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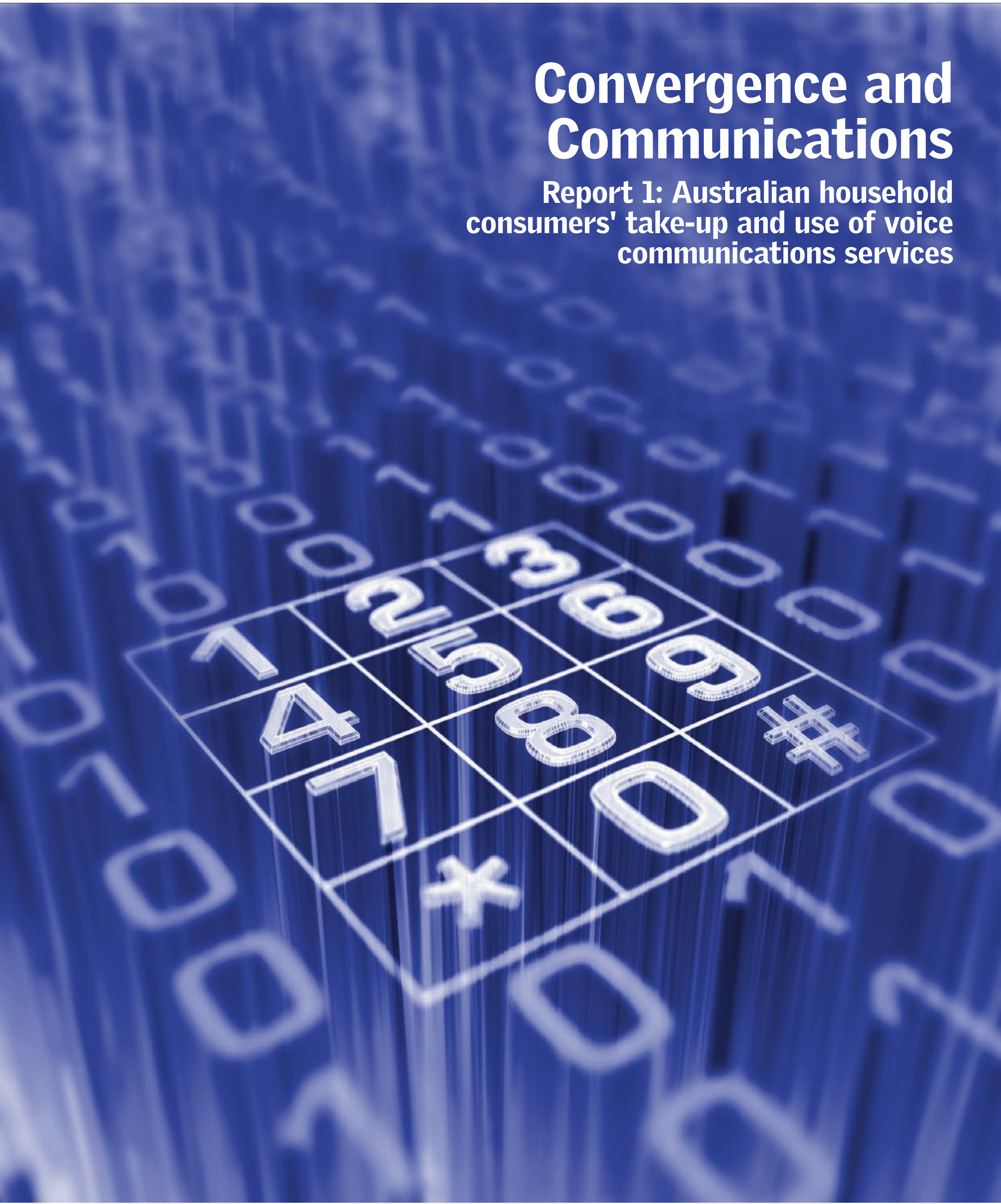
Convergence and Communications

Report 1: Australian household consumers' take-up and use of voice communications services



Convergence and Communications

Report 1: Australian household consumers' take-up and use of voice communications services

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Contents

1. Executive summary

This report in the *Convergence and Communications* series highlights changing trends in the take-up and use of communications services by Australian consumers.

It presents the findings of quantitative research into the attitudes and behaviours of household consumers concerning their voice communications, and builds on previous ACMA research in this area, primarily from the *Telecommunications Today* series.

The data presented in this report reveals that while over 90 per cent of Australian adults continue to use both fixed-line phones and mobile phones and largely see them as complementary services, Australians are increasingly turning to mobile technology to make their voice calls.

