Australian Government
The Treasury

Consumer Data Right

# Consumer Data Right Sectoral Assessment

# Telecommunications

Consultation Paper

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# Consultation Process

## Request for feedback and comments

Interested parties are invited to comment on the issues raised in this paper by Thursday 19 August 2021.

While submissions may be lodged electronically or by post, electronic lodgement is preferred. For accessibility reasons, please submit responses sent via email in a Word or RTF format. An additional PDF version may also be submitted.

## Publication of submissions and confidentiality

All information (including name and address details) contained in formal submissions will be made available to the public on the Australian Treasury website, unless you indicate that you would like all or part of your submission to remain confidential. Automatically generated confidentiality statements in emails do not suffice for this purpose. Respondents who would like part of their submission to remain confidential should provide this information marked as such in a separate attachment.

Legal requirements, such as those imposed by the *Freedom of Information Act 1982*, may affect the confidentiality of your submission.

## Consultation process to support the sectoral assessment

Treasury's consultation process for the sectoral assessment will involve consulting broadly with representatives from the telecommunications industry, industry associations, start-ups, consumer and privacy advocates and other interested parties.

Feedback received during this process will guide the final report, which will make a recommendation to the Minister on whether to extend the Consumer Data Right to telecommunications. The sectoral assessment consultation process will also incorporate consultation activities including a stakeholder roundtable and targeted one-on-one consultation meetings.

### Closing date for submissions: 19 August 2021

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|---|---|
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# Glossary

| | |
|---|---|
| ACCC | Australian Competition and Consumer Commission |
| ACMA | Australian Communications and Media Authority |
| ADR | Accredited data recipient |
| API | Application programming interface |
| APP | Australian Privacy Principles |
| Carrier | A holder of a carrier licence granted under the *Telecommunications Act 1997*. Licensed carriers provide the infrastructure on which carriage and content services are provided to the public |
| Carriage service provider | A carriage service provider supplies a carriage service to the public using a network unit owned by one or more carriers |
| CDR | Consumer Data Right |
| CDR consumer | The 'CDR consumer' is the person who has the right to access the CDR data held by a data holder, and direct that the CDR data be disclosed to them or to an accredited or trusted person. For the purposes of the CDR a 'person' can be a natural person or a business |
| Consent | Communication to an accredited person of the data sets and actions that the consumer is allowing them to access or perform, and the purposes for which the consumer agrees to their data being used and actions being initiated on their behalf |
| Data holder | A party that holds data to which the CDR will apply, carrying obligations to provide that data to CDR participants |
| Data / Datasets | Data is information translated into a form for efficient storage, transport or processing, and is increasingly synonymous with digital information. It includes product data (data related to the product/service advertised for example: descriptions, prices, terms, and conditions) and consumer data (data related to the consumer of the product/service for example: consumer contact details, or information relevant to their eligibility for a service) |
| Data sharing | The transfer of product and consumer data, usually referring to sharing under the CDR framework with consent |
| Designation | Designation refers to the inclusion of a dataset or data holder in a designation instrument, as defined below |
| Designation instrument | A legislative instrument made by the Minister under section 56AC of the *Competition and Consumer Act 2010* (Cth) |
| Gateway | An entity through which communications to and from data holders must pass |

| | |
|---|---|
| Interception Act | *Telecommunications (Interception and Access) Act 1979* (Cth) |
| ISP | Internet service providers |
| MNO | Mobile network operator |
| MVNO | Mobile virtual network operator |
| NBN | National Broadband Network |
| OAIC | Office of the Australian Information Commissioner |
| PIA | Privacy impact assessment |
| Privacy Act | *Privacy Act 1988* (Cth) |
| RSP | Retail Service Provider, a third party provider of retail broadband services to end-users |
| Standard/s | The technical data standards made by the Data Standards Chair for the purpose of the Consumer Data Right |
| Telecommunications Act | *Telecommunications Act 1997* (Cth) |
| TIO | Telecommunications Industry Ombudsman |
| USG | Universal service guarantee |

# Consumer Data Right Sectoral Assessment – Telecommunications

The Prime Minister, the Treasurer and the Minister for Superannuation, Financial Services and the Digital Economy announced on 6 May 2021 that Treasury will conduct a sectoral assessment to consider whether to extend the Consumer Data Right (CDR) to telecommunications.

## The Consumer Data Right

The CDR is a significant, economy-wide reform designed to empower consumers to benefit from the data Australian businesses hold about them and in doing so strengthen competition, innovation and productivity.

The CDR gives consumers a right to consent to data held about them by Australian businesses being shared with accredited and trusted third parties, to help a consumer derive direct benefits from that data. Benefits can be profound, and help consumers navigate important decisions and milestones in their lives, including through having access to better value and personalised products and services within and across sectors, and access to financial management and budgeting applications to name a few.

The CDR was conceived as a right by the Productivity Commission, based on the benefits it may provide to consumers and businesses, and its potential to address concerns about awareness of and access to consumer data collected by businesses. The Productivity Commission identified that there was an overwhelming expectation on the part of individuals and businesses that they should have greater access to the data collected about them.

## Consumer Data Right Strategic Vision

The CDR will fundamentally change the way Australian consumers and business engage, understand and benefit from data, and in doing so transform the economy by driving competition, innovation and productivity gains. It is a cornerstone upon which a thriving data economy can be built – creating an economy-wide, comprehensive right to allow consumers and business to access and control their data.

The CDR creates the secure infrastructure, or 'rails', to facilitate access to and transfer of data relating to the provision of goods and services or relating to the consumer of goods and services, as directed by the consumer. The CDR is being applied to key datasets and sectors across the economy through a process of assessment and designation with a strong focus on datasets that deliver tangible benefits for consumers either as a single dataset or in combination with others.

As the CDR is accelerated across the economy, it will take a 'wrap-around' view of a consumer's data touchpoints (such as data created by a consumer in their day-to-day activities). The Strategic Assessment provides the opportunity to plan the expansion of the CDR based on supporting consumers to get the most out of the data held about them. This will help improve their quality of life and create better and more seamless engagement with relevant Australian businesses, government and non-government entities (at all levels), particularly where that engagement relates to the provision of a product or service.

Fundamentally, the CDR seeks to enable consumers to access data that is collected about them in relation to the provision of a good or a service, and/or consent to the sharing of that data with trusted and accredited third parties. This will ultimately make it easier for consumers to compare products within and across sectors and share data in a way that results in a benefit for them (e.g. sharing telecommunications data, energy or transaction data with a household budgeting app that is an accredited data recipient under the CDR regime).

Technological developments in the collection and use of information have transformed data into a hugely valuable resource. The CDR puts consumers in the driver's seat to use data collected on them, for their own benefit, based on their specific circumstances. This will in turn drive competitive pricing and the growth of new products, services and Australia's technology-service ecosystem.

Data sharing is not a new concept, however the processes through which it is currently possible are largely unregulated, unsecured, inefficient or lack competitive neutrality. These either rely on bilateral arrangements between participants, or the entrenching of poor cybersecurity habits, such as the sharing of usernames and passwords. Sometimes data sharing has involved sending information in a way that is unable to be easily used or linked to other datasets (e.g. providing raw data requested as a PDF or paper print out).

The CDR recognises that a consumer's choice to share data will depend on their individual preferences and risk appetite. Privacy and security considerations are key to ensuring that information within the CDR system is held, used and disclosed securely, allowing confidence in the system to grow. Improving the way that data can be shared is therefore key to increasing user benefits but also user safety and trust. Sharing data within the CDR system creates an audit trail so that, if need be, it will be clear who has accessed specific data, at what time and under what circumstances.

As the CDR expands it will transform data from being an inaccessible resource used by businesses for profit, to an invaluable tool that consumers can control and benefit from as well. By giving users greater ability to understand their options, businesses will be forced to pass benefits on to consumers. This will help move the dial in sectors where having more engaged consumers would benefit innovation and customer satisfaction.

The potential benefits of the CDR are significant, transformative and cumulative and therefore implementation requires thoughtful planning having regard to design principles of being consumer-focused, whilst also encouraging competition and creating opportunities for participants.

# The CDR Sectoral Assessment Process

The CDR will be extended economy-wide in Australia based on datasets and sectors of greatest consumer value. The *Competition and Consumer Act 2010* (the Act) provides that before a dataset or sector can be included in the CDR system, a detailed assessment must be undertaken and the sector or dataset designated by a legislative instrument made by the Minister.

The Australian Government has announced that CDR will extend to telecommunications datasets, pending sectoral assessment and formal consultation. This consultation process seeks to understand the scope of what could be considered as 'telecommunications data', the nature of that data and who holds the data with particular regard to identifying data that could provide value to consumers if made accessible.

A sectoral assessment process involves consultation with stakeholders to gather information to address the legislative criteria for designating a sector or specific data sets for the CDR. Key factors to consider in extending the CDR to telecommunications are:

- the interests of and benefit to consumers
- promoting competition
- the efficiency of relevant markets
- promoting data-driven innovation
- the privacy or confidentiality of consumers' information
- any intellectual property in the information
- the public interest.

The sector assessment considers the type of data that should be designated (it may include datasets used in other sectors) and who holds the data in the sector, to inform which data holders and what data should be designated and shared in a secure way, upon a consumer's request.

A final report on the sectoral assessment, incorporating stakeholder feedback, will inform the decision about whether to designate telecommunication as a CDR sector and any datasets and entities to be designated.

If the telecommunications sector is designated as anticipated, there will be further engagement with stakeholders to create the draft designation instrument. This will set out the datasets and entities to which the CDR will apply.

Once a sector or dataset has been designated, the CDR rules and standards apply. Sector-specific revisions to rules and standards may need to be developed if there are specific issues (e.g. complaint handling mechanisms) and to specify the timetable by which data sharing obligations will commence.

**Figure 1: Summary of CDR sector implementation steps**


Telecommunications is the third sector to be considered for designation under the CDR, after banking and energy. The rollout of the CDR has allowed the Government to consider issues as they arise and enhance the CDR framework to better facilitate an economy-wide rollout. For example, privacy and intellectual property issues were considered in detail during the process for applying the CDR to banking and energy. Similarly, data sharing models were refined as the CDR was extended to energy. Earlier consideration of policy issues for the banking and energy sectors will inform their consideration for the telecommunications sector.

As part of the Australian Government's Digital Economy Strategy 2030 announced in the 2021-22 Budget, the Government committed to an accelerated economy-wide rollout of the CDR. To ensure implementation is guided by a focus on consumer value, the Government also committed to undertake a three-month Strategic Assessment commencing in July 2021. The Strategic Assessment is intended to operate as a high-level assessment of datasets and sectors that would have the most value to improved consumer decision making and significant events (e.g. taking on a mortgage which may require access to and sharing of datasets across multiple sectors). Treasury is currently running a consultation process seeking input on the prioritisation and sequencing of datasets and sectors for CDR implementation to maximise the benefits of CDR for consumers and our economy.

