run-future; See also, Auer Dirk, "The Broken Promises of Europe's Digital Regulation", Truth on the Market, March 12, 2024, At URL: https://truthonthemarket.com/2024/03/12/the-broken-promises-of-europes-digital-regulation/; Broadbent, Meredith, "Implications of the Digital Markets Act for Transatlantic Cooperation", Center for Strategic and International Studies, September 15, 2021 At URL: https://www.csis.org/analysis/implications-digital-markets-act-transatlantic-cooperation; Teece, David J., Kahwaty, Henry J., "Is the Proposed Digital Markets Act the Cure for Europe's Platform Ills? Evidence from the European Commission's Impact Assessment", April 12, 2021, At URL: https://media.thinkbrg.com/wp-content/uploads/2021/04/11215103/Is-the-DMA-the-Cure_Teece_Kahwaty.pdf, at p. 47.

[30] See, Auer Dirk, "The Broken Promises of Europe's Digital Regulation", Truth on the Market, March 12, 2024, At URL: https://truthonthemarket.com/2024/03/12/the-broken-promises-of-europes-digital-regulation/

[31] See https://blog.google/around-the-globe/google-europe/complying-with-the-digital-markets-act/

[32] See https://www.reuters.com/technology/artificial-intelligence/apple-delay-launch-ai-powered-features-europe-blames-eu-tech-rules-2024-06-21/

models or products in the EU citing the unpredictable nature of the European regulatory environment.[33] Ahead of the DMA compliance deadline, Microsoft announced it would be delaying the roll out of some features in the EU and that newer features would be rolled out over time.[34]

- GDPR enforcement, which requires firms to gather user consent for data processing, has imposed significant regulatory costs on businesses and is reported to have undermined investments in digital services.[35] There is every reason to believe the DMA, which contains similar provisions, will have similar effects.
- To further illustrate the effect that this type of regulation can have on an economy, it is estimated that the European Union will incur a loss of 85 billion euros in GDP and EUR 101 billion in consumer welfare due to ex-ante interventions prescribed by the Digital Services Act.[36]

The Government should not fast-track proposals for an economy-wide digital ex-ante regulation given the likelihood of similar negative effects in Australia.

- *UK DMCC:* The DMCC Act represents a significant change to UK competition regulation, the largest in the last 30 years. The DMCC Act affords the Competition and Markets Authority (**CMA**) extensive powers to impose bespoke conduct requirements on firms with strategic market status or to make pro-competitive interventions, as well as novel powers to require firms to vary their usual conduct. The draft guidance accompanying the DMCC Act (meant to clarify features of the regulation) has been criticized for failing to provide clarity around: the process or milestones for engagement, the types of evidence the CMA will consider, or the thresholds for intervention. This has led to uncertainty in the business community around the application of the DMCC.

  In addition, on appeal, the regulation only allows courts to consider the process by which a decision was made, rather than its substance. This gives rise to several significant issues including: lack of proper process (hearing, evidence, transparency); too much subjectivity in the test to be applied; failure to require consideration of important factors (privacy etc); and a lack of accountability (appropriate review mechanisms).

  Like the DMA, commentary on the DMCC is concerned that the CMA's ability to intervene in already competitive digital sectors is likely to adversely affect the commercial decisions, economic incentives and conduct of SMS firms, with a flow-on to the businesses that rely on their services. For example:

  - The International Centre for Law & Economics found that the DMCC Act will undermine investment in the UK digital sector and associated innovation because of the risk of cumbersome, unclear and ever-changing rules, and associated lack of accountability due to limited review grounds.[37] That is, it is seen as disproportionately interventionist, with no proper process and a subjective test.
  - It also observed that the DMCC goes much further than other regulations by providing the CMA with power to design bespoke interventions for individual firms, and that businesses are likely to become more hesitant to invest in the UK.[38]

[33] See https://www.theverge.com/2024/7/18/24201041/meta-multimodal-llama-ai-model-launch-eu-regulations
[34] See https://blogs.windows.com/windows-insider/2023/11/16/previewing-changes-in-windows-to-comply-with-the-digital-markets-act-in-the-european-economic-area/
[35] The Broken Promises of Europe's Digital Regulation, By: Dirk Auer March 12, 2024.
[36] https://ecipe.org/publications/ex-ante/
[37] "Digital Overload How the Digital Market, Competition and Consumers Bill's sweeping new powers threaten Britain's economy" By Dirk Auer, Matthew Lesh, Lazar Radic September 2023, p. 9
[38] Ibid, p. 9

- The World Bank has found "investor confidence and foreign direct investment flows are heavily influenced by such things as regulatory transparency and effective legal discourse".[39]

Even if a regulation like the DMCC is designed to take a sector-by-sector approach to digital regulation, the fact that that the CMA has the power to inquire into any digital sector will inevitably lead to the regulation having an impact across all sectors of the economy.

- *Germany*: In 2021, Germany took a different approach and amended its national competition law to addresses "*undertakings with paramount significance for competition across markets*". While the UPSCAM amendment shares some features with the DMA it is also very different. For example, the DMA provisions only apply to certain core services of designated gatekeepers whereas UPSCAM provisions can be applied to an UPSCAM company as a whole, not limited to a particular service. Commentary on the regulation is that it has created legal uncertainties for business impacting their willingness to innovate and invest in the German economy. Further, whereas ex-ante regulations are meant to speed up regulatory responses, UPSCAM proceedings are lengthy and complex. For example, almost four years after the UPSCAM amendments took effect, no proceedings are concluded, with the exception of some settlements.

- *Japan*: In contrast to the EU/UK approach, the Japanese Government has developed a service or sector driven regulatory solution that works to preserve investment and innovation in its highly digitised economy. For example, for online retail, Japan's approach has been to focus on a transparency based regulatory regulation. Under this regulation, online retailers work to improve their processes to resolve regulatory concerns, reporting to government on their progress. This allows for evidence-based regulatory oversight. The Japanese regulation has also been in place for longer than the DMA or DMCC regulations and therefore provides a better evidential base for assessing the impact of such a regulation. Finally, Japan has a general competition law regulation similar to Australia's and yet it has not opted to copy EU/UK ex-ante regulations. This suggests that Australia could likewise rely on its existing competition law for enforcement, complemented by an alternative transparency regime, if regulation is desired.

  In the cloud space, the Japanese Government recognised the importance of this sector and has indicated it will continue to observe how the sector develops and did not propose ex-ante regulations modelled on the DMA or DMCC in this sector. Japan has however indicated that it will consider specific regulation to address mobile OS and App store concerns, an approach which takes into account specific industry dynamics and targets actual (not theoretical or future) anti-competitive harms.[40]

  Japan's approach avoids the uncertainty associated with a one-size-fits-all regulation and the potential to negatively impact the government's digital and economy wide policy objectives.

- *Other Jurisdictions*: While other jurisdictions are considering ex-ante regulation, they are all at different stages of development. What is notable across these jurisdictions is the following. First, there is strong, ongoing debate in each jurisdiction about whether ex-ante regulation is needed and whether sufficient attention has been given to the potential harms and unintended consequences. Second, the approach to digital ex-ante regulation across these jurisdictions is not uniform. On this point:

  - In around 2020, the South Korean Government rejected an economy-wide digital ex-ante regulation opting for a sector specific approach, evidenced by its introduction of Korea's App

[39] Ibid, p. 9

[40] "Japan Prepares 'Digital Antitrust Law' to Challenge Apple and Google App Store Policies," 1 Jan 2024 https://www.pymnts.com/cpi-posts/japan-prepares-digital-antitrust-law-to-challenge-apple-and-google-app-store-policies/

Store Legislation.[41] Around this time the Government also indicated it preferred a self-regulatory approach working with industry participants on various codes of conduct for digital services. In late 2023, when the Korea Fair Trade Commission (**KFTC**) proposed adopting an ex-ante regulation concerning digital platforms similar to the DMA, it faced significant government criticism to the effect that the proposed ex-ante regulation was "excessive" and risked harming digital innovation. However, in September 2024, the KFTC announced it will abandon ex-ante reforms and instead will update its competition laws, confirming it will retain an ex-post approach.[42] Chairman Han Ki-jeong explained during the recent KFTC briefing, "*If we strive for swift (post) [estimation] through periodic surveys, we can achieve a considerable level of the legislative goal of rapid and effective case handling."*[43]

- In December 2022, Taiwan's Fair Trade Commission issued a white paper on "*Competition Policy in the Digital Economy*" that cited the "*controversy of whether it is appropriate for competition authorities to implement ex-ante controls,"* and counselled that *"as the digital economy features frequent innovation, short life cycles, and noticeable dynamic competition, the best enforcement principle at this stage is 'issue driven,'" with an eye toward ex post efforts to "[resolve] problems based on each case*."[44]

In summary, in respect of the Issues Paper's discussion of international ex-ante regulation, we note the following. First, the DMA and DMCC economy-wide ex-ante regulations have not been in place for a sufficient period to assess whether these regulation will be helpful or harmful if implemented in Australia. Second, it is apparent that the approach to digital regulation varies worldwide and is a product of the relevant legal framework and political objectives present in each jurisdiction. Third, there is concern across business and governments about the impact that economy-wide ex-ante regulation will have on digital innovation, investment and an economy's ability to grow in the future. Fourth, there are alternative regulatory models (eg, the Japanese transparency regulation) or even alternative approaches (eg, regulation specific to a service like the Korean App Store legislation) that the Australian Government could explore to address specific concerns in the Australian context.

B2. Australia's proposal to copy from international digital ex-ante regulation

The ex-ante regulation proposed for Australia draws on international ex-ante regulations. The reasons why such regulation is not justified in Australia are as follows:

First, there is no evidence of harm in the retail, cloud or generative AI sectors

In respect of the sectors covered in this paper (retail, cloud and generative AI), no evidence of market failure has been identified which would support a wholly new economy-wide regulation.

Future concerns that there is the potential for one firm to win all the business to the exclusion of other firms in any of these sectors (ie, to tip) ignores the essential features of each of these sectors. That is, retail, cloud and generative AI are all highly dynamic sectors, there are many competitors in each sector, entry is easy, and existing and adjacent industry players are expanding into these sectors. In addition, cloud services are not characterised by strong network effects, empirical evidence indicates there are no insurmountable scale advantages, and IT services customers multi-home. Generative AI is at very early stage and intense innovation is taking place with constant entry in this sector.

[41] South Korea came up with a 'pro-market approach' and opted for self-regulation in 2022. The KFTC focused on implementing existing powers rather than enacting new regulations. The Approach adopted by KFTC on self-regulatory initiatives, unless proven ineffective, reflects a pragmatic approach to foster market competition.
[42] See https://www.businesskorea.co.kr/news/articleView.html?idxno=224798
[43] See https://www.businesskorea.co.kr/news/articleView.html?idxno=224798
[44] See p.92 https://www.ftc.gov.tw/upload/c1697761-9974-412f-b6cb-28befbc9e8d3.pdf

Second, existing laws are capable of addressing digital concerns

We note that in the recent US proceedings against Google,[45] the FTC succeeded in applying US competition law to Google's conduct. This is the latest of a number of cases and investigations in the US, Europe (in both the EU and member state courts), UK, Australia and other jurisdictions that have addressed particular issues relating to digital markets under existing ex-post competition laws.[46] Several of these cases have led to fines being imposed and changes to previous business practices where particular conduct was found to contravene universal norms. Other cases have resulted in findings that no contravention occurred. While some cases took time to address complex factual situations, more recently - as court's experience with digital services has increased - some have been concluded quickly. The development of legal principle, and application in particular cases, followed by changes in compliance by corporations, is the norm for our legal system here in Australia.

Further, the prohibitions and obligations in the DMA and DMCC are largely enforcement-friendly versions of existing well-understood and developed theories of harm (eg, tying or bundling) found in Australia's existing competition laws.[47] Accordingly, introducing a wholly new ex-ante regulation amounts to 're-inventing the wheel' as concerns around the ability to enforce the existing ex-post regulation, such as the time needed to take court proceedings, can be resolved by Australian Government through amendments to court procedure without the need to adopt a wholly new untested regulation.

Third, ex-ante regulation risk harming consumers and stifling innovation

It is a fundamental principle that competition frameworks should protect the competitive process, not competitors. It is also accepted that regulators and government are ill-equipped to 'pick-winners' in dynamic sectors like digital services. Ex-ante regulations, which target specific companies, tend to protect a sub-set of local competitors and 'pick-winners'. Even the DMCC, which does consider the impact on consumers, inverts the burden of proof and sets a high-bar for a firm to prove the existence of consumer benefits. The effect is that consumer welfare is replaced by industrial policy focussed on the number and type of competitors (eg, local champions). This raises the question of whether ex-ante regulation leaves consumers worse off, resulting in less innovation, and lower quality services. Indeed, as noted above, the DMA's entry into force has been said to degrade consumers' online experiences, at least in some sectors.

Another effect of the ex-ante regulation discussed in the Issues Paper is that by targeting specific companies, either individually (DMCC) or collectively (DMA), these regulations lock designated firms into an operating model that cannot change. Given the sectors where these firms operate are dynamic and will shift as the technology in those sectors evolves, over time these firms will have few incentives to invest and innovate as their rivals will be free of the same regulations and able to compete on a unlevel playing field.

Fourth, digital ex-ante regulation is costly

A novel ex-ante competition regulation will impose substantial costs on government, regulators, digital service providers and ultimately consumers.

[45] United States of America v Google LLC 1:20-cv-03010

[46] See for example, United States of America v Apple Inc., 2:24-cv-04055; United States of America v Google LLC 1:23-cv-00108; FTC v. Facebook, Inc., 560 F. Supp. 3d 1, 23 (D.D.C. 2021); the European Commission's investigation and finding that Apple abused its dominant position on the market for the distribution of music streaming apps to iPhone and iPad users through the App Store, resulting in a fine of over €1.8 billion; the UK's Competition and Markets Authority issuing a statement of objections against Google alleging that Google has harmed competition by using its dominance in online isplay advertising to favour its own ad tech services; and current private actions in the Federal Court of Australia, Epic Games v Apple (NSD1236/2020, NSW Registry) and Dialogue Consulting v Instagram (VID369/2019, Victoria Registry).

[47] By enforcement-friendly, we mean through the use of mechanisms such as a reversal of onus or the removal of the need to establish a reduction in competition.

These costs involve the development and implementation of regulatory frameworks, the heavy and ongoing monitoring burden required, and enforcement. This requires additional funding and resources for the regulator, which necessarily means those resources are diverted from other government priorities. The opportunity costs of diverting scarce resources to ex-ante monitoring and later enforcement are particularly acute in sectors like retail, cloud and generative AI which are already competitive and where no harms have been identified.

The proposed regulations also impose high costs on the digital firms. At a time when consumers and businesses are experiencing a cost-of-living crisis, increasing the costs of the digital services many consumers and businesses rely on, will exacerbate, not relieve, this crisis. A report by economics consultancy Mandala Partners titled "*Surf, Shop, Save"* (February 2024) found online retail reduced Australia's inflation (see **Section B3** below).[48]

B3. Sector-or-service specific regulation, if needed, is more appropriate than economy-wide reform

Noting the concerns outlined, an economy wide digital ex-ante regulation should only be introduced if it is supported by evidence that the regulation:

- is fit for purpose and appropriately takes into account, Australia's aspirations for innovation and the benefits that flow from a digitally empowered society;
- addresses particular identified anticompetitive practices present in a particular sector;
- will not create commercial and investment uncertainty that harms innovation or the economy;
- will not impose cost burdens that translate into higher consumer or business prices / costs;
- is able to adapt to the highly dynamic and fluid digital economy over future decades;
- is proportionate to the concerns identified; and
- benefits consumers and businesses.

In competitive sectors such as retail, cloud or generative AI, there is no evidence of anti-competitive practices and therefore no support for a novel economy-wide digital ex-ante regulation. Absent such evidence, proposals for an economy-wide ex-ante regulation should be paused and Government should consider either: (1) a regulation specific to a service or sector, much like the Korean App Store legislation; or (2) a more nuanced approach like that in Japan.

B4. Developments and updated information about retail in Australia

The Issues Paper states that in its DPSI Final Report, the ACCC intends to provide updated information relating to some of its observations from certain earlier reports of the Inquiry. It also states that examining major developments and key trends in certain markets for digital platform services will allow the ACCC to update its understanding of these markets in light of recent developments. The ACCC has previously considered online retail marketplaces in its March 2022 interim report. This section of our submission provides an update on the competitiveness of Australia's retail sector.

Amazon has driven competition in the retail sector and this has delivered benefits to consumer and small businesses across Australia

Amazon's investments in the retail sector support a strong Australian economy, the creation and growth of successful small businesses and the promotion of consumer welfare.

The benefits the Amazon Retail Store delivers to the Australian economy are described in two reports that we commissioned from economics consultancy Mandala Partners.

[48] See https://mandalapartners.com/reports/surf-shop-save

First, Mandala examined how online retail benefits Australian consumers. Their report "*Surf, Shop, Save* report" (February 2024) concludes competition from online retailers like Amazon has helped drive down prices in Australia. The report's key findings estimated that lower prices and increased competition from online retail reduced Australia's inflation rate by 0.7% from its peak, saving the average household over $3,500 between 2019 and 2023.

Second, Mandala examined how competition in online retail was driving improved delivery experiences for consumers. Their report, "*The benefits delivered by faster delivery*" (August 2024) concludes faster delivery times saved Australians who shop online an estimated 3.7 million hours from avoided shopping trips in 2023, and estimates consumers have gained over $350 million in value over the past decade as premium shipping fees reduced through the introduction of competing services, including by Amazon. The report also estimated that businesses increased their sales by $1.4 billion by offering faster delivery, and the report suggests businesses saved over $400 million through swifter access to inventory.