The Strategic Assessment process will form the foundations of the Government's CDR Implementation Roadmap.

# Telecommunications sectoral assessment objectives

Input is sought regarding the CDR's key policy objectives, including:

- focusing on **benefits for consumers** from designation of the telecommunications sector and telecommunications data (e.g. in having access to data that will support consumers make better informed decisions about telecommunications services and products, and non-telecommunications products and services where telecommunications data by itself or combined with other data provides important insights and support broader use cases such as removing friction in consumers' lives, and by promoting economic and social inclusion outcomes)
- opportunities for the CDR to enhance **competition** and **market efficiency** for consumer benefit, from the inclusion of the telecommunications sector
- creating opportunities for **innovation** (e.g. by facilitating the creation of new data-driven products and services that improve consumer outcomes)

- opportunities for the CDR to promote **safer and more secure data sharing practices** within the telecommunications sector.

# Australia's telecommunications sector

This consultation process seeks feedback on what should be captured as telecommunications data for the purposes of the CDR. Traditionally, carriers and carriage service providers which are the two main types of organisations involved in the provision of telecommunications services. These organisations primarily provide fixed line voice, fixed broadband and wireless services to the public. However, the sector is continuing to evolve and underpin an increasingly digital world, supporting the delivery of a broad range of content and services to consumers. A key issue for consideration as part of the assessment process is the extent to which telecommunications data for CDR purposes includes these inherently linked data sets, recognising that the lines between service delivery and content are also inherently linked. For example, should the telecommunications sector be defined to cover both the traditional telecommunication services and the complementary and related services that these services facilitate.

Australia's telecommunications sector was largely a government-owned monopoly until the early 1990s, when the sector began to be opened up with Optus being granted the second general carrier licence. Today, hundreds of businesses compete at the retail level to supply telecommunications services to consumers, facilitated by regulatory arrangements that require owners of key infrastructure to provide them with access at reasonable prices.

The telecommunications sector continues to evolve, touching almost all parts of consumers daily lives, both directly as a service and as an enabler of digital data transfer. Telecommunications services are now far more complex and integrated into business activities and the lives of consumers, and there is growing convergence of services across sectors, for example smart meters, GPS and sensor related services.

For example, consumers rely upon telecommunications for entertainment, shopping, social interaction, medical services and working from home. Almost all businesses rely on telecommunications for engaging with customers, advertising and financial services. Businesses in more technology-intensive sectors often rely on telecommunications for research, cloud computing, data storage and retrieval, remote working, remote sensing and/or software-as-a-service.

For further background on Australia's telecommunications sector see the ACCC's *Communications market report 2019-20* (2020a) and Chapter 8 of Australian Infrastructure's 2019 audit (2019).

There are three main categories of telecommunications services making up the Australian telecommunications sector: fixed line voice, fixed broadband and wireless.

## Fixed line voice services

Fixed line voice services have traditionally been provided over Telstra's legacy copper network. The number of fixed line voice services has fallen by 31 per cent since 2015–16, to 6.2 million in 2019-20 (ACCC, 2020a, p. 6). Call minutes also declined by 15 per cent from 2018–19 to 2019-20, to 9.6 billion minutes (ACCC, 2020a, p. 29). As the National Broadband Network (NBN) has rolled out, most fixed line voice services over the copper network have been phased out in favour of voice services over the NBN.

# Fixed broadband services

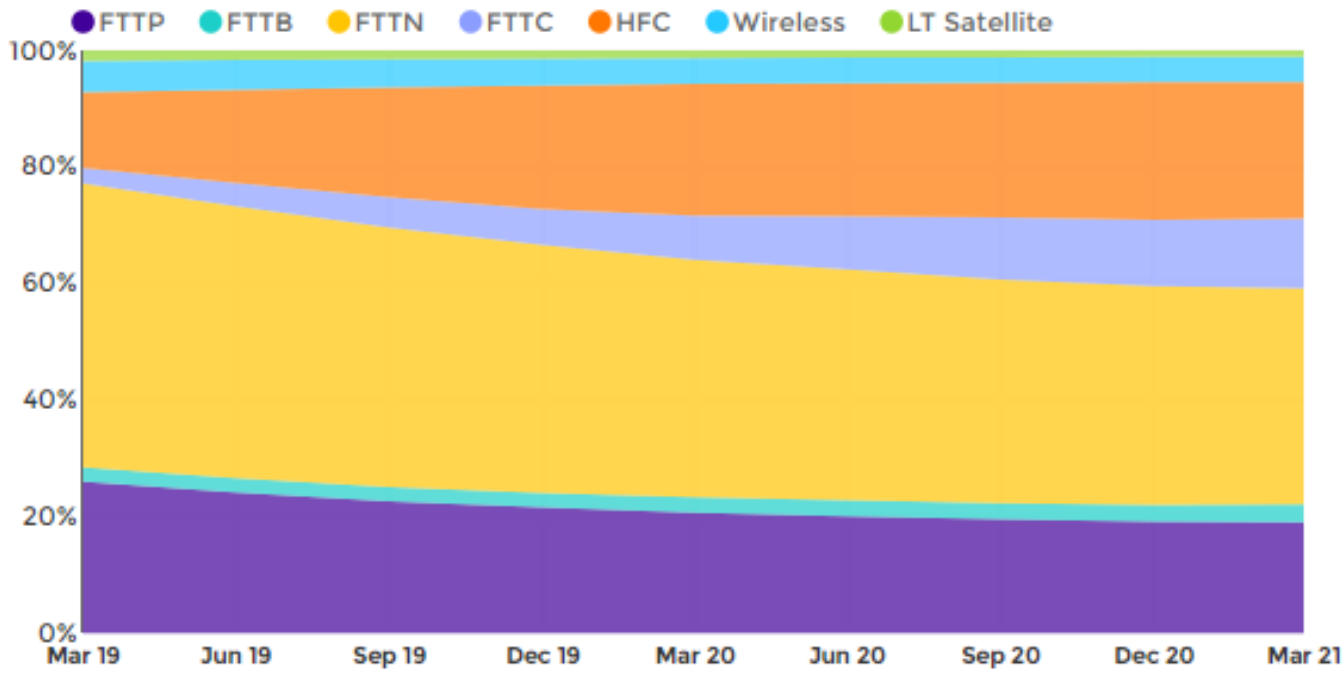
Fixed broadband services are broadband internet services provided over fixed networks such as the NBN, Telstra's copper network (ADSL), other fibre-based networks (e.g. Uniti) and independent wireless internet service providers (ISPs).

The initial build phase of the NBN was completed during 2020 with 11.7 million premises being declared ready to connect (NBN Co, 2020, p. 10). NBN Co forecasts that premises ready to connect to the network will increase to 12.5 million by the end of June 2024 (NBN Co, 2020, pp. 12-13).

The NBN operates only as a wholesaler of services to retailers who on-sell services to consumers. More than 50 retailers currently buy services from the NBN and on-sell them to consumers.

The NBN is delivered using a range of technologies, including Fibre to the Premises (FTTP), Fibre to the Building (FTTB), Fibre to the Node (FTTN), Fibre to the Curb (FTTC), Hybrid-Fibre Coaxial (HFC), Fixed Wireless and Satellite (see Figure 1). These technologies will often determine which NBN plans can be offered to consumers at a particular location.

**Figure 2: Share of NBN Market by technology type (May 2021)**




Source: ACCC, NBN Wholesale Market Indicators Report: March Quarter 2021

# Wireless services

Mobile networks support mobile phone services, mobile broadband and some fixed/home wireless broadband services. These services are delivered over 3G, 4G or 5G technologies.

There are three mobile network operators (MNOs) that own their own mobile infrastructure (Telstra, Optus and TPG Telecom), and a large number of mobile virtual network operators (MVNOs) that purchase wholesale end-to-end mobile services from these MNOs to provide retail services (ACCC, 2018a, p. 48).

MNOs operate networks of base stations for mobile services to allow consumers to access mobile services across Australia. There are around 20,000 mobile phone base stations in Australia, of which Telstra owns around 8,000, Optus around 7,000, and TPG 5,000. Base stations involve a significant capital investment, posing a significant barrier to network expansion and sometimes acting as an important differentiator between MNOs.

Locations of mobile base stations and technologies available have important implications for consumers, as they largely determine whether a connection is available and the quality of service at a particular location.

# The interests of consumers – benefits from designation

Telecommunications services are a necessity for consumers, like water, sewerage and energy. Advanced telecommunications services are increasingly needed for labour market participation, education and to access government services and benefits. Australian consumers increasingly rely on telecommunications for social and community participation (Australian Communications Consumer Action, 2020), through social media, messaging services and other digital services.

Similarly, telecommunications services are a critical input for business consumers. Cost and reliability of telecommunications services are important to business consumers. Survey evidence suggests that reliability is a higher priority for business consumers than for individuals, likely due to the centrality of telecommunications services to most business activities and the loss of productivity from any reliability issues. Cost is also a high order priority for business consumers, as they often require large quantities of data and many connections. Businesses that are more technologically advanced often have complex telecommunications needs (e.g. fast upload speeds that are usually less important for individual consumers).

Telecommunications services are an essential aspect of social and digital inclusion. Digital inclusion includes availability, accessibility, and affordability of essential telecommunications services (ACMA, 2020b). Consumers across society, including vulnerable and disadvantaged groups, should be able to choose and afford a service that suits their needs, enabling economic and social participation for all Australians. Reforms that enable consumers to engage with the market, make better choices, and lower the cost of their services are consistent with digital inclusion. Similarly, competition and innovation promote digital inclusion by inducing real price decreases in telecommunications services to improve affordability.

Australian households spent an average of $46.62 per week on communication services, or 3.3 per cent of total goods and services expenditure, in 2015-16 (ABS, 2017b). This compares to around $41 or 2.9 per cent of total goods and services expenditure for energy (ABS, 2017b).

Low income households spend disproportionately more on telecommunications services. In 2015-16, communications spending accounted for 4 per cent of total goods and services expenditure for households in the lowest income quintile, compared to 2.6 per cent for households in the highest income quintile (ABS, 2017b).

Surveys of consumers indicate that non-price factors (including issue/fault resolution, mobile coverage and good customer service) are often more important to consumers than price (see (ACMA, 2020)). As noted above, this is even more pronounced for business consumers.

Coverage of mobile phone and fixed wireless services is determined by the location of mobile phone towers. Australia's combined mobile networks cover 99 per cent of the population (at their premises) and around one-third of its total landmass (Infrastructure Australia, 2019). Coverage of 5G is more limited as it is a new technology, although 5G service providers are rapidly extending their networks. A consumer purchasing a mobile phone handset and a data plan needs to take this into account when deciding which plan is most appropriate for their circumstances. Current 'coverage maps' are a partial, but imperfect, solution for consumers.