Competition in the retail sector has only intensified

The ACCC's March 2022 interim report considered online retail marketplaces and confirmed the competitiveness of Australia's retail sector, finding that:

- "*Consumers have a number of options*" and that there is a high degree of multi-homing by consumers in retail;[49]
- Sellers multi-home. Of the top 100 sellers on Amazon, Catch, eBay Australia and Kogan that the ACCC identified close to half "*were present across two or more online marketplaces*";[50]
- In the context of online retail sales, the majority (64%) of online purchases in late 2021 were made through the websites of bricks and mortar retailers;[51]
- Amazon's sales accounted for a very small proportion of online retail sales (less than 2.5%);[52]
- Based on data collected from retail industry participants, sales by physical retailers such as Bunnings or Big W were multiples larger than Amazon's sales during 2020-21;[53] and
- "*No one marketplace holds a dominant position in Australia*".[54]

This ongoing fierce competition in the retail sector means that the conclusions in the ACCC's March 2022 Interim Report remain applicable today.

In terms of recent trends in the retail sector, the strong competition we see has continued, with the entry of new substantial competitors. For example, Temu and Shein are new entrant disruptor retailers with rapidly growing customer bases in Australia. Data from Roy Morgan published on 6 August 2024 show that: (1) a large number of buyers form the annual customer base of each of these retailers: 3.8 million Australians aged 14+ are buying at least once from Temu over 12 months, while 2 million are buying at least once from Shein; (2) the majority of these buyers are repeat buyers; and (3) the number of people shopping each month on each is growing quickly. Temu has grown by 32%, from 1.26 million in the Oct-Dec 2023 quarter to 1.66 million in the April-June 2024 quarter (3.8 million people in a 12 month period. Shein's shopper base has grown 34%, from 830,000 monthly shoppers to 1.11 million over the same time period (or 2 million people in a 12 month period.[55] This growth confirms that barriers in retail to entry and expansion are low.

[49] DPSI 4th Report, p. 78
[50] DPSI 4th Report, p. 80
[51] DPSI 4th Report, p. 19
[52] DPSI 4th Report, p. 12
[53] DPSI 4th Report, pp. 19-21
[54] DPSI 4th Report, pp. 11 and 13
[55] https://www.roymorgan.com/findings/9646-shein-and-temu-contintue-to-grow-strongly-august-2024

Amazon's Retail Store has continued to provide customers with options in addition to the many they already had and has continued to expand consumer choice. The Amazon Retail Store is also just one of a growing number of alternative retail options available to Australian consumers and sellers. Indeed, the changes that have occurred since the March 2022 Interim Report - in particular the entry and growth of Temu and Shein - show that competition in the retail sector has only intensified. Amazon welcomes this competition and the benefits it brings to Australian consumers.

B5. Conclusion

Amazon's Retail Store has no market power today and retail competition is only increasing through recent entrants. Further, the empirical evidence and industry dynamics confirm there is no potential for only one retailer to remain and dominate this sector.

PART C. CLOUD SERVICES PROMOTE COMPETITION AND INNOVATION BENEFITING THE ECONOMY

Issues: The Issues Paper invites interested parties to share their views on potential or emerging competition and small business issues in relation to cloud computing in Australia.

Overview: Australia's highly competitive IT sector (including cloud services) delivers immense benefits across the Australian economy, including to small businesses. There is healthy competition to provide cloud services, including between cloud providers. There is no evidence this sector requires a novel and untested regulation and a premature decision to recommend an ex-ante regulation in this sector will raise a genuine risk that the benefits and innovations customers enjoy would be stunted or lost.

C1. IT services

Cloud services involve the on-demand delivery of IT services over a network with pay-as-you-go pricing. Instead of buying, owning, and maintaining a data centre and servers, customers can acquire IT services such as computer processing, storage, databases and other services over the Internet on an as-needed basis.

Consider an app that allows its users to upload and share documents. The app's users are choosing a cloud service to store their documents as an alternative to other storage options, such as the hard drive in their laptop, an external hard drive, a flash drive, or local network storage. To make this possible, the app developer also needs its own IT solutions: for example, computing power to run its website and app, storage for its users' documents and its own data, databases to keep track of its users' accounts, and security to protect all that data. The app developer can choose to acquire each of the IT services they need from a cloud service or from a range of IT options.

Cloud services provide innovative, scalable, pay-as-you-go IT services. That, in turn, facilitates innovation and drives competition across the economy, in particular by: (1) allowing smaller Australian businesses to acquire the IT services they need without the cost of up-front capital investments; (2) providing start-ups with access to the scalable IT resources they need; and (3) giving small businesses access to up-to-date services which they may not otherwise be able to afford, all of which enables smaller businesses to compete on a level-playing field with larger companies.

Today, whether IT services are delivered over a network or on-premises, customers have more options, from more IT providers, than ever before.

C2. AWS

Amazon developed its own expertise in managing large-scale IT services and resources through operating its online stores. This led to the idea of allowing others to use Amazon's IT services and

resources by making them available over the internet and AWS launched in 2006. This meant anyone with internet access and IT needs could acquire and use Amazon's IT services, giving customers who need IT solutions an alternative option to on-premises hardware and software.

Our customers can access, on demand, a range of IT services that support their needs, including services like compute, storage, databases, data lakes, analytics and newer technologies like machine learning and artificial intelligence.

C3. Cloud services benefit Australians, including small businesses

Our services help Australian businesses and the Australian Government innovate, achieve greater productivity, and deliver better services. The Productivity Commission observed that: (1) digital technology that includes cloud services and is combined with data, can help businesses improve their productivity by lowering costs tied to search, replication, transportation, tracking, and verification of data; and (2) productivity gains can also be experienced as quality improvements, including innovation and invention, which add new value to the Australian economy.[56] The Australian enterprise resource planning software company TechnologyOne, projected that a transition to cloud-based software as a service across key sectors could realise $224 billion in savings and increase GDP by 1.3% above the base in 2030 (assuming a 2022 start date). Of these gains, on average, 54% would come from productivity enhancing business process improvements and 32% from reduced technology costs.[57] Any regulatory proposal needs to carefully weigh the risk of reducing these benefits, to the detriment of the Australian economy.

The benefits cloud services offer to businesses, including small businesses, are outlined below.

Pay-as-you-go pricing

Customers can access cloud services with pay-as-you-go pricing, forgoing the up-front capital investment needed for an on-premises IT solution. For example, a retailer with high compute demands during the peak holiday trading season can choose to use a cloud-based solution to meet that demand but then scale down their IT needs in the off-peak season, paying only for what they consume. This pay-as-you-go model is particularly useful for small businesses and start-ups who may lack the capital for up-front IT purchases.

Instant scalability

Customers that use cloud-based solutions can quickly scale-up the services they acquire to immediately take advantage of commercial opportunities as they arise. For example, the ability to scale quickly enabled businesses to meet unanticipated surges in demand during COVID-19. The ability to quickly scale-up and down, paying only for what they use, allows small businesses to be highly effective competitors when facing established and larger businesses because they can focus on their products and services and invest in people, innovation and growth, driving competition.

Access to up-to-date technology

Cloud services give small business customers immediate access to cutting-edge technology that they may otherwise not be able to afford, empowering them to compete with better-resourced competitors immediately. For example, Amazon Braket is a fully managed quantum computing service designed to help speed up scientific research and software development for quantum computing.[58] This helps further level the playing field between big and small businesses.

[56] Australian Government Productivity Commission, 5-year Productivity Inquiry: Australia's data and digital dividend, Interim Report No. 2, August 2022

[57] TechnologyOne, 2021, The Economic Impact of Software as a Service in Australia

[58] See https://aws.amazon.com/braket/) or robotics (AWS Robomaker) https://aws.amazon.com/robomaker/

Cloud services increase productivity

Cloud services assist businesses, including small business, to reduce the time to market for new features by an estimated 30-40%.[59] Some software developers report that cloud services reduce the time to develop and market new app features by as much as 59%.[60] An Accenture report found that by 2030, medium and small enterprises providing healthcare solutions could unlock up to $4.7 billion in annual productivity benefits by transitioning to and using cloud-enabled technologies.[61] Public sector entities can also benefit from these productivity gains, which in turn benefits Australian citizens. In Australia, eHealth NSW migrated 10 clinical applications to the AWS cloud and has already recognised US$16M worth of benefits due to avoided costs, reduction in capital and expenditure, and improvements in productivity.[62] The launch of new products and services stimulates the economy, drives competition, and encourages even more investment and innovation.

Cloud services enable and support innovation across the economy

AWS constantly invests to offer customers the latest technological solutions for their IT needs. In turn, customers are able to use and take advantage of our investment to drive their own innovations, which benefit the economy overall. For example:

- National Australia Bank (NAB) has undertaken significant digital and technical transformation to expand its existing capabilities and grow, modernise and meet changing demands of its customers. Using a variety of AWS services, NAB has successfully migrated over 400 services to the cloud, achieving 100% availability for the cloud services supporting these applications. This has resulted in service improvements and better outcomes for their customers, who get access to an always-on banking services, and higher levels of security and governance.[63]
- Super Retail Group is Australia's seventh largest retailer with popular Australian brands SuperCheap Auto, BCF, Revel Sports and Macpac. Super Retail Group operates both physical and online stores, however its legacy on-premises IT services were impacting its ability to keep up with online demand and during major sale events such as Black Friday and Boxing Day. Shortly after migrating to AWS, Super Retail Group was able to double its IT capacity within days to support its online sales.[64]
- Australian company AgriProve uses AWS and EOS Data Analytics Inc. technologies to help transform Australia's agricultural practices, by assisting farmers in producing healthier soil and operating more productive farms. They process information from satellite data and store large volumes of data, which allows farmers and landholders can better understand, track, and benchmark the impact of their different land management techniques.[65]

Increase resiliency and security

Cloud services offer resiliency and security. AWS has built our data centres so that AWS is not a single point of failure. A recent study found that business migration to cloud services had led to a 30-40%

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[59] See, Hackett Group, "The Business Value of Migration to Amazon Web Services", February, 2022, at pp. 3-5 (*demonstrating savings in infrastructure from migrating to cloud*), https://pages.awscloud.com/rs/112-TZM-766/images/hackett-group-the-business-value-of-migration-to-aws-012022.pdf; See also, NASSCOM - OliverWyman, "Future of Cloud and its Economic Impact for India", July 2022, At URL: https://nasscom.in/knowledge-center/publications/future-cloud-and-its-economic-impact-opportunity-india. See also McKinsey & Company's article "What is cloud computing?", 31 July 2024, at URL: https://www.mckinsey.com/featured-insights/mckinsey-explainers/what-is-cloud-computing. See also Boston Consulting Group's report, "Australia's Market Report", 2023, at URL: https://www.bcg.com/publications/2019/economic-impact-public-cloud-apac/australia

[60] Hackett Group, *The Business Value of Migration to Amazon Web Services* at 9, Feb. 2022 (link) ("Hackett Report").

[61] Accenture, 'Realising a Cloud Enabled Economy in Australia', 2023, p. 13

[62] https://aws.amazon.com/solutions/case-studies/ehealth-nsw-case-study/

[63] https://aws.amazon.com/solutions/case-studies/national-australia-bank-digital-transformation-case-study/

[64] https://aws.amazon.com/solutions/case-studies/srg-case-study/?did=cr_card&trk=cr_card

[65] https://aws.amazon.com/solutions/case-studies/agriprove-eosda-case-study/?did=cr_card&trk=cr_card

decrease in IT services security incidents.[66] For example, Amazon S3, our primary storage service stores data in multiple data centres by default to ensure that even the loss of an entire data centre would not result in the loss of a customer's data. Our customers can further minimise disruptions by storing their data in multiple, completely independent areas (called "AWS Regions") that are geographically separated.

Customers further benefit from AWS's substantial investments in data security, which far surpass what most individual customers could invest to protect their data. Some of the most sophisticated, security-sensitive customers in the world - including Australia's banks, Australian healthcare organisations, and those in the national security and defence industry - trust AWS with their sensitive and mission-critical IT services. And since the same AWS services are available to all customers, small businesses benefit from the service improvements that we make to meet those customers' demands.

C4. Competition for IT services is thriving

Customers can acquire the IT services they need from multiple types of IT providers. AWS and the many other cloud providers compete fiercely with each other and also with other IT service providers, including on-premises providers. Given the options customers have, competition to provide IT services is very strong which benefits large and small business customers, who can choose the solution that best meets their needs.

Customers have many options for their IT problems and cloud competes with other IT services

Customers looking to solve a specific IT problem are rarely, if ever, looking simply to use "the cloud" as an end in itself. Rather, they look to solve a particular IT problem and purchase whatever services will provide the best combination of function, features, reliability, scalability, security, and value. Customers define their objectives on a workload-by-workload basis, and look at the IT services providers that can meet those objectives.

Each component of an IT solution can come from a range of competing IT service providers including the following:

- on-premises solutions hosted at a customer's location, which may be managed in-house or by another company, such as IBM, Dell, and HPE;
- off-site data centres dedicated to a specific user;
- off-site "co-located" data centres shared by multiple users, such as those provided by Equinix, NetApp, Macquarie Telecom Group, DigitalOcean and Digital Realty;
- cloud providers like AWS, Microsoft Azure, Google Cloud, Airtrunk, Vault Cloud, SlicedTech, IONOS, Akamai, Vultr, Canberra Data Centres and OVHcloud;
- software services, such as Oracle, Salesforce, Adobe, Microsoft, Atlassian, SAP, Workday, Databricks, and thousands more;
- resellers or companies that combine professional services and management with IT to provide a "system" or "managed service" to customers, such as Accenture, HCL, Cognizant, Deloitte, and Capgemini; and
- various hybrid solutions combining these options.

[66] See "The Business Value of Migration to Amazon Web Services", February, 2022, Hackett Group, at pp. 3-5 (*demonstrating savings in infrastructure from migrating to cloud*), https://pages.awscloud.com/rs/112-TZM-766/images/hackett-group-the-business-value-of-migration-to-aws-012022.pdf; See also, NASSCOM - OliverWyman, "Future of Cloud and its Economic Impact for India", July 2022, At URL: https://nasscom.in/knowledge-center/publications/future-cloud-and-its-economic-impact-opportunity-india.

Indeed, in our experience, many customers mix and match IT solutions, which could be cloud services from multiple cloud providers or a mix of cloud and on-premises services.[67] And cloud providers have strong commercial incentives to ensure that customers have the ability to multi-home (use services from multiple IT service providers concurrently) and switch the IT services and IT service providers they are using.

Cloud providers compete with each other

Cloud providers of all sizes compete fiercely with each other. Smaller cloud providers can and do have a significant impact on the availability of cloud services for customers and on the competitive landscape for IT services.

Given the demand for IT services, we are seeing an increasing number of specialised cloud providers entering or expanding to offer compute and other services. From 2016 to 2021, Gartner reports that Microsoft Azure and Google Cloud each grew their cloud infrastructure sales significantly. DigitalOcean has grown by more than 30% each fiscal year since going public. Snowflake reported 70% year-over-year product revenue growth in fiscal year 2023.

Customers see other IT services like on-premises, as competitive substitutes

Cloud providers also compete fiercely with on-premises IT providers — both to entice customers to move workloads from on-premises to the cloud, and to retain existing cloud customers. The data shows that on-premises IT solutions are the most prevalent with less than 15% of IT spending going to cloud services.[68] This means that to win new business and retain business, cloud providers are mostly competing with on-premises IT providers. To compete with on-premises IT, cloud providers must offer services that customers want at attractive prices, and to meet customers' requirements for functionality, interoperability, scalability, reliability, performance, availability, and support.

Customers can, and do, switch between cloud services and on-premises providers.

Customers want the flexibility to use multiple solutions from different IT providers to solve their IT needs. This preference creates strong commercial incentives on IT providers to ensure that customers have the ability to multi-home and switch IT services. IT service providers compete aggressively to offer innovations by way of new features or services to customers and if a customer cannot acquire an innovation or specific solution they need, the customer will move some or all their workloads to another IT provider. In this way, customers can create an overall IT solution that best meets their particular needs and change that IT solution or IT service providers over time if they wish.

AWS understands this and is committed to fostering interoperability and choice. For example, AWS customers can choose the AWS services that meet their needs and mix and match this with hardware and software from other IT providers, including on-premises providers. AWS makes this possible by:

- not requiring up-front payments or long-term contracts. Under AWS's standard terms, customers are free to terminate their use of AWS at any time, with no termination fees; and

[67] The share of companies using cloud services who adopt a hybrid solution is 73% according to Flexera (2024, global survey, https://info.flexera.com/CM-REPORT-State-of-the-Cloud) and 82% according to Cisco (2022, global survey, https://www.cisco.com/c/dam/en/us/solutions/collateral/hybrid-cloud/2022-trends-report-cte.pdf). The share of companies using IT services who adopt a hybrid solution is 48% according to Public First (2023, UK survey, https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.publicfirst.co.uk%2Ffiles%2FCCIA_Survey.xlsx), 52% according to Cockroach Labs (2024, survey in US+UK+DE, https://www.cockroachlabs.com/guides/thank-you?pdf=/pdf/the-state-of-multi-cloud.pdf), and 57% according to 451 Research (2021, global survey, https://www.spglobal.com/marketintelligence/en/documents/cloud-repatriation-what-it-is-what-it.pdf).

[68] According to Gartner, worldwide IT spending is estimated to be USD 5 trillion (See, URL: https://www.gartner.com/en/newsroom/press-releases/01-17-2024-gartner-forecasts-worldwide-it-spending-to-grow-six-point-eight-percent-in-2024) and of that amount, cloud spending is estimated to constitute USD 679 billion (See, URL: https://www.gartner.com/en/newsroom/press-releases/11-13-2023-gartner-forecasts-worldwide-public-cloud-end-user-spending-to-reach-679-billion-in-20240)

- building many services on open-source and industry standards that other IT providers also use, or which are designed to be portable. AWS supports operating systems, such as Linux, that do not require any licensing or royalty fees by customers, as well as licensed offerings created by other providers. AWS offers multiple services for customers to use containers, which package software applications into an industry-standard form that is easily moved to another IT environment.