# Consumer satisfaction with telecommunications services

Technological developments are resulting in increased benefits to consumers in the form of greater service choice, real price reductions and increased connectivity.

Service providers are responding to strong consumer demand for telecommunications services by providing greater range of products and services to consumers at a range of price points. (Infrastructure Australia, 2019, p. 582). Consumers are paying less to receive more inclusions, as unlimited call/SMS in mobile and fixed line voice service are now the norm and more fixed line broadband providers offer unlimited data plans (ACCC, 2020a). The rollout of 5G will improve the customer experience through faster data speeds (5G data speeds are expected to be at least one and a half to two times faster than current 4G speeds), greater reliability and reduced delays (lower latency) (Infrastructure Australia, 2019, p. 570). However, despite this, research conducted for the Department of Infrastructure in 2018 showed that Australians generally consider that they spend more on telecommunications services today than they did five years ago, and that consumers are more negative than positive about the affordability of fixed line, broadband and mobile services (Infrastructure Australia, 2019, p. 584).

The total number of consumer complaints made to the Telecommunications Industry Ombudsman (TIO) also remains high (since 2006-7, more than 100,000 per year) however, complaints have decreased in recent years (The Department of Infrastructure, Transport, Regional Development and Communications, 2020). In 2019–20 the TIO received 127,151 complaints, a 4 per cent reduction from 2018-19 (TIO, 2020b). Residential customers accounted for 85.5 per cent of complaints with small businesses accounting for 15 per cent (TIO, 2020b, p. 71). See Table 1 for a breakdown of the types of complaints received by the TIO.

### Table 1: Complaints to the TIO by issue type in 2018-19 and 2019-20

| Top 10 issues | Number of complaints | | Percentage change (%) |
|---|---|---|---|
| | 2018–19 | 2019–20 | |
| Service and equipment fees | 40,737 | 42,152 | 3.5 |
| No/delayed action by provider | 41,585 | 41,669 | 0.2 |
| No phone or internet service | 19,363 | 17,501 | -9.6 |
| Delay establishing a service | 17,351 | 17,347 | 0 |
| Resolution agreed but not met | 12,384 | 13,259 | 7.1 |
| Intermittent service or drop outs | 13,809 | 11,789 | -14.6 |
| Slow data speed | 10,708 | 8,721 | -18.6 |
| Failure to cancel a service[56] | - | 6,753 | n/a |
| Misleading conduct when making a contract | 7,205 | 5,765 | -20 |
| Termination fee | 6,805 | 5,224 | -23.2 |

Source: ACCC, Communications Market Report 2019-20, 2020, p. 45.

Consumers also report distrust of telecommunications providers. According to the Roy Morgan Trust and Distrust Monitor, over the period April 2019 to March 2020, the telecommunications industry averaged the second highest level of net distrust of all industries surveyed, behind Mining and Petroleum and equal with Media.

## Limited transparency of service quality

Reliability of connection, speed of data services and geographical or technology coverage are all important quality factors which impact customer experience in relation to the use of telecommunications services (ACCC, 2020a, p. 39). Small business consumers may value reliability of connection if outages result in lost productivity or times when they cannot serve their customers. They may also place a high value on the time it takes to rectify any faults. Individual consumers might value speeds more highly at particular times of the day when they rely on the internet for entertainment or work.

Many service quality factors are observable by consumers for a particular locality or service provider only to a limited extent. Even a very motivated consumer will likely face information gaps when seeking to choose the best service for their circumstances due to gaps in publicly available data.

The ACCC's Measuring Broadband Australia Program monitors NBN broadband performance, and reports on key metrics including upload and download speeds delivered by service providers during busy hours, outages and technical quality measures such as web page loading time and latency. However, the program only reports on averaged metrics. Accordingly, consumers cannot rely on this information to get an idea of what speeds and service quality they can expect to receive on their NBN service in their area from a particular service provider.

Geographic coverage of a mobile network is an important consideration for consumers in choosing a mobile provider, as consumers value the ability to use mobile phone services where they live, work and travel (ACCC, 2020a, p. 39). Coverage maps supplied by providers and third parties provide details of a provider's mobile coverage network.

Coverage maps are an imperfect solution compared to digital alternatives that could provide a more automated means of providing a consumer with advice on how well a particular service will work at locations that they visit.

## Small business consumers have more complex needs

Small businesses have varying communications needs and abilities to engage with the telecommunications market (Ofcom, 2020). While some small businesses use telecommunications services for basic tasks like email and social media, others have complex needs and rely on telecommunications to support services such as cloud computing and software-as-a-service. Small business communication needs may be further complicated by the need for multiple individual services (business phone, mobile and internet services) to operate their businesses.

For many businesses with complex needs, it can be difficult to know if they are on the best value deal and to find products tailored to their specific business needs. Business bundles that draw together multiple services for a single monthly charge can make comparing businesses services offered by competitor providers more complicated, and the perceived hassle of changing multiple services to a different provider may be a disincentive for businesses to change provider.

Small businesses may also be less willing to change to another provider for fear of losing coverage.

# Consumer benefit case studies

The following case studies are illustrative only and have been included for the purpose of seeking stakeholder views on the kind of use cases that could be enabled and provide benefits for individual and business consumers. The various types of consumer and product data that could be shared using the CDR are expanded upon in the Telecommunications Sector Data section that follows.

### Case Study 1: Anna, small business location decision

Anna has a well-developed business plan for a new small business that would rely on 3D scanning and 3D printing to supply replacement parts to Sydney's drone operators, many of which service the Eastern suburbs real estate and travel industries. Fast, cheap and reliable internet will be critical input for her business, particularly as she plans to upload very large 3D scanner files to the cloud so that her employees can access them remotely and fine tune the designs before they are printed.

Anna contacts an Accredited Data Recipient (ADR) that has access to product data from the CDR and tells them her detailed requirements. The ADR advises her that businesses where she was planning to locate experience slow internet on 3 afternoons per week (particularly for uploads) and the fastest speeds available are 40/10 Mbps. By comparison, in the next suburb, only 3 kilometres away, speeds of 100/17 Mbps can be reliably achieved. The ADR also recommends an ISP, as it provides the best trade-off between cost, speed and reliability.

As a new small business, Anna cannot afford downtime or to spend time on the telephone seeking to have faults rectified. The ADR reassures Anna that the ISP recommended is the best in her area for the number of faults and the second best for call centre response times.

## Case Study 2: Bob, small business owner and digital nomad

Bob runs a home aged care business with workers that provide care to the elderly at multiple locations. Each worker is provided with a tablet with data-only plan that is used only for work purposes. Bob also uses NBN at his home office. Bob would like to reduce his monthly telecommunications expenditure but is concerned that reliability of connection and speed may suffer with a different provider. He also follows technological trends and is interested in introducing continuous health monitoring to provide a better service for the elderly under his care. This would be enabled by fast and reliable mobile technology.

Bob would like to be able to travel while running his business, and work from different locations. Bob is considering whether mobile broadband would allow him to have fast, reliable internet wherever he is working. He understands that fixed mobile broadband is not available in all locations.

Bob would like to find the best value deal available, given his needs. He uses online comparison website 'TelcoCompare', a tool that compares telecommunications services, including bundled products. Bob gives permission for TelcoCompare to receive CDR data from his existing telecommunications service provider. TelcoCompare compares the range of services available at various locations, including current and prospective work locations. TelcoCompare provides him with a tailored bundle recommendation based on his workers' actual usage patterns, and current and potential locations. It recommends Bob change his fixed broadband plan from an NBN service to a mobile broadband plan to allow him to travel. He maintains his current high speeds but finds that mobile broadband is cheaper, given his relatively small data usage for work purposes. He is also put at ease that his favourite travel locations are serviced by his new mobile broadband provider. His bundle also provides him with faster, more reliable mobile phone data and unlimited calls, with reliable service in both the areas that his business services and his favourite travel locations.

## Case Study 3: Mark, father of two

Mark struggles to keep on top of his life admin and is looking for a way to take some of the hassle out of managing his finances. Mark doesn't have a good idea of his monthly household expenditure which means he sometimes forgets to pay his bills on time. He would like to pay off his home loan faster but doesn't always have the funds to do so.

To help him manage his money, Mark signs up for 'AdminAssistant', an app which brings together a user's data from their service providers across a range of sectors (banking, energy, and telco). AdminAssistant provides the user with a single up-to-date dashboard of all their products, contracts, plans and account balances with different service providers. Mark gives consent for AdminAssistant to access and display CDR data from all his service providers.

AdminAssist helps Mark to keep track of his monthly expenditure and provides alerts to Mark when bills are coming due. By analysing Mark's utility and banking CDR data, the app can predict the likely amount due in each bill, which helps Mark avoid bill shock. The app also monitors Mark's progress with his financial goals and suggests ways he can save more money, including sending alerts to Mark in real time when better telco, energy and banking deals become available. AdminAssistant calculates how much quicker Mark could pay off his home loan if he changed to the new deals, which motivates Mark to make the changes.

### Case Study 4: Roberta, working from home

Roberta has recently started working entirely from home. Roberta also uses AdminAssistant to manage her services and she's shared her telco data with the app.

After a few months of working from home, AdminAssistant notifies Roberta that she is no longer on the best internet and phone plans for her usage. The app shows Roberta that while her mobile phone internet usage has decreased, her internet usage at home has increased to the point where she is often at risk of exceeding her monthly data usage allowance. AdminAssistant recommends she change to a mobile plan with a smaller data allowance and a larger NBN plan. AdminAssistant recommends the best value plan for her based on its analysis of current market offerings and on its recommendation, Roberta decides to stay with her existing provider but to change plans.

If action initiation were to be implemented in the CDR over time, AdminAssistant could change Roberta's mobile and NBN plan with her provider on her behalf, with her consent.

#### Questions

1. What is 'telecommunications data' and the 'the telecommunications sector' for the purposes of the CDR?
2. In what ways can applying the CDR to the telecommunications sector assist consumers and businesses in acquiring and using telecommunications services; and benefit more broadly by being able to access and share data across multiple sectors? Please provide examples of potential use cases, if applicable (e.g. a household budgeting app that is an ADR and authorised by the consumer to receive energy data, transactional, location (e.g. to determine miles travelled) and annual wireless broadband costs (and quality of coverage)).
3. Are there particular cohorts of consumers that would benefit most from having access to their consumer data? Please provide examples, if applicable.

# Telecommunications sector data

Under the designation process, particular types or sets of data are designated as being able to be shared under the CDR regime. Designation of consumer data for a particular sector or dataset will enable a consumer to consent to an Accredited Data Recipient (ADR) obtaining the data from the relevant data holder. Designation of product data will enable third parties, either accredited or trusted, to access data relating to products and services in a particular sector or about a particular dataset. Following designation, rules and standards would be made to accommodate the designated sector or dataset, to the extent that this is necessary.