Given AWS's customer focus and our desire to foster interoperability, customers who want to switch to another cloud services can do so easily because AWS offers services such as Database Migration Service, DataSync, and Snowball, which facilitate the transfer of data both to and from AWS. This makes it easier for customers to switch among or use multiple IT providers.

Competitors have also made significant investments to make switching and multi-homing easier, such as Azure Migrate, Google Database Migration Service, and Oracle Cloud Migrations.

The cloud services sector is attracting entrants and expansion by existing IT providers

The growth of the cloud sector makes it highly attractive for existing IT firms to expand into and for new firms to enter with the result that the IT industry is only getting more and more competitive. Oracle declared in July 2022 that its cloud business was entering a "*hyper-growth phase*", and its infrastructure sales subsequently grew more than 50% year-over-year. IBM attained double-digit growth in hybrid cloud revenue in 2022. Databricks became one of the ten most valuable startups worldwide within eight years of its launch. For example, Australian companies SlicedTech, SoftCloud, and 8Squad entered the sector between 2011 and 2019. This is competition at its best.

Prices for cloud services have fallen, benefiting consumers

Competition for IT solutions has led AWS to lower its prices 134 times since 2006. For example:

- AWS has implemented significant price decreases for our primary compute product (Elastic Compute Cloud, or Amazon EC2), including in 2017, 2020, and 2022, and our primary storage product (Simple Storage Service or Amazon S3), including in 2016 and 2021.[69]
- AWS introduced the Free Tier in 2010, which today provides free usage of more than 100 AWS services up to specified limits. Microsoft Azure, Google Cloud, and Oracle each offer their own free tier as well.[70] For example, 90% of AWS customers pay nothing for data transfer out because their usage falls within the free tier.[71]
- AWS waives data transfers out fees when customers want to move outside AWS.[72]

These price reductions have occurred even as AWS has invested in quality and performance improvements. For example, investment in newer servers allows customers to get more work done in less time, compounding the savings customers enjoy — customers get more and pay less.

The cloud sector is highly competitive

In summary, given the many IT service options customers have, cloud services are neither the most prevalent nor dominant type of IT solution. Rather, customers view IT services as substitutable and

[69] See https://aws.amazon.com/blogs/aws/ec2-price-reductions-reserved-instances-m4-instances/; https://aws.amazon.com/blogs/aws/ec2-price-reduction-for-ec2-instance-saving-plans-and-standard-reservedinstances/; https://aws.amazon.com/about-aws/whats-new/2022/06/price-reductions-amazon-ec2-instancessuse-linux-enterprise-server-sles-os/; https://aws.amazon.com/blogs/aws/amazon-s3-glacier-price-reduction/; https://aws.amazon.com/blogs/aws/aws-storage-update-s3-glacier-price-reductions/.

[70] See https://azure.microsoft.com/en-us/pricing/details/bandwidth/ (showing Azure data transfer pricing to be free for first 100 gigabytes per month); https://www.oracle.com/a/ocom/docs/cloud/oci-vs-azure.pdf (Oracle document from March 2022 showing Azure to offer 5 gigabytes of free data transfer at the time); https://cloud.google.com/storage/pricing-announce (describing Google's expansion of free data transfer to 100 gigabytes).

[71] https://aws.amazon.com/blogs/aws/free-data-transfer-out-to-internet-when-moving-out-of-aws/.

[72] https://aws.amazon.com/blogs/aws/free-data-transfer-out-to-internet-when-moving-out-of-aws/.

they pick services based on their suitability for a particular use, regardless of their delivery method (whether in the cloud, via on-premises servers, or a hybrid solution combining both). Presently, there is no evidence that IT services (or cloud services in particular) present any particular regulatory challenges or give rise to any anticompetitive harms.

C5. Certain software licensing practices

The promise of cloud services has always been about providing customers more choice and lower costs than available through legacy IT. That is why AWS supports the Principles for Fair Software Licensing[73] and considers that these principles should be standard practice for the IT industry. However, we are aware of some licensing practices that are contrary to these principles and restrict customer choice, making switching between IT providers difficult. For example, if a customer who already owns licences to use Microsoft's popular productivity software wants to use that software on Google Cloud, AWS, or Alibaba, Microsoft's licensing terms require that the customer re-purchase the licences. This condition does not apply if the customer acquires Microsoft's cloud service (Azure). A 2023 study commissioned by CISPE (Cloud Infrastructure Service Providers in Europe)[74] found that this condition increased the cost of Microsoft's MS 365 software by ~80-100% for customers using Google Cloud, AWS, or Alibaba cloud services. This restricts the customers' ability to use the IT provider of their choice. Microsoft, following regulatory pressure, made some changes to its licence conditions, but customers continue to be prevented from using Microsoft's services on the IT provider of their choice. Similar restrictive license conditions exist for other Microsoft products.

C6. IT services including cloud services are already covered by a detailed regulatory framework, with further regulations being proposed

In Australia, the IT sector is governed by a wide range of intersecting federal legislation which already addresses many of the concerns that led international jurisdictions to consider ex-ante competition regulatory reform. These include a range of existing and proposed laws and frameworks including the following.

Existing legislative framework

- The IT services sector is currently subject to an effective ex-post competition regulation. The Competition and Consumer Act, enforced by the ACCC, is the overarching competition framework in Australia and there is no evidence this framework is incapable of addressing concerns in the IT services sector.
- The Foreign Investment Review Board process gives the Australian Government control over of investments into the IT sector in Australia, and FIRB approval includes a 'competition' assessment to ensure the outcome of the proposed transaction is pro-competitive.
- The Whole-of-Government Hosting Strategy including the Hosting Certification Framework, which provides Australian Government departments with confidence that certified IT suppliers (which, as at September 2024 includes 26 large and small Australian and multinational IT providers) meet Government security standards appropriate for hosting whole-of-Government systems.
- The *Security of Critical Infrastructure Act 2018*, which applies industry-wide and likewise provides security assurance.
- Unfair contract term prohibitions contained in the Australian Consumer Law ensure small businesses are protected in their contracts with IT service providers.

[73] https://www.fairsoftware.cloud/principles/

[74] https://cispe.cloud/website_cispe/wp-content/uploads/2023/06/Quantification-of-Cost-of-Unfair-Software-Licensing_Prof-Jenny_-June-2023_web.pdf

Proposed reforms further adding to the legislative framework

- Proposed merger control law reforms will make it mandatory for transactions that meet the turnover and transaction thresholds to seek ACCC clearance. The reforms better enable the ACCC to examine whether transactions in the IT services space enhance an acquirer's market power.
- Proposed unfair practices reforms will introduce new protections for small businesses acquiring IT services from unfair practices.
- Proposed Privacy Act reforms will impose additional safeguards around data and data sharing.
- Proposed AI-specific reforms will likely implement a range of guardrails around the use and availability of AI, such as data governance and transparency measures.

Before the Australian Government fast-tracks ex-ante reforms the full scope of the existing legislative framework that governs IT services provides should be understood to ensure any proposed reforms are proportionate and focused on regulatory gaps in the existing law.

C7. International regulation

The Issues Paper refers to various international studies and reports regarding the cloud. Findings in international jurisdictions should not be extrapolated to Australia without careful consideration.

It is important to recognise these studies and reports are specific to the commissioning jurisdiction. First, the political and policy objectives of governments commissioning these report and studies differ to the Australian Government's policy objectives. For example, the Australian Government needs to balance recommendations by international studies and reports against the policy objective of achieving the Government's vision for a future innovative, dynamic and internationally competitive digital Australia. Second, international jurisdictions have very different regulatory and legal frameworks to Australia (ie, a civil vs common law regime) and do not take into account the uniquely Australian legislative framework governing cloud (see **Section C6** above). Transposing ex-ante regulation or findings from studies or agency reports from international jurisdictions in isolation ignores this. Third, the competitive dynamics in this sector differ across jurisdictions. For example, Alibaba cloud services are regionally material but do not have the same presence internationally. Finally, there are divergent views across international studies and reports. The UK CMA cloud study review is ongoing and the CMA has not made findings to date. In Japan, the Japan Fair Trading Commission concluded it would "*continue to watch the state of competition in this sector and also continue to respond strictly and appropriately to concrete cases that become problematic under the Antimonopoly Act (AMA)*" – with the AMA being Japan's existing competition law.[75]

Australia's unique legal and regulatory landscape and competitive dynamics, as well as the Government's wider goals to support the growth of the Australian technology industry, need to be considered and assessed before transposing observations made by international agencies about the operation of the cloud sector in their jurisdiction to Australia.

C8. Conclusion

Since AWS pioneered cloud services in 2006, it has continually invested in its services, enhancing competition in the IT sector and benefiting Australian businesses and consumers.