Telecommunications would be the third sector of the Australian economy to be designated. The banking sector was designated in 2019 and the energy sector was designated in 2020.

A broad range of datasets are required to be shared under the CDR by the banking sector, including customer information, basic and detailed transaction data and information on direct debits and

scheduled payments. CDR obligations apply to a broad range of banking products such as transaction and deposit accounts, mortgages and loans, and includes joint accounts and closed accounts.

Designated consumer data for the energy sector includes customer and billing information, metering data (with certain exceptions) and distributed energy resources register information.

The telecommunications sectoral assessment will consider the potential benefits from designating telecommunications data within the context of the data designated under the CDR, and the ways in which particular classes of telecommunication data could complement datasets and enable the development of cross-sectoral uses of CDR data, as well as sector-specific uses, with a highly focused consumer lens.

As sectors and datasets are added to the CDR, it will become an increasingly powerful tool for consumers to leverage the value of data they generate in their everyday lives and in their businesses. By allowing consumers to obtain a more complete picture of data they generate, the extension of the CDR to more sectors or datasets will encourage innovation and use cases that are not yet contemplated.

Accordingly, an important first step in a sectoral assessment is to identify data that will be of most value to consumers in their daily lives. Feedback is sought from stakeholders on the availability, cost and benefit of designating the following possible datasets and the existing and potential uses cases that they could enable. The table below purposely lists examples of datasets collected by the telecommunications sector. However, feedback is also sought on datasets that complement or provide greater consumer benefit that are related to but fall outside of the telecommunications sector.

## Possible datasets

Two categories of data may be designated to be available under the CDR:

- **consumer data** – data captured on the consumer's use (including behaviours) by a service provider relating to the provision of the product or service.
- **product data** - information about the characteristics of a retail product or service.

Datasets that could be made available under the CDR include:

| Consumer data | Description of data |
|---|---|
| *Customer contact information* | • Including name (including business name if applicable) and contact details (telephone number, email address, physical address) |
| *Service information* | • Details about the customer's service, including the type of service and included allowances (such as data allowances and international call minutes)<br>• Whether the service forms part of a bundle, and what other services are included in the bundle |
| *Rate plan* | • Monthly cost of the service (including prepaid for mobile and fixed wireless)<br>• Additional charges, such as extra data fees for usage beyond included data allowance and international call charges for usage beyond included call minutes |

| | |
|---|---|
| | • Any applicable equipment fees (such as the monthly cost of handset or tablet) |
| *Fees and charges* | All fees and charges for a service, including minimum and total costs:<br>○ Recurring periodic fees<br>○ Non-recurring fees<br>○ Sign-up / account registration fees<br>○ Installation fees<br>○ Equipment fees (e.g. for handsets, portable devices, modems)<br>○ Technician attendance fees<br>○ Excess usage fees (e.g. for data or international calls)<br>○ Late payment fees<br>○ Contract exit fees<br>○ Discounts or other variations to fees and charges tailored to individual consumers |
| *Contract information* | • The duration of any applicable contracts<br>• Any bundled contracts (such as contract for mobile handsets)<br>• Information about the minimum and maximum charges<br>• Applicable contract break fees or early termination fees |
| *Hardware* | • Type of handset or other hardware product included in the plan (e.g. mobile phones, modems or NBN batteries) |
| *Usage information* | • Total data usage per period (e.g. monthly), number of calls and voice minutes used, and number of messages sent |
| *Network information* | • The wholesale network providing the service |
| *Technology information* | • The type of mobile or broadband technology available under the consumer's service plan (e.g. 4G/5G, NBN Fibre to the Premises/Fibre to the Node/Satellite) |
| *Internet speeds* | • Contracted speed for NBN plans<br>• Maximum speed for the existing line at the customer's address (if available) |
| *Fault information* | • How many faults have been lodged in relation to the customer's service, the nature of the faults and time taken to resolve each fault |

| **Product data** | **Description of data** |
|---|---|
| *Service details* | • Name or other identifier of service provider<br>• Information about the service |

| | |
|---|---|
| | • Included allowances, including international call minutes and data including any peak and off-peak allowances<br>• The network providing the service |
| *Internet speed* | • Information about the typical speed performance of a service (e.g. proportion of busy hours where advertised speed was achieved)<br>• Where applicable, NBN speed tier<br>• Speed data from sampling or testing, including high frequency data collected from speed data collection boxes provided to consumers |
| *Contract information* | • Including whether a service is provided on contract and term of contract<br>• Any minimum contract periods<br>• Contract break or early termination fees |
| *Charges and fees* | All fees and charges for the service, including:<br>o Monthly price of the service<br>o Additional charges, such as extra data fees for usage beyond included data allowance and call charges for usage beyond included call minutes<br>o Discounts for bundling multiples products |
| *Network coverage* | • Information about the availability of a network in different locations and the quality of the coverage<br>• Information about which technology is available at a particular location (e.g. 4G/5G, NBN Fibre to the Premises/Fibre to the Node/Satellite) |
| *Service quality* | • More general information that consumers need to make confident decisions about which service provider is best suited to their needs<br>• Possible datasets in this category are likely to be many and varied and stakeholder feedback is specifically sought on datasets that consumers would find most useful |

The datasets listed above are deliberately broad. Some of the datasets listed above may not be available from all participants in the telecommunications sector. Accordingly, the designation may need to specify multiple data holders in order to ensure that consumers can access all of the data that is collected on them.

Much of the data that could be designated is already available to consumers in either paper or digital form upon request. Providing data to consumers in paper form, or upon request, often does not allow them to make use of the data in the most effective way to make informed choices. Many consumers will not read information provided in paper form or will not be aware that data can be requested.

Sharing data in a standardised digital form would allow product and consumer information to be analysed at a more granular and automated level, enabling specific comparisons and recommendations to consumers that would be difficult or impossible for consumers to do without access to standardised data provided in a digital form.

Designation and timing of implementation will take into consideration the costs and benefits of making certain consumer datasets available. An important factor considered as part of the assessment is the likely cost to businesses of making consumer data available. If it is already stored in digital form and made available to consumers, this likely indicates that the cost of provision under the CDR would be relatively low. Most customer identity and billing information will likely fall into this category.

The assessment will consider the range of potential use cases that could be provided to consumers if telecommunications data is designated, and the way in which this could support the development of a range of innovative cross-sectoral use cases that would benefit consumers. As a general principle, data should also be made available if it is in digital form and the additional cost of provision under the CDR is low. Data should also be made available if it supports use cases that will provide benefits to consumers, including potential future use cases.

One use case is likely to be changing service providers or between different products offered by the same provider. Feedback is sought on the kinds of data that could be designated to enable consumers to make efficient and informed decisions. To confidently change the products and services they use, consumers are likely to require billing information and information on their usage of existing services, and the quality of the service being provided by their current and possible alternative providers. Consumers are likely to need information about coverage (signal availability for wireless and technology availability for fixed broadband), download and upload speeds (with latency also important for some users) and information about faults and rectification times in order to make fully-informed decisions about switching.

Stakeholder feedback is specifically sought on other use cases for telecommunications data. The case studies provided earlier in the paper seek to invite feedback on the types of use cases that may be expected from designation of the telecommunications sector and the role of Accredited Data Recipients (ADRs) in facilitating informed consumer decisions is discussed (see case study 2). There appear to be significant opportunities to assist:

- small business investment and location decisions (see case study 1, 2)
- financial management and budgeting (case study 3) – particularly when telecommunications data is combined with other CDR data (e.g. banking, energy and eventually the whole economy)
- assisting with personal and business administration (‘making the boring stuff easy’ – see case study 3)
- businesses with data-driven innovations (see case study 4).

Deciding which datasets to designate may involve weighing up competing policy considerations. For example, telecommunications companies have access to location data from mobile phone towers, a type of data that is characterised as sensitive due to what it may reveal about an individual. However, there may be use cases for location data that could generate significant benefits for business and individual consumers and society more generally (e.g. transport planning).

### Questions

4. If the Telecommunications sector is designated, which services, products and datasets should be included? What benefits would arise to consumers and how could this encourage competition and data-driven innovation? Please provide examples of potential use cases, if applicable.
5. Are there limitations on datasets, either in terms of availability or cost of making it available under the CDR? Please provide evidence, if applicable.
6. Are there other datasets across other sectors that should be considered for designation to provide a greater 'wrap-around' value proposition for the consumer? Please provide examples.

# Promoting competition

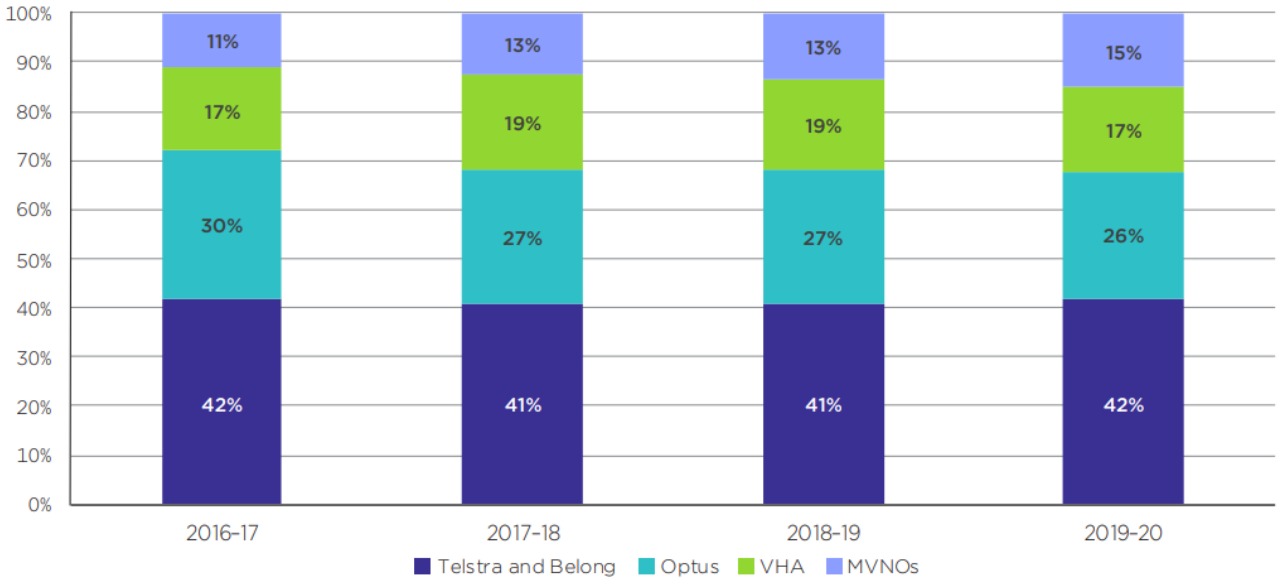
Application of the CDR to telecommunications could promote competition in the telecommunications sector by helping consumers to be more informed and make better decisions, and by reducing search and other transaction costs. Increased competition may benefit individual consumers and business consumers by reducing prices and enabling them to obtain services that better suit their needs, without necessarily requiring a change of service provider or involving new service providers entering the market. Designation of the sector may also promote competition by facilitating personal financial management tools that benefit from the cross-sectoral nature of the CDR, and by facilitating entry for market participants from different sectors that are able to utilise the CDR.

The focus of this section of the consultation paper is the potential for the CDR to promote competition in the telecommunications sector. For a broader commentary on competition in telecommunications, see the ACCC's 2018 *Communications Sector Market Study* (2018a). Further commentary on competition in the telecommunications sector can also be found in the ACCC's annual reports.

## Telecommunications industry structure

The retail communications market in Australia is highly concentrated with large providers capturing most of the market for both fixed line and mobile networks. In the retail market for the supply of mobile phone services, while there are a large number of MVNOs using the three mobile networks to offer services to consumers, the three MNOs (Telstra, Optus and TPG Telecom) account for 85 per cent of mobile services (ACCC, 2020a, p. 31).

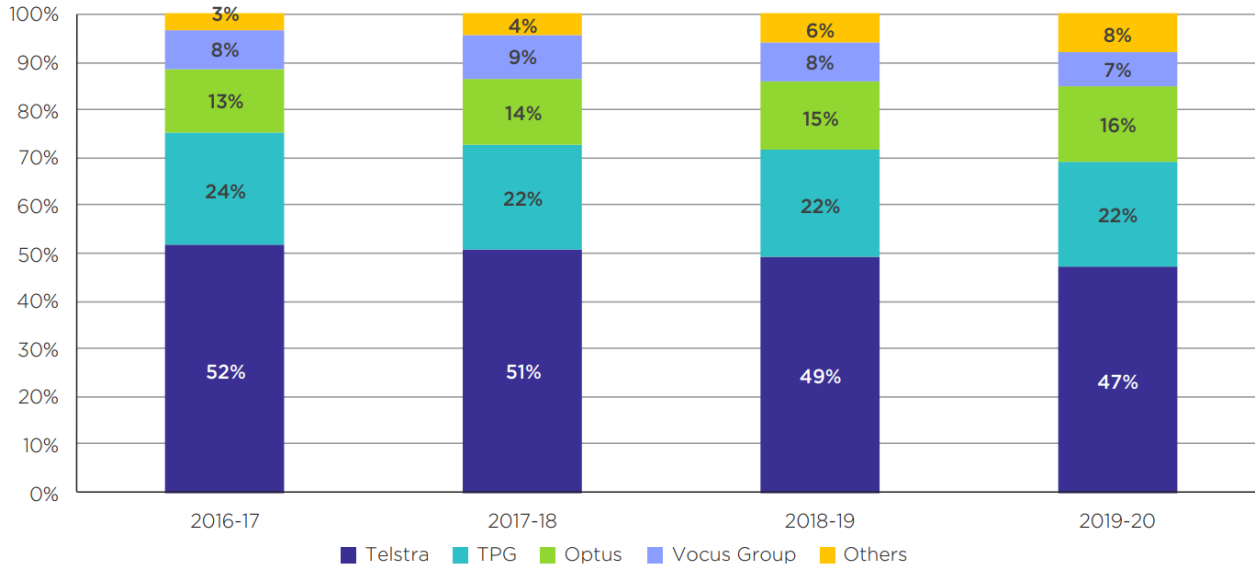
**Figure 3: Retail market shares for mobile phone services from 2016-17 to 2019-20**




Source: ACCC, Communications Market Report 2019-20, pg. 31.

The market for retail fixed broadband services is also concentrated, with a few large and many smaller providers (ACCC, 2018a, p. 21). In 2019–20 Telstra had the largest market share in the wholesale market for fixed broadband services (a proxy for retail market share), at 47 per cent, followed by TPG (22 per cent) and Optus (16 per cent). Overall, wholesale market shares of NBN fixed broadband services have remained relatively stable over the past four years (ACCC, 2020a, p. 20).

**Figure 4: Fixed wholesale NBN market share from 2016-17 to 2019-20**




Source: ACCC, Communications Market Report 2019-20, pg. 47.

# Retail competition in telecommunications

Evidence that most consumers do not change service providers, or plans offered by the same provider, indicates that consumers are not taking full advantage of competition in the

telecommunications sector. In 2016, 7 per cent of Australian households changed fixed broadband service providers in the previous 12 months, and 10 per cent of Australian consumers changed mobile service providers in the same period (ACCC, 2018a).

More recent research shows that around a third of mobile phone users changed products with their existing provider in the previous two years, while less than one in five changed providers (ACMA, 2020a, pp. 41, 77).

The ACMA also found that 53 per cent of mobile phone users had been with their current provider for more than five years (2020a, p. 40). While not necessarily a sign of consumer disengagement, it may be indicative of a lack of consumer-led competitive pressure.

There are a number of structural features of the telecommunications market that may entrench existing dominant providers:

- **Complexity** makes changing provider or product a difficult task, requiring the consumer to understand product offerings and their need for quantities of data and speed for a variety of activities including internet browsing, streaming, video calls and messaging.
- **Bundling** can act as a deterrent for consumers to change any of the individual services in that bundle (either to a new provider or a better value product with their existing provider), because of the complexity of calculating costs from cancelling or 'unpicking' the bundle (Australian Treasury, 2020, p.34). It is often difficult to compare bundled packages offered by competing providers as bundles often involve different services, services features and terms and conditions (OECD, 2008, p. 29).
- **Service quality transparency** is low in telecommunications, with retailers generally not making available detailed information for consumers.

The CDR could assist consumers to overcome some of these barriers. For example, it may enable automated digital means of navigating complexity and reducing transaction costs to encourage consumers to change providers or find a better deal with their existing provider. It will also allow consumers to benefit from more diversity and more choice within the telecommunications sector, as data recipients will be able to assist consumers to navigate complexity in the sector that comes with additional choice.

## New entrants, products and services

The CDR may increase competition in the sector by facilitating new entrants to telecommunications. Open access to CDR product data could make a larger proportion of the market available to a new entrant and encourage participants in other sectors of the economy to utilise the economy-wide nature of the CDR to enter the market. It may also do so by leveraging consumer engagement in personal finance management applications. Banking has a particularly strong presence in this space, and businesses that build engagement and trust may be able to leverage that as a new entrant in telecommunications or personal financial management.

### Questions

7. How is applying the CDR to telecommunications likely to encourage competition in the sector? Please provide examples or evidence, if applicable.
8. What are the important additional aspects of the competitive and regulatory landscape in telecommunications that should be considered in this sectoral assessment? Please provide examples, if applicable.

# The efficiency of relevant markets

The CDR will promote the efficiency of the telecommunications sector by assisting consumers to navigate complexity and choose products within the telecommunications sector and across other sectors, that best match their requirements. This will encourage sector participants to better serve consumer needs (and think beyond siloes), as the most efficient firms that innovate to meet consumer requirements will be rewarded with customer loyalty and increased revenue.

The previous section considered some of the structural features of the telecommunications sector that pose barriers to consumers making engaged choices or market entry for new businesses. This section focuses on aspects of consumer behaviour that limit the efficiency of telecommunications markets.

## Complexity and consumer behaviour

Telecommunications services are among the most complex services that consumers regularly purchase. Access to information on which to make decisions about telecommunications remains an issue, particularly given strong evidence that few consumers read or understand disclosure documents like 'Key Facts Sheets' provided for telecommunications products (Shahar & Schneider, 2014). The majority of consumers are likely to have limited knowledge or understanding of their data quantity needs (in Gigabytes) or their bandwidth requirements (in Megabits per second). They are also unlikely to be fully informed about geographic coverage, different technologies and setup requirements.

Surveys conducted by the ACMA, for the period November to December 2017, indicate that purchasing decisions for choosing an NBN plan involve consumers weighing up at least 10 factors that they consider important (see Table 2).

**Table 2: Factors considered by residential consumers when choosing an NBN plan or RSP**

| | Important (multiple selection) | Most important (choose one) |
|---|---|---|
| Cost* | 86 | 29 |
| Speed of internet connection† | 79 | 21 |
| Keeping my phone number‡ | 82 | 14 |
| Staying with existing service provider for continuity* | 59 | 10 |
| Amount of data included† | 78 | 9 |
| Confidence in faults being fixed* | 80 | 8 |
| Keeping my email address† | 68 | 5 |
| Not being locked into a contract* | 48 | 2 |
| Positive customer reviews* | 50 | 1 |
| Getting free modem† | 54 | <0.5 |

Source: ACMA, NBN consumer experience: Households and business – the end-to-end journey, 2018, p. 16.

In a Roy Morgan survey ranking satisfaction by industry, mobile phone service providers and broadband service providers ranked 23rd and 24th respectively among 32 industry sectors (Roy Morgan, 2020a). The survey findings noted:

> Consumers have to select from a sometimes-dizzying range of options and plans: varying amounts of data per month; different promised data speeds; with or without devices included; and with or without add-ins such as streaming services. Then they have to weigh up competing claims about network coverage and connection reliability, and contracts tailored to suit anyone's preference.

Given the complexity of telecommunication services and the limited technical knowledge of most consumers, it is likely that many rely on information from salespeople who have incentives to sell consumers more expensive services. To the extent that some consumers attempt to make an informed, independent decision, behavioural biases such as choice overload, status quo bias, present bias and ambiguity aversion may limit the rationality of decisions. Consumers may not act on opportunities to reduce service costs or find more suitable products because they are overwhelmed by choice or feel unable to effectively compare options. Despite changing providers or products being the rational choice, they may remain with an inferior option.

## More efficient markets through the CDR

Application of the CDR to the telecommunications sector could promote the efficiency of the telecommunications market and beyond by providing consumers with a low cost and digitally automated way of navigating complexity to make well-informed purchasing decisions.

ADRs and trusted persons would have access to product data in a digital form on all services available in the market. Consumers would be able to consent to an ADR accessing data on their existing services and their usage of those services. Consumers would have access to advice from an ADR that compares their complex needs for telecommunications services with the often-complex service offerings in the market. Some of these services may be similar to existing comparison services, but with access to better information at a lower cost.

Improved consumer choice will also promote efficiency gains by service providers by providing incentives for them to invest in products that are of greater value to consumers. It might also encourage service providers to limit investment in services that provide poorer value to consumers.