Today, customers, including small businesses and start-ups, can acquire these services on a pay-as-you go model, access the most advanced technology quickly, and rapidly scale their businesses to meet their needs. This allows Australia's small business to focus on innovations and better compete with large incumbents, and benefits the Australian economy. There is effective competition in the IT service sector, and no evidence of unique competition issues that require new or novel regulatory solutions.

[75] Japan Fair Trade Commission, "Report Regarding Cloud Services", June 28, 2022.

With respect to the cloud sector overall:

- The cloud sector is highly dynamic with new entry and continuous expansion.
- Competition between cloud providers is intense and switching between providers is easier and cheaper than ever which further facilitates vigorous competition.
- The vast majority of IT services remain on-premises and customers seeking IT solutions have a spectrum of alternative options.
- Many new companies have successfully entered the cloud space as well as the many existing companies that have expanded into this space through their existing IT services. Growth in the IT services industry is exponential and AWS expects this will continue, further attracting entry, expansion and new innovations.
- The intense competition between IT providers means innovation is constant. This has increased consumer choice, both on premises and among the numerous cloud providers.

Any suggestion that new ex-ante regulation is needed in this already highly competitive and highly regulated sector, should be carefully considered noting the risk such regulation risks harming what is a dynamic and well-functioning sector of the Australian economy.

D. GENERATIVE AI

Issue: The Issues Paper notes the Australian Government's proposal to review existing regulations relating to AI[76] and seeks further submissions on potential or emerging competition issues in relation to generative AI in Australia.

Overview: The degree of innovation in generative AI, the myriad ways it can be developed and deployed, and the social and economic potential for the use of these technologies means that there is (and will continue to be) intense and growing competition between sellers of generative AI services in Australia and globally. This includes the providers of generative AI models themselves, the various underlying technologies (including computing products and services) and the wide array of AI applications.

The Australian Government is separately conducting a consultation on mandatory guardrails to support the safe and responsible adoption of AI. There is no evidence that this new, emerging and highly dynamic sector - where there is very strong competition across all levels - requires novel competition regulation and doing so will only risk hampering rather than promoting competition.

D1. What is generative AI?

Artificial intelligence (**AI**)[77] and machine learning (**ML**) are some of the most transformational technologies of our time. AI involves the use of ML and related technologies that use data to train statistical models for the purpose of enabling computer systems to perform tasks normally associated with human intelligence or perception, such as computer vision, speech or natural language processing, and content generation.

[76] Australian Government, Budget 2024-25 Budget Paper No. 2: Budget Measures, 14 May 2024, p. 141.
[77] AI is the field of computer science dedicated to solving cognitive problems commonly associated with human intelligence, such as learning, creation, and image recognition.

The term generative AI only entered into general household use in the last two years. So, what exactly is "generative AI"? This type of AI consists of advanced foundation models[78] (**FMs**) (including large language models (**LLMs**) and multi-modal models) that can perform a wide range of "generative" tasks across multiple domains. Generative AI is not only able to summarize and compose sophisticated text, but also generate vivid images based on textual prompts and transform a natural language description of software functionality into functional code.[79]

A FM is a machine learning model that is trained on broad data at scale, is designed for generality of output, and can be adapted to a wide range of downstream distinctive tasks or applications, including simple task completion, natural language understanding, translation, or content generation. For example, OpenAI's GPT-3 is an LLM and, because FM is the broader term, it is also an FM[80] and Google's Gemini is a FM with multimodal capabilities (audio, images, video, and text).

D2. Amazon

At Amazon, we provide a broad range of capabilities and services that help customers both large and small use generative AI in creative ways, building new applications and improving how they work. Generative AI has the potential to enhance competition across a host of industry sectors by fostering innovation and improving efficiency.[81]

Amazon recognises the transformative potential of AI technologies and has built its business strategy on expanding access to this technology in ways that foster competition, to the benefit of customers of all types in all industries. Our approach is to expand access to AI resources, services, and tools across our businesses so that developers of all skill levels and employees in a range of technical roles can unlock generative AI's potential. For example, on the Amazon Retail Store, one Amazon AI tool helps sellers on the store save time with product listings created by generative AI. This tool allows a seller to easily list a product in the Amazon Retail Store by entering a link from their own direct-to-consumer website to create a high-quality, engaging listing, which the seller reviews and submits. This streamlines the process of creating product listings, saving sellers time and effort, and ensuring that listings appeal to customers and help drive sales. Almost 4,500 sellers have already used one or more of Amazon's generative AI listing capabilities to list on Amazon Australia.

Our focus on broadening access to this transformative technology is demonstrated by Amazon Bedrock[82]. AWS build Amazon Bedrock to enable customers to easily choose from multiple different FMs for different tasks, with the expectation that many different FMs, big and small, proprietary and open-source, will meet different customers' demands.[83] Amazon Bedrock is a fully managed service that enables customers to experiment with, build on, and customise a variety of high-performing FMs from leading AI companies, such as AI21 Labs, Anthropic, Cohere, Meta, Mistral AI, Stability AI, and AWS itself.[84] Amazon Bedrock provides customers access to these FMs via application programming interfaces (**APIs**) alongside enterprise-grade security, privacy, and other features that customers can

[78] Both open-source (e.g. Mistral AI's Mixtral 8x7B, Meta's Llama 2) and proprietary (e.g. OpenAI's GPT-3.5, Anthropic's Claude AI) FMs are available. FMs themselves are computer files that are not particularly large. A FM with 100 billion parameters, for example, could easily fit on a USB flash drive

[79] https://www.aboutamazon.com/news/aws/generative-ai-is-the-future

[80] https://aws.amazon.com/what-is/generative-ai/

[81] "*Adopting AI and automation could add an additional $170 billion to $600 billion a year to Australia's GDP by 2030*". Safe and Responsible AI in Australia consultation: Australian Government's interim response (January 2024), link

[82] AWS launched Amazon Bedrock in the Asia Pacific (Sydney) Region in April 2024.

[83] The availability of Cohere models on Amazon Bedrock, for example, has enabled more individuals to access unique Cohere models, such as its Multilingual Embedding Model, which aims to help developers of applications break down barriers and expand access to people around the world across different languages. https://aws.amazon.com/marketplace/pp/prodview-z6huxszcqc25i

[84] Amazon Bedrock became generally available on 28 September 2023. See AWS's announcement at: https://www.aboutamazon.com/news/aws/aws-amazon-bedrock-general-availability-generative-ai-innovations

use to build their own generative AI solutions.[85] Amazon Bedrock enables choice, and enhances competition by allowing customers to choose the best FM for their use case, evaluate different FMs, switch between them, and integrate them into their applications, in a secure environment (eg, Amazon Bedrock Studio). Amazon Bedrock ensures customers can access the variety of FMs that are available without having to build these from scratch themselves.

D3. Competition in generative AI is intense to the benefit of customers and Australians generally

While the sector is nascent, customers already have multiple avenues to obtain and utilise FMs, including access to both proprietary and open source models via a range of IT providers (SM JumpStart/Bedrock) or directly from the model developer (ex. Anthropic, Stability) etc. As of August 2024 there are 800 notable FMs.[86]

Entry and expansion in the generative AI space will only become easier and more marked with the rapid investment that is occurring. There is already intense competition at all levels of generative AI, including in relation to the development of FMs, the computing resources and services used to build and train FMs, and the applications that incorporate FMs in diverse ways. This competition will only increase over time.

Generative AI is nascent, highly innovative and there is a lot of innovation to come

Generative AI is also rapidly evolving with many companies, including numerous startups and scale-ups already successfully entering and expanding generative AI technologies. For example:

- In 2023, the AI sector overall attracted USD $25.2 billion in funding, nearly nine times the investment of 2022 and about 30 times the amount from 2019. Investments in AI startups generally in the US surged to USD 24 billion from April to June 2024, more than doubling from the previous quarter (which was USD 11.4 billion).[87] Furthermore, generative AI accounted for over a quarter of all AI-related private investment in 2023 and the number of newly funded AI companies jumped to 1,812, a 40.6% increase over the previous year.[88]
- For AI overall, 2023 marked a significant increase in the number of newly funded companies, with 99 new startups receiving funding, compared to 56 in 2022, and 31 in 2019.[89]
- Venture capital investment is also diversifying across sectors including healthcare, natural language interface, visual media, and vertical applications, growing from $77 million in 2018 to $5.1 billion in 2023 for LLMs and semiconductor investments alone.[90]

Despite the funding already invested in this space (including generative AI) with more than 75% of generative AI start-ups being in their early stages,[91] we expect future innovation in this space to be exponential. As AI investment increases and training hardware becomes more cost-effective, generative AI will come within reach of more and more developers.

[85] For example, Guardrails for Amazon Bedrock allows customers to implement safeguards within their generative AI applications that are customized to their requirements and responsible AI policies, providing an additional level of safeguards that can be applied across FMs. https://aws.amazon.com/bedrock/guardrails/
[86] Epoch AI, 'Data on Notable AI Models'. Published online at epochai.org. Retrieved from https://epochai.org/data/notable-ai-models
[87] https://www.reuters.com/technology/artificial-intelligence/ai-startup-funding-more-than-doubles-q2-crunchbase-data-shows-2024-07-09/
[88] https://aiindex.stanford.edu/wp-content/uploads/2024/04/HAI_AI-Index-Report-2024_Chapter4.pdf
[89] Ibid.
[90] https://www.ey.com/en_ie/news/2024/05/generative-ai-venture-capital-investment-globally-on-track-to-reach-12-billion-dollar-in-2024-following-breakout-year-in-2023
[91] Ibid.