### Questions

9. Is there potential for data sharing under the CDR to make the telecommunications markets more efficient? In what ways? Please provide examples and/or evidence, if applicable.

# Promoting data-driven innovation

The CDR would encourage further innovation in the markets for fixed line broadband and mobile services, primarily by facilitating the development of new products and services for consumers and businesses, potentially across sectors. Access to greater volumes of accurate and standardised consumer data would create new business opportunities for third parties and generate opportunities for existing service providers to expand or improve their current offerings.

The UK's Office of Communications identified three products and services that could be developed following the implementation of 'Open Communications': comparison tools, account aggregation services and predictive services tools (Ofcom, 2020).

## Comparison tools

Comparison tools can help consumers identify the best value based on their actual mobile phone and internet data usage. Comparator services that analyse and compare all available products including bundles could make it easier for customers to identify and select the best value combination of services. Comparison tools could also make it easier for customers to compare service offerings on non-price characteristics, such as customer service (customer complaints received or call centre wait times), internet speed and coverage. For example, based on analysis of internet speed and coverage data provided by telecommunications providers, comparator services could recommend to customers the best type of internet (e.g. mobile broadband or NBN) for their location. This product could be particularly useful for consumers in remote or regional areas.

Comparator services already exist in the Australian market to help customers compare available telecommunications plans. However, comparison tools typically request information from a customer, which requires them to know how much data, calls and messages they use or desire. Comparator services also typically do not enable effective comparison between services on non-price characteristics.

## Account aggregation services

Account aggregation services are apps or websites that bring together information about the accounts and services customers hold with different providers in one place. Third party providers could develop tools that help customers to understand their current spend on telecommunications services and how they use these services, by presenting this information in an engaging and informative way. In addition, account aggregation services could enable personal finance management and budgeting tools to bring together data from a range of service providers using the CDR (banking and energy data, and data from other sectors as the CDR expands to cover new sectors), to provide a consumer with a comprehensive picture of their finances.

## Predictive services tools

Predictive service tools such as apps or digital account managers anticipate users' needs by monitoring their spending and providing alerts, such as when a user's contract is due to end. Rather than allowing a service to 'roll on' when a prescribed contract period ends, predictive service tools could prompt a customer to use comparison tools to find a new provider or seek a better deal from their existing provider.

### Questions

10. In what ways could extension of the CDR to telecommunications support data-driven innovation within the sector or more generally within the data economy? Please provide examples and/or evidence, if applicable.

# Privacy and confidentiality

The CDR provides for high levels of privacy and confidentiality. First, consumers can choose whether to engage with the CDR. Secondly, data recipients are accredited by the ACCC and accreditation includes requirements for high levels of data security and processes to ensure privacy is protected. Thirdly, any data sharing under the CDR occurs only under a narrow and strict consent regime.

## CDR Privacy Framework

Privacy protections in the CDR provide a higher level of privacy protection than those existing under the Australian Privacy Principles (APPs) contained in the *Privacy Act 1988* (Cth). In most cases in the CDR context, for accredited persons/ADRs, the relevant privacy safeguard applies instead of the corresponding APP. For data holders, the APPs will generally apply to CDR data that is personal information, with some exceptions.

The privacy safeguards only apply to CDR data for which there are one or more 'CDR consumer'. The privacy safeguards do not apply when the data is not referable to specific consumers and therefore do not apply to product data (Office of the Australian Information Commissioner, 2021). The information security controls in Part 2, Schedule 2 of the CDR Rules also provide minimum controls required for an applicant to become accredited and for an ADR to ensure ongoing compliance with the privacy safeguards.

Consumer consent for the collection and use of data collected on them in the provision of that good or service is fundamental to the CDR regime. Consent empowers consumers to be the decision-makers in the CDR system, ensuring they can direct where their data goes to obtain the most value from it. An ADR will only be able to collect a consumer's data after the consumer has given consent for them to do so and it can only be used for the purposes for which consent is provided. Rigorous consent requirements apply to both the sharing of data and the use of data under the CDR Rules (Office of the Australian Information Commissioner, 2021).

### Privacy Impact Assessment

A Privacy Impact Assessment (PIA) will be completed relating to the proposed implementation of the CDR regime in the telecommunications sector, in accordance with the *Privacy (Australian Government Agencies – Governance) APP Code 2017*.

The PIA process will be a systematic assessment of the proposed implementation of the CDR regime in the telecommunications sector, identifying the potential impact that designating the telecommunications sector might have on the privacy of CDR consumers, and setting out recommendations for managing, minimising or eliminating that impact (Office of the Australian Information Commissioner, 2020). The Information Commissioner will be consulted on the potential privacy implications of extending the CDR to telecommunications, as required by the Act.

The PIA together with the input provided by the Information Commissioner will assist in informing the Minister's decision on whether to designate telecommunications as a CDR sector.

Designating the telecommunications sector represents an important and positive step in providing CDR consumers with access to data that is collected on them in relation to the provision of a product and/or service. In addition, if this sector is designated and included in the CDR regime, CDR consumers would be afforded the strong privacy protections under the CDR regime in relation to the designated data.

# Telecommunications sector specific privacy issues

## Potential classes of consumer data to be designated

There may be potential privacy impacts for CDR consumers associated with the following classes of consumer data.

### Usage information

This may include information about the quantities of phone calls and text messages made, and total data used, by the CDR consumer (over a certain period, such as monthly), and not information related to whom communications were made to, or details of the messages.

It is possible that such usage information could be analysed by ADRs in a way that would provide additional information about the CDR consumer or other people (e.g. the usage information indicates high gaming or streaming usage, which may make it possible to ascertain how many people are living in the household). However, this potential issue exists outside of the CDR with several entities already holding usage data (most notably ISPs, the NBN and providers of Virtual Private Networks). Many consumers also provide their usage information (ascertained from a bill from their service provider or an online account) to comparison tools in order to match a service or product to their usage needs. If the CDR is extended to telecommunications, the collection, use and disclosure of usage data by ADRs would be subject to the enhanced privacy framework under the CDR, including consent requirements.

### Fault information

This may include information on faults lodged in relation to the CDR consumer's service. In certain circumstances dependent on each telecommunications provider, a third-party individual may lodge a fault for a service (e.g. if the NBN account is in person A's name, but person B lives with person A and complains about the speed of the internet with the NBN provider, person B's details may be recorded on the file as a customer interaction).

To avoid privacy risks associated with information about third parties being disclosed, it is intended that fault information (if designated) would be limited to how many faults have been lodged, the nature of the faults and the time taken to resolve the fault. The name of the individual who made the complaint would not be included as CDR data (given the possibility for the name of a third party

to be disclosed if this information were to be included, as provided for in the example in the paragraph above).

## Location data

Mobile location data comes from a variety of sources including GPS signals, Bluetooth beacons and carrier mobile towers. Mobile carriers receive information about a phone's proximity to mobile towers and by triangulation based on signal strength, an approximate location of that phone can be ascertained. Location data is often regarded as inherently sensitive, due to the potential for this data to be used to identify an individual by drawing insights from the location of the individual, or to track an individual.

Privacy will be an important consideration in deciding whether, and to what extent, location data should be designated as a class of CDR data, but will need to be considered together with the other assessment factors, including the benefits to consumers in designating this data. As noted above, the emphasis in the CDR regime of active consent to data sharing recognises the importance of privacy issues.

## Information protected under other legislation

Part 13 of the *Telecommunications Act 1997* (Telecommunications Act) sets out strict requirements for carriers, carriage service providers and others related to the telecommunications sector regarding their use and disclosure of information in relation to communications (including individuals' personal information). For example, information about the location of a mobile handset or device is taken to be information that relates to the affairs of the customer responsible for the handset or device and is protected information under Part 13. It is an offence for eligible persons to disclose or use information protected by Part 13, otherwise than for the purpose of delivering carriage services or related telecommunications industry functions. There is a significant degree of overlap between Part 13 (Telecommunications Act) protected information and information that may be designated as a dataset under a telecommunications CDR.

Under the mandatory data retention scheme in the *Telecommunications (Interception and Access) Act* 1979 (Interception Act) carriers, carriage service providers and ISPs are required to retain a defined set of telecommunications metadata for two years, to ensure that such data remains available for law enforcement and national security investigations (Department of Home Affairs, 2020).

Service providers are required to retain information about a communication, but not the communication's content. ISPs are not required to retain a person's web browsing history or data relating to social media. The Interception Act outlines the kinds of information a service provider must keep under the regime, including the source, destination, date and duration of the communication, and the location of equipment, or a line, used in connection with a communication (Department of Home Affairs, 2020). Data that is required to be retained under the Interception Act is also expressly deemed to be personal information and would also be considered protected under Part 13 of the Telecommunications Act.

Additional consideration may be required to acknowledge that personal particulars collected in connection with the provision of a carriage service are otherwise subject to protections under Part 13 of the Telecommunications Act, and can only be used and disclosed in accordance with Part 13 and the Interception Act.

## Other privacy considerations relevant to the telecommunications sector

The below considerations represent some broader privacy issues relevant to the telecommunications sector that should be appropriately considered if the sector is designated, and if necessary, addressed and mitigated (e.g. through the CDR rules and data standards).

### Potential data holders of designated information

As discussed elsewhere in this paper, there may be several data holders for information requested by CDR consumers (as different entities involved in the supply chain may hold different pieces of information). To ensure the privacy of individuals is maintained in such circumstances:

- the way the CDR consumer provides their authorisations to multiple data holders should be simple and streamlined, making it clear to the CDR consumer:
    - the entity or entities to which they are providing their authorisation(s) to disclose their CDR data (and which data holder is responsible for handling their request)
    - what CDR data each data holder will disclose to the ADR (where several data holders will need to disclose CDR data to meet the CDR consumer's request).
- the responsibilities on each data holder to discharge obligations in relation to the CDR regime should be clearly defined, so that all rights are afforded to the CDR consumer.

### Considerations relevant to CDR Consumers

**Vulnerable CDR consumers:** Any inadvertent impacts on vulnerable CDR consumers, such as the impact of designating location data as part of CDR data, and the possibility of CDR consumers being unaware of the potential ability for sensitive conclusions to be drawn from the combination of their CDR data related to several sectors, for example banking data with telecommunications data, will need to be considered.

**Accounts with more than one account user**: For many telecommunications accounts, there may be more than one account user for an account (and the account holder may not be an account user). This may be relevant to share house arrangements, or situations where an employer is the account holder and its employees are account users (noting that some employees may use their accounts/devices for personal purposes). Accordingly, if third party information is included in a class of CDR data, it will be important to consider any potential privacy implications for those third parties (e.g. whether, and if so, how, they should be informed about the handling of their information).

These privacy issues would be considered in more detail during the rule making process.