There is significant competition at the FM level

Many companies have launched a variety of FMs within a short period of time, building both proprietary and open-source FMs that use generative AI technology to create text, images, video, and more.

Competition between FM developers includes well-known companies such as Microsoft, Meta, Nvidia, Google, and Amazon but also dozens of innovative start-ups who are developing proprietary and open-source models such as Australia's Leonardo.Ai, OpenAI, Anthropic, Hugging Face, Stability AI, Mistral AI, Aleph Alpha, EleutherAI, Cohere, Adept, Character.ai, Midjourney, AI21 Labs, poolside, Model Zoo, Mosaic, Technology Innovation Institute, LightOn, Runway, Jasper, Inflection, and many others.

Further, no one FM will meet every customer need and customers will choose the FMs best suited to their specific needs, Therefore, in addition to general-purpose FMs,[92] FM developers are responding to opportunities to serve customers better by releasing FMs that are highly specialised for certain tasks, like coding or mathematics.[93] We are already seeing this today – even individual applications can use multiple FMs tuned for different tasks and functions in order to optimise the user experience.

Finally, recent developments also show that bigger may not necessarily be better[94] as developers develop smaller FMs that are potentially equally capable of performing a range of tasks, including on consumer devices, relative to larger FMs but are lower cost for the customer.

Competition is therefore not only already intense but will increase. First, no one knows yet which FMs will gain and retain, relevance and therefore more and more FMs are being released as the number of FM developers continues to increase.[95] Second, existing providers are competing vigorously against each other and against start-ups and other companies which are expanding to develop their own FMs. Third, we can expect further rapid growth in FMs and the companies developing them to increase the downstream demand and therefore opportunities for existing and new IT providers to make the investments needed to support the ongoing growth and development of FMs.

There is significant competition at the application level

There is also considerable innovation and competition in AI applications. Software applications incorporating FMs and tools to develop such applications are diverse and span across various domains, for countless purposes, including customer support, language translation, content generation, copywriting, image classification, high-resolution image creation and editing, document extraction, data analysis, code generation, robotics, healthcare, and autonomous vehicles, and many more.

Amazon sees opportunities for customer and vendor experiences in all sectors being improved indirectly through such applications, whose popularity has increased exponentially over the last year. The number of applications which may be built using FMs is virtually limitless, and this has driven considerable innovation and competition in AI applications. It is, therefore, unsurprising that customers of FM-powered applications comprise a variety of types, including start-ups, mid-market companies, established enterprises, governments, and academic organisations, as well as a wide range of industries, including aerospace, agriculture, automotive, computers and electronics, consumer goods, education, energy, financial services, gaming, government, healthcare, internet and software, life sciences, manufacturing, marketing and advertising, media and entertainment,

[92] https://arxiv.org/pdf/2310.16944.pdf; https://stability.ai/news/stablelm-zephyr-3b-stability-llm
[93] https://stability.ai/news/stable-code-2024-llm-code-completion-release
[94] https://www.scientificamerican.com/article/when-it-comes-to-ai-models-bigger-isnt-always-better/
[95] Research by the Stanford Center for Research on FMs indicates that more than 330 FMs have been released in the public domain globally, more than 120 of which were released between September 2023 and March 2024. https://crfm.stanford.edu/ecosystem-graphs/index.html?mode=table

power and utilities, professional services, real estate and construction, retail, telecommunications, transport and logistics, and travel and hospitality.

For example, companies as diverse as Canva, Westpac, Lawpath, Lonely Planet, Swann, adidas, Booking.com, Bridgewater Associates, Clariant, Cox Automotive, GoDaddy, and LexisNexis Legal & Professional have launched generative AI applications on AWS, and thousands more will build using inputs from other providers.

Practical examples of how generative AI technologies in the application space are used include Westpac, Lonely Planet, Lawpath, and Swann which use Amazon Bedrock to reduce paperwork, reduce costs to generate itineraries, to help small business understand complex legal documents with ease, and to power security-centric solutions in homes and businesses, each developing better, faster and improved outcomes for their customers.

As outlined above, Amazon is working to expand access to generative AI technologies, including by offering services like Amazon Bedrock that make it easier for developers to build generative AI applications using their choice of multiple FMs, without up-front IT investments.

Increasing availability of key inputs to generative AI

Innovation and competition is also occurring in relation to the inputs that FM developers use to create their FMs, making it easier for new companies to enter. FM developers have many options for accessing the resources they need to grow and compete effectively. Indeed, the transformational potential of generative AI has attracted an increasing number of options for IT service customers to obtain computing capacity, access large volumes of diverse, high-quality data, and collaborate with other industry players, therefore lowering barriers to entry.

There are new entrants and competition to supply computing services: Generative AI developers can benefit from all the IT service options outlined in Section B above when training or deploying FMs, including on-premises solutions, online solutions provided by cloud services, solutions deployed in a co-located environment and hybrid solutions combining these options.

In response to the demand driven growth in generative AI, established IT providers are expanding their supply of computing services. For example, AWS, and the many other available IT service providers, are working hard to provide customers with the computing capacity they need and an increasing number of specialised cloud providers (including AI-specialised providers) have publicly stated that they have entered, are entering, or are expanding in this space. Customers can purchase cloud and on-premises compute services from many IT providers including CoreWeave, Lambda Labs, Denvr Dataworks, G42, Crusoe, Cirrascale, TensorWave, and RunPod, Microsoft Azure, Google Cloud, Oracle, IBM, OVHcloud, DigitalOcean, IONOS, Fuga Cloud, Scaleway, Exoscale, Alibaba Cloud, Akamai, Vultr, HP, Dell, Nvidia, CloudFlare, Nutanix, Cisco, Lenovo, VMWare, FluidStack, Oblivus Cloud, CoreWeave, Lambda Labs, San Francisco Compute, Genesis Cloud, Denvr Dataworks, G42, Omniva, Cirrascale, Yotta Data Services, Gcore, Voltage Park, Crusoe Cloud, JarvisLabs.ai (all of which provide enterprise-grade access to Nvidia's GPUs), Evroc, TensorWave, Aligned, RunPod, Supermicro, Paperspace, Akash Network, and Foundry.

FM developers' IT choices continue even after they select an initial IT service provider (eg, a cloud or on-premises provider etc) as they can: (1) port FMs built or trained on one IT provider to another (eg, from AWS to another cloud service or on-premises provider); or (2) make FMs available across multiple IT providers. The models themselves are computer files that are not particularly large; a model with 100 billion parameters, for example, could easily fit on a USB flash drive.

In relation to AWS, customers who have built applications using off-the-shelf third-party FMs on AWS, including on Amazon Bedrock, can choose to run those applications on AWS or any other IT environment where the underlying FMs are also accessible – they are not limited to running their AI application on AWS. Customers can take and use the application in another environment (eg, on-

premises or another cloud) by accessing the FM either through an alternative IT provider or directly from the FM developer. This is true whether customers continue to use AWS for other workloads or migrate off AWS entirely.

Importantly, the choices available to FM customers (eg to port FMs to another IT provider) mean that IT service providers need to continually to compete with one another to win new workloads and renewals from their existing customers.

FM developers have many choices to obtain data, and they can be successful without large quantities of data. While the first generation of generative AI required FM developers to work out how to access large data sets for training, that is no longer the case.

FM developers now have access to significant amounts of publicly available data to train their FMs. Data comes from a variety of sources, including licensed data, open-source datasets, and publicly available data, which are all made available globally. In addition, the use of the data to train FMs can occur anywhere and is not limited by geographical regions. As large amounts of data used to train FMs are publicly available, the competition for the provision of such data is intense. FM developers can supplement public data by licensing proprietary data from a wide variety of competing sources and/or by collecting their own. They are also able to use synthetic datasets, which are a cost-effective way of getting new structured data while helping to mitigate bias and privacy restrictions that could exist in publicly available datasets. Indeed, many successful FM developers today (such as Cohere) are new companies that had no existing proprietary data pool to draw from, and others (such as Adobe's Firefly models) use a combination of licensed content (such as Adobe stock images, videos, and photos) and public domain content where copyright has expired.[96] Developers also have access to tools like Amazon SageMaker[97] which streamline the management of training data, making it easier for them to use their data effectively to train models.