#### Questions

11. What privacy issues should be taken into account when considering the designation of the telecommunications sector to the CDR regime? For example, are there particular classes of data that present privacy or confidentiality risks that cannot be mitigated, such that they should not be designated as CDR data? Please provide examples and/or evidence, if applicable.

# Intellectual property

Designated datasets may include both data that has been collected or observed by the data holder (raw data) and data that has been processed by the data holder (derived data).

The spectrum of derived data ranges from simple transformation (such as monthly or quarterly totals for data usage) to sophisticated analysis (such as behavioural insights into particular consumer groups generated through analysis of internet usage data). Intellectual property rights may apply to some forms of derived data depending on the nature and degree of transformation of the data.

In the energy and banking sectors, information whose value has been largely generated by the actions of the data holder is excluded from the CDR regime by the 'materially enhanced' test. The concept of materially enhanced information refers to data which is the result of the application of insight, analysis or transformation of data to significantly enhance its usability and value in comparison to its source material.

# The public interest

Australia's future prosperity will depend on how it adapts to changes in technology and the digital frontier. The potential benefits of the digitalisation of the Australian economy have been estimated at $315 billion over the next decade (Australian Government, 2021), and will benefit all aspects of Australian society. The CDR is a key aspect of Australia's Digital Economy Strategy 2030. The CDR is a new pillar of competition policy, aiming to enhance competition and innovation in key industries, especially services, which comprise a large share of the economy but that may struggle with productivity growth. The CDR is also a fundamental right for Australian consumers and businesses to have power over data they generate, to share and extract value from this data and help to access the many benefits of progress in digital infrastructure and capability. Telecommunications is a key sector that will underpin the Digital Economy Strategy and accelerate cross sector benefit for consumers and service providers alike.

The efficiency of telecommunications infrastructure is important for Australia's current and future productivity challenges. Australian businesses rank mobile internet and broadband internet as first and second most important of ten digital technology services (ABS, 2017a). Around 80 per cent of Australian businesses use cloud computing for software and 60 per cent for data storage (ACCC, 2018a, p. 84). Videoconferencing, search engines and email have become ubiquitous technologies for Australian businesses.

Almost all business technologies of the future will rely on fast broadband access. Self-driving cars, artificial intelligence, advanced robotics, computer-aided design in manufacturing and distributed ledgers are examples of technologies currently in relatively advanced stages of development that rely on fast, reliable and affordable broadband as a foundation technology. Future technologies are likely to rely even more heavily on efficient telecommunications services.

The success of Australia's businesses at adopting advanced technologies to improve productivity will, in turn, have profound implications for employment, wages and living standards of all Australians.

Telecommunications services are also at the centre of household social and economic participation. For example, households rely on telecommunications to find a job, for education, for interacting with government and engaging with friends and family (Bureau of Communications, Arts and Regional Research, 2020a, p. 5).

Australia ranks 4th in the world for mobile internet speeds (Infrastructure Australia, 2019), and is sixth in the world for the proportion of households that receive fixed broadband speeds equal to or greater than 25 Mbps (Bureau of Communications, Arts and Regional Research, 2020b). However, access to mobile and broadband internet is not equal across Australia. For example, mobile coverage extends to over 99 per cent of the Australian population but only one-third of Australia's total land mass (Infrastructure Australia, 2019, p. 569).

The CDR would enhance pressure on Australian telecommunication companies to compete, especially on product quality and customer service. It would assist the best companies, both existing and new, to succeed and encourage companies that provide poor value for money to consumers to improve. Over time this process would ensure that Australian businesses and households benefit from the most efficient possible telecommunications services.

### Questions

12. What are the public interest issues that should be considered in relation to the designation of telecommunications data holders and datasets? Please provide examples and/or evidence to support your view.

# Potential data holders and data access models

Consumer data relating to telecommunications services is collected by a range of parties connected to the various networks at different points in the supply chain, either as infrastructure owners and operators, or as wholesalers, service providers or equipment providers. Due to the transfer of some data between service providers and network providers for information and billing purposes, it may be possible for more than one holder of a particular dataset to be a designated CDR data holder.

## Potential data holders

A broad range of entities connect with the telecommunications system either directly or indirectly, the following entities have been identified for potential designation, based on their links to consumers and range of data holdings.

### Retailers

Retailers are any entity that sells telecommunications services to consumers. These entities may own or resell fixed line or mobile network services, or act as wholesalers of broadband internet that is generally sourced from NBN Co. Classes of data held by these entities include customer personal information and historical billing data, product data relating to service critical information and performance, and usage data passed on from network providers.

### Mobile network operators

Three MNOs – Telstra, Optus and TPG Telecom – provide their own services to consumers or sell their services to MVNOs. Classes of data held by these entities include customer information (for

MNOs that also act as retailers), consumer usage data and performance data, such as network coverage.

### Broadband network wholesalers

There are six wholesale broadband access seekers, including Telstra, TPG, Optus and Vocus. These entities sell their own services to consumers or resell their services to smaller retailers. Data holdings include network usage and performance data, including that which is reported to regulators and customers. Wholesalers acting as retailers will also hold customer information.

### Broadband network operators

NBN Co owns and operates the NBN, providing the broadband internet service and customer information to those using the network. While the NBN is the major broadband provider, alternative network providers such as OptiComm also service significant quantities of consumers. Data holdings include network usage and performance data.

## Potential data access model

Consideration of the appropriate data access model for the telecommunications sector is relevant for the sectoral assessment because the designation process allows for designation of a gateway (if appropriate) and in relation to the potential regulatory impact and costs of activating the CDR in the sector.

While each sector is unique, consistency with models in other designated sectors is important to ensure the CDR can function economy wide. A peer-to-peer model applies in the banking sector and is currently being implemented in the energy sector with AEMO performing the role of a secondary data holder.

A peer-to-peer model directly connecting retailers and data holders similar to the model being implemented for the energy sector is potentially appropriate for the telecommunications sector, as this would ensure interoperability and consistency between sectors and provide a solution where relevant datasets for a consumer are held by more than one potential data holder. The way that a peer-to-peer model could work in the telecommunications sector is explained further below and as an illustration for the purposes of consultation.

Alternatives to the peer-to-peer model could include a centralised model, allowing one data holder to collect data and then provide data directly to ADRs. This model is used for generic tariff data in the energy sector. Given the unique datasets held by mobile, broadband and fixed line network operators, and the lack of a centralised identity provider that could be used for consumer authentication, it would be difficult to identify a suitable sole data holder. The use of a gateway to be the sole data holder for the broadband internet sector could also be considered but would be unlikely to accommodate access to consumer data held by mobile phone provides or alternative ISPs.

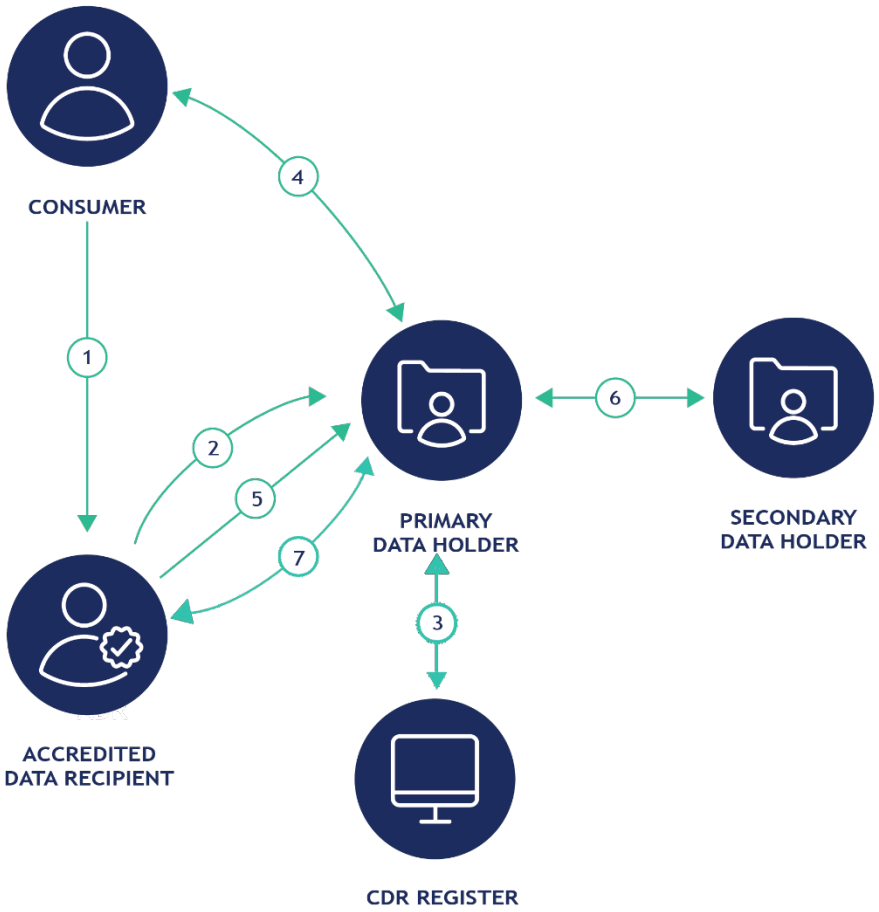
A peer-to-peer model, with a secondary data holder, could potentially apply in the following way to the telecommunications sector:

- Consumers request CDR data from the retailer (primary data holder) with whom they have the contract for their telecommunications service and who can reliably authenticate them.

- For consumer data requests that relate to both retailer held datasets (customer data, billing data and tailored data) and network operator (secondary data holder) held datasets (usage data, speed data), the network operator would be authorised to disclose the relevant data that it holds to the retailer when requested, for subsequent sharing with the ADR.
- The secondary data holder could be one of a number of entities, depending on the service provided and the arrangement between retailer and network provider.
  - For mobile phone data, a secondary data holder could be the MNO who may be required to provide data to the MVNO acting as the primary data holder. If the retailer happened to also be the MNO, no secondary data holder would be called upon.
  - For broadband internet data, NBN Co could be a secondary data holder providing data to a primary data holder that is one of the wholesaler access seekers. Where a retailer is on-selling the services of a wholesale access seeker, either the wholesale access seeker or NBN Co could become the secondary data holder, depending on the data requested.
- The model would ideally provide for the primary data holder to be a single point of contact between the consumer and the ADR, to provide a smooth consumer experience.
- In the case where the primary data holder is a smaller operator on-selling the services of a network wholesaler, it may be desirable to allow the retailer to achieve cheaper CDR compliance by transferring responsibility for authentication and some data provision to a larger secondary data holder sitting one step down the supply chain (e.g. an MVNO getting their MNO to provide consumer data). To avoid any confusion in the customer experience, interaction with the consumer would still be under the brand of the retailer as primary data holder, with some data supply and authentication functions effectively outsourced to a larger telecommunications provider offering a scalable service under commercial arrangements.