While the Issues Paper raises questions about the potential for digital platform services to have access to large volumes of high-quality user data, it is critical to appreciate that volume of data alone is not necessarily determinative of the success of an FM. It needs to be the right data for the specific use case. We have seen highly effective models trained on relatively smaller data sets. Often, the most effective solution may not be the largest model; it may be a smaller, smarter, more efficient model. Amazon expects successful future models to depend more on the quality of the data, or improved algorithms, not increased volume of data. For example, generative AI startup GoCharlie partnered with SRI to successfully develop a smaller, purpose-built multi-modal FM with 1B parameters, to specifically meet its needs (in this case, for marketing-specific purposes).[98] A CSIRO repot likewise observed "*However, it's worth noting that some foundation AI models can be pre-trained on smaller well curated datasets*".[99]

As outlined, Amazon's commitment to ensuring access to this technology is further supported by its development of Amazon Bedrock, which provides customers with the ability to tailor proprietary FMs and FMs released under open-source licences with their own data, reducing the amount of training data required. Amazon Bedrock offers various techniques for customising FMs, including retrieval augmented generation (**RAG**), continued pre-training, and fine-tuning.

- RAG enables customers to customise a FM's responses by augmenting prompts with data from multiple sources, including document repositories, databases, and APIs.

[96] https://helpx.adobe.com/uk/firefly/faq.html#training-data
[97] https://aws.amazon.com/sagemaker/
[98] https://aws.amazon.com/startups/learn/selecting-the-right-foundation-model-for-your-startup#overview
[99] *See page 7 of CSIRO's report, "Artificial Intelligence foundation models: Industry enablement, productivity growth, policy levers and sovereign capability considerations for Australia", March 2024, which can be downloaded at https://www.csiro.au/en/research/technology-space/ai/ai-foundation-models-report.*

- Continued pre-training builds on original pre-training for general language by using large data sets to improve understanding of language, abbreviations, and jargon unique to a specific domain.
- Fine-tuning improves pre-trained models, which are designed to perform well at a general range of tasks, but which may not be perfectly suited for each customer's specific use cases. Customers can adapt pre-trained models for their particular tasks via fine-tuning, which is the final step of the machine learning process. Because the pre-trained models can already perform a wide variety of tasks, customers only need a small amount of additional training data and compute to adjust to their specific needs. While fine-tuning data requirements differ based on many factors, effective fine-tuning can be done with as few as 100 samples of the customer's target ask. In other words, fine-tuning is substantially faster, requires less computation time, and needs less data than creating a task-specific model, allowing generative AI companies to enter and grow.

Technical skills and time. The same technological innovations that make it easier for companies to create FMs without vast quantities of data also reduce the reliance of FM developers on IT professionals with deep generative AI expertise, and requirements to spend significant development time. A service like Amazon Bedrock allows customers to leverage the training done by the FM provider on the general FM and focus their attention on a small amount of training or fine-tuning on their specific data to create a differentiated and valuable application.

D4. Amazon's business strategy is to broaden access to generative AI for all

Amazon creates and sells products that empower our customers— including organisations of all sizes and developers of all skill levels across industries—to unlock the benefits of generative AI. We aim to ensure that large and small customers across all industries and levels of technical skill can use, develop, and commercialise generative AI.

For instance, AWS offers cloud services that use our own computing chips like AWS Trainium and Inferentia to run FMs and the applications they power cost effectively. We provide services like Amazon SageMaker that make it easier to prepare data for AI, manage experiments, train models faster, and lower the latency and cost involved in running FMs. As discussed, we provide access to leading FMs through Amazon Bedrock. We also provide end-user-facing applications like Amazon Q, a generative AI powered chat assistant for the workplace, aimed at accelerating software development and assisting companies to leverage their internal data. For example, by helping software developers write code, call centre employees to provide faster customer service, and employees summarise documents, analyse data, and automate other tasks.

Amazon is committed to expanding access to AI technology to improve customers' experiences by creating and maintaining an open environment for ML for developers and deployers which in turn fosters competition.

D5. Additional regulation of generative AI is not needed

Amazon is committed to engaging with government as it considers this fast-evolving space. Like all companies, Amazon has a responsibility to follow the law and Australia's existing competition laws are adaptable to new technologies and industries, and that is true in this context.

While competition regulators have expressed that businesses should be mindful not to engage in anticompetitive conduct in the AI space, the 'concerns' referred to (such as tying (i.e., foreclosing), bundling, exclusive dealing, and anticompetitive acquisitions) all come within Australia's existing competition prohibitions and do not raise 'new' legal issues. By virtue of their generality and flexibility, Australia's competition laws already cover (and are adaptable to) new technologies and industries,

and this remains true for generative AI. Australia's current competition law regulation provides generative AI customers with sufficient protections. As the Productivity Commission observed:[100]

> "*Many of the potential harms that could be created by using AI are 'old wine in new bottles' – harms that we have previously encountered and that are adequately dealt with by existing laws and regulations. Effective implementation of AI will require our regulatory infrastructure to recognise where harms are already covered and adopt a flexible approach so that existing rules can be applied to the new context presented by AI*."

We consider that Australia's current regulatory landscape balances competitive markets, investment and innovation, and responsible development and deployment practices. Further, the existing competition law framework provides businesses in this space with a predictable regulation that provides clarity without hindering innovation.

If the Government considers new ex-ante regulation for AI desirable:

- Consistent with good regulatory practice, any such regulation should focus on: (1) bridging identified and evidenced regulatory gaps; and (2) avoiding hindering or reducing innovation. The Productivity Commission suggested that there is no need for new regulation if existing regulatory frameworks adequately address any identified risks.[101]
- Amazon submits that this must include consideration of other proposed regulatory amendments. In particular, Government is already consulting on mandatory guardrails on high-risk use cases to support the safe and responsible adoption of AI in Australia. As well as focussing on transparency, accountability and other measures to address any risks and harm from AI, the Government notes that its consultation focusses how best to develop a regulatory environment that builds community trust, increases certainty, and promotes AI adoption within Australia. This risk-based approach is thus sufficient additional regulation for this sector. To that end, introducing another, novel and separate regulation covering generative AI at a similar time may not strike the right balance between innovation and competition on the one hand, and community interests on the other. Government would need to consider the extent to which uncertainty, resulting from new regulatory frameworks in a novel sector, would drive a highly detrimental impact on the sector's ongoing and future development within the global economy. Generative AI is a particularly dynamic sector with high levels of innovation and significant uncertainty about how this technology will evolve. In this environment, regulation could become a barrier to entry in its own right. A report commissioned by Amazon highlighted the importance of clarity and certainty, finding that 21% of businesses consider compliance and legal uncertainties related to digital technology to be a barrier to investment, with those facing uncertainties planning to invest 48% less over a three-year period.[102] This is particularly relevant in the context of competing visions globally on investments into, and regulation of, generative AI. As the Australian Government itself observed: "*Government will avoid unnecessary or disproportionate burdens for businesses, the community and regulators. It will balance the need for innovation and competition with the need to protect community interests including privacy, security and public and online safety.*"[103]
- The private sector will always be at the forefront of progress in generative AI, and we firmly believe the role of government is to work with industry through risk-based regulatory frameworks that allow for continued innovation and practical application of the technology.

[100] Productivity Commission, *Making the most of the AI opportunity: productivity, regulation and data access.*See https://www.pc.gov.au/research/completed/making-the-most-of-the-ai-opportunity
[101] Ibid.
[102] Unlocking Europe's AI Potential in the Digital Decade, February 2024
[103] Safe and Responsible AI in Australia consultation: Australian Government's interim response (January 2024)

D6. Conclusion

While generative AI has energised the minds of governments worldwide, at this early stage in its development there is no justification for an ex-ante regulation for generative AI. Relevantly

- The sector is already highly competitive, and will stay that way without regulatory intervention
- There is no evidence of customer harm in this sector that justifies or explains the need for new generative AI specific competition regulation.
- Many innovative start-ups have already successfully entered and expanded in the generative AI space, and Amazon believes that entry and expansion is becoming easier. Amazon expects the expansion of generative AI businesses to continue to grow in line with rapid innovation. We are already seeing Australian start-ups (such as Leonardo.Ai) flourish.[104]
- Any potential anticompetitive 'concerns' in the AI space all come within Australia's existing competition prohibitions and do not raise 'new' legal issues.
- New generative AI specific competition regulation will have a detrimental impact on the sector's development and will become a barrier to entry in its own right, ultimately leading to reduced innovation, investment and competition.
- In addition to the dynamic features of this sector, the incentives of industry participants are aligned to ensure the sector continues to grow, to innovate and deliver benefits to the economy overall (which serves to make generative AI services more desirable). For example, Amazon's approach to generative AI is to invest and innovate to empower a wide range of stakeholders, including organisations of all sizes and developers of all skill levels, both in Australia and internationally, to unlock the benefits of generative AI. Amazon is focused on using AI to improve customers' experiences and on expanding access to AI by creating and maintaining an open environment for generative AI and the underlying compute infrastructure for developers and deployers of all sizes and abilities.

Amazon's focus is to expand access to AI technology in ways that help foster competition across this sector and to create and maintain an open environment for developers and deployers. Amazon is also committed to engaging with the Australian Government if it has concerns, to ensure the fast-evolving space of generative AI continues to deliver benefits across the Australian economy.

[104] Amazon notes that Leonardo.Ai was recently acquired by Canva.