An illustration of the potential application of a peer-to-peer model is shown in Figure 5.

**Figure 5: Peer-to-peer model for telecommunications**




1. The consumer consents to an ADR or trusted person obtaining their data.
2. The ADR contacts the primary data holder, seeking access to the consumer's data.
3. The primary data holder authenticates the ADR using the CDR Register.
4. The consumer is redirected to the primary data holder's authentication and authorisation service. The primary data holder authenticates the identity of the consumer via a one-time password. The consumer authorises the primary data holder to disclose their data to the ADR.
5. The ADR requests a specific set of data that is covered by the authorised consent.
6. Where relevant, the primary data holder requests the relevant data, covered by the authorised consent, from the network operator as a data holder (secondary data holder). The secondary data holder provides the requested data to the primary data holder. The primary data holder may also obtain relevant data from its own data holdings.
7. The consumer's data is shared between the primary data holder and the ADR.

### Questions

13. Is the proposed peer-to-peer model for data sharing suitable for the telecommunications sector? If so, what sector-specific issues or modifications would need to be considered? Please provide evidence to support your view.

14. Are there any reasons why specific participants in the sector should be excluded from data holder responsibilities? Please provide evidence to support your view.

# Regulatory landscape

The current regulatory framework that applies to telecommunications comprises a range of legislation, legislative instruments (such as service provider determinations and industry standards) and registered industry codes.

The Australian Communications and Media Authority (ACMA) is an independent Commonwealth statutory authority that has primary responsibility for regulating telecommunications services in Australia. The ACCC plays a complementary role to the ACMA and is responsible for economic regulation of the communications sector, including telecommunications and the NBN. This includes competition policy, wholesale prices and wholesale terms of access for declared services, and whole-of-economy general consumer protection laws. Finally, the Department of Home Affairs is charged with enforcing security obligations on telecommunications service providers.

The TIO provides a dispute resolution service for telecommunications disputes between service operators and residential and small business customers.

The Office of the Australian Information Commissioner (OAIC) also performs certain regulatory roles under the Telecommunications Act and the Interception Act. It has oversight of telecommunications carriers and carriage service providers' handling of telecommunications data collected under the data retention scheme, which is deemed to be personal information within the meaning of the Privacy Act. The OAIC also accepts complaints and undertakes investigations on behalf of telecommunications consumers, related to privacy and consumer credit matters.

## The interaction between the CDR and existing telecommunications regulation

Recent regulatory reform has sought to address key issues in the telecommunications sector by increasing the amount of product and consumer specific information available to customers, removing technical impediments to customers changing providers or products and improving transparency around the availability and quality of telecommunications services.

By requiring that data be provided in a standardised machine-readable format, the extension of the CDR to telecommunications will complement, rather than duplicate, these reforms. The CDR will enable consumers to easily use and share information made available under existing industry codes and regulatory requirements with trusted third parties, which will facilitate tailored product comparison and drive innovation. As the CDR is rolled out across sectors, increased data standardisation will provide for a more consistent consumer experience.

# Telecommunications specific regulation

## Product and service feature information

The *Telecommunications Consumer Protections Code* (the TCP Code) sets minimum standards for telecommunications providers in their interactions with customers. This includes standards for advertising services, contracts, billing, sales techniques, and redress mechanisms. Under the TCP Code, which is enforceable by the ACMA, service providers must publish on their website a 'Critical Information Summary' (CIS) of each of its offered products, services, and plans. A CIS must include, among other information:

- a description of the product, service or plan, including what is included in the product, service or plan, and what is limited or excluded
- the fees and charges for the product or service
- how long the minimum contract lasts

Retail service providers must also provide billing information, including itemised details of all charges for the past six years, at the customer's request. At the time of recontracting, retail service providers must also provide customers information about the features offered on new plans not offered on a customer's current plan.

## Broadband performance information

The ACCC's Measuring Broadband Australia program measures and regularly reports on the typical performance of NBN fixed line services and more recently, NBN fixed wireless services. The program uses hardware-based devices to perform remote testing of volunteer households to determine typical speeds on fixed line NBN services at various times throughout the day. Volunteers are representative of a range of ISPs, plans, technologies, and locations (ACCC, 2020d).

Under the *Telecommunications (NBN Consumer Information) Industry Standard 2018*, retail service providers must provide consumers with a 'Key Facts Sheet' before they purchase an NBN service. The Key Facts Sheet must include a typical busy period speed and clarify that the advertised maximum speed is possible in off-peak times. Key facts sheets must also provide examples of common applications and indicate the number of people that an NBN service will support.

## Mobile and local number portability

The *Mobile Number Portability Code* and *Local Number Portability Code* sets out competitively neutral procedures and obligations for providers porting customers between networks, including minimum timeframes, notification procedures and obligations to maintain service standards. Similarly, for broadband customers on the NBN network, switching providers must meet the requirements of the C647:2017 NBN *Access Transfer Industry Code,* which is designed to minimise impacts on end users when transferring NBN services from one provider to another.

## Universal Service Guarantee (USG) and related safeguards

The Universal Service Guarantee (USG) was established in December 2018 to modernise the long-standing Universal Service Obligation (USO). The USG provides all premises in Australia with access to broadband as well as voice services, regardless of their location. These laws require NBN Co to be the default wholesale broadband provider for Australia, while other carriers can become SIPs where they contract to service areas, like new real estate developments.

### Review of Consumer Safeguards regime

The Department of Infrastructure, Transport, Regional Development and Communications has been examining what consumer safeguards are required for a changing communications environment through the 'Consumer Safeguards Review'. Part A of the review looked at redress and complaint handling, while Part B of the review looked at future service reliability. Part C of the review is examining informed choice and fair treatment in the consumer-provider relationship, including the role of industry self-regulation and legacy consumer protections for traditional phone services. A focus area of the review is improving informed choice for consumers when dealing with communications providers, for example ensuring consumers can access accurate, relevant and usable product information (The Department of Infrastructure, Transport, Regional Development and Communications, 2020).

### Telecommunications sector security

Amendments to the Telecommunications Act, which commenced in September 2018, established a regulatory framework to better manage the national security risks of espionage, sabotage and foreign interference to Australia's telecommunications networks and facilities. Key elements of the framework include a security obligation which requires all telecommunications providers to do their best to protect networks and facilities from unauthorised access and interference, and a notification obligation that requires service providers to notify government of planned changes to their systems and services that would compromise their capacity to comply with the security obligation (Australian Government Department of Home Affairs, 2020).

#### Questions

15. In what ways should the extension of the CDR take into account existing regulation in the telecommunications sector? Please explain your view.

# Regulatory Impact

Following the implementation of the CDR in the banking and energy sectors, telecommunications would be the third sector for which the CDR is activated. Accordingly, it is anticipated that the types of regulatory impacts would be similar to those experienced by participants in the banking and energy sectors.

Experience with implementation of the CDR in the banking and energy sectors may allow regulatory impacts for the telecommunications sector to be reduced compared to earlier sectors. For example, vendors with experience with implementation of the CDR in earlier sectors may transition to assist with implementation in the telecommunications sector.

The most significant regulatory impacts on data holders are likely to be:

- implementing shared data standards and system changes to enable the provision of customer and product data, including API development and costs associated with end-to-end secure data transfer
- the cost of compliance with CDR disclosure requirements, and CDR reporting and record keeping requirements

- the cost of investigating and resolving disputes regarding CDR data requests and requests to correct or delete CDR data, including internal and external dispute resolution mechanisms.

Many telecommunications providers currently utilise digital infrastructure that enables them to transact and engage with customers online, with some providers operating exclusively online without physical call centres or retail stores, while other providers still rely on manual processes in some areas. An important consideration in determining the likely regulatory impact on data holders will be the level of digital maturity of service providers within the telecommunications sector and the likely costs of implementing the CDR in relation to existing IT systems and infrastructure.

### Questions

16. Are existing systems currently utilised by providers in the telecommunications sector capable of supporting CDR obligations efficiently in the sector? How do telecommunications customers interact and transact with service providers? How prevalent are online accounts in the sector?

17. Have the main sources of costs associated with implementing and complying with the CDR regime been identified? Are there any additional costs that should be considered?

# Consultation Questions

1. What is 'telecommunications data' and the 'the telecommunications sector' for the purposes of the CDR?
2. In what ways can applying the CDR to the telecommunications sector assist consumers and businesses in acquiring and using telecommunications services; and benefit more broadly by being able to access and share data across multiple sectors? Please provide examples of potential use cases, if applicable (e.g. a household budgeting app that is an ADR and authorised by the consumer to receive energy, transactional, location (e.g. to determine miles travelled) and annual wireless broadband costs (and quality of coverage)).
3. Are there particular cohorts of consumers that would benefit most from having access to their consumer data? Please provide examples, if applicable.
4. If telecommunications is designated, which services, products and consumer datasets should be included? What benefits would arise to consumers and how could this encourage competition and data-driven innovation? Please provide examples of potential use cases.
5. Are there limitations on datasets, either in terms of availability or cost of making it available under the CDR? Please provide evidence, if applicable.
6. Are there other datasets across other sectors that should be considered for designation to provide a greater 'wrap-around' value proposition for the consumer? Please provide examples.
7. How is applying the CDR to telecommunications likely to encourage competition in the sector? Please provide examples or evidence, if applicable.
8. What are the important additional aspects of the competitive and regulatory landscape in telecommunications that should be considered in this sectoral assessment? Please provide examples, if applicable.
9. Is there potential for data sharing under the CDR to make the telecommunications markets more efficient? In what ways? Please provide examples and/or evidence, if applicable.
10. In what ways could extension of the CDR to telecommunications support data-driven innovation within the sector or more generally within the data economy? Please provide examples and/or evidence, if applicable.
11. What privacy issues should be taken into account when considering the designation of the telecommunications sector to the CDR regime? For example, are there particular classes of data that present privacy or confidentiality risks that cannot be mitigated, such that they should not be designated as CDR data? Please provide examples and/or evidence, if applicable.
12. What are the public interest issues that should be considered in relation to the designation of telecommunications data holders and datasets? Please provide examples and/or evidence to support your view.
13. Is the proposed peer-to-peer model for data sharing suitable for the telecommunications sector? If so, what sector-specific issues or modifications would need to be considered? Please provide evidence to support your view.
14. Are there any reasons why specific participants in the sector should be excluded from data holder responsibilities? Please provide evidence to support your view.
15. In what ways should the extension of the CDR take into account existing regulation in the telecommunications sector? Please explain your view.
16. Are existing systems currently utilised by providers in the telecommunications sector capable of supporting CDR obligations efficiently in the sector? How do telecommunications customers interact and transact with service providers? How prevalent are online accounts in the sector?
17. Have the main sources of costs associated with implementing and complying with the CDR regime been identified? Are there any additional costs that should be considered?

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