Within this group is a growing section of the community that uses their fixed-line service solely to maintain an internet connection, with their communications needs otherwise served by their mobile phone.

While the process of fixed–mobile substitution is continuing in Australia, data presented in this report suggest that the transition from fixed-line to mobile voice communications is a staged process, varying from no substitution to mobile only, with consumers placed at different stages according to their lifestyle, communication preferences and age.

Younger adults are leading Australia's shift away from fixed-line communications, with many choosing not to connect a fixed-line phone in their new residence when they move out of the parental home. The level of mobile service take-up in this demographic is among the highest in the country, at 95 per cent of 24 to 35-year-olds.

Older Australians more commonly adhere to fixed-line technology for voice communication. Ninety-six per cent of those aged 65–69 maintain a fixed-line service, in contrast to 75 per cent of 18 to 24-year-olds. Among 18 to 24-year-olds living in share households, this number drops to 60 per cent.

Similar patterns are seen in voice service preferences. Younger consumers show a clear preference for mobile communications, with 79 per cent of 18 to 24-year-olds using their mobiles more often than a fixed-line service. Among older Australians, a strong preference for fixed-line phone calls is seen, with those aged over 70 years most often using their fixed-line phones to make voice calls.

Emerging technologies such as VoIP are yet to be adopted by Australians at mainstream levels. However, with over three-quarters of Australian households connected to the internet[1] and a growing awareness of how VoIP services are accessed, the take-up of broadband telephony is likely to grow. The potential of the VoIP market has been recognised by

[1] Australian Bureau of Statistics (ABS), 2008, *Internet Activity Australia*, Cat No. 8153.0.

industry, with 47 per cent of internet service providers offering VoIP services as part of a bundled broadband package.[2]

[2] ACMA, 2008, *ACMA Communications Report 2007–08.*

2. Introduction

This report is the first in the *Convergence and Communications* series highlighting the changing trends in fixed-line, mobile and internet service take-up and use by Australian household consumers.

The report presents the findings of quantitative research into the attitudes and behaviours of household consumers, and considers these findings in the context of earlier research and reports, particularly those from ACMA's *Telecommunications Today* series.

Previous ACMA research in the area of consumer attitudes and behaviour regarding communications has focused heavily on communication services, particularly in the areas of fixed-to-mobile substitution and convergence. This report expands on this work.

2.1 Research objectives

1. To identify the levels of take-up and use of various communication services by consumers (householders) and how these have changed over time.
2. To explore consumer attitudes and behaviours toward these services.
3. To ascertain how factors such as age, income, household structure and locality influence consumer take-up and use of communication services and service substitution.

2.2 Research questions

Through its objectives, this report seeks to answer the following questions:

- Why do consumers take up particular services?
- What motivates consumers to retain particular services?
- To what extent have Australians embraced converged services?

This research was undertaken to meet ACMA's statutory reporting requirements under section 105 of the *Telecommunications Act 1997*, which requires ACMA to report and advise on the provision of carriage services, their consumer benefits, and consumer satisfaction with them.

3. Methodology

The *Convergence and Communications* series of reports draws on the following key data sources:

- commissioned research, in the form of a survey of consumer attitudes and use of communication services undertaken in May–June 2008
- existing subscription data sourced from private-sector metrics providers
- previous ACMA research.

3.1 ACMA-commissioned consumer survey

ACMA commissioned the consultancy Roy Morgan Research to undertake a national telephone survey in May–June 2008. The survey was divided into two subgroups:

- fixed-line users—1396 respondents
- mobile-phone users not connected to a fixed-line service—241 respondents.

3.1.1 Survey design

A general questionnaire was developed based in part on the survey undertaken by ACMA in 2007 for its *Telecommunications Today* series. However, the number of questions was extended for the current report to provide a deeper analysis of access to, and behaviour in, the online environment.

In addition to questions about general household communications, fixed-line and mobile phone–only users were asked specific questions about their use and behaviour regarding their communications preferences. Thus, in the survey of mobile-phone users, respondents were not asked questions regarding their fixed-line activity.

Fixed-line survey

The electronic WhitePages® was used as the sampling frame for 1396 people and the interviews were undertaken using computer-assisted telephone interviewing (CATI). All respondents were aged 18 years and over and screened to ensure they were the main or joint decision-maker in relation to at least one household communication service.

The target sample was structured to boost the non-metropolitan component with post-weighting by age, gender and location. The sample is outlined in Tables 1 and 2.

Table 1. Quantitative sample: Fixed-line and mobile survey, by age and gender

	Number of interviews		
	Male	Female	**Total**
18–24	102	98	200
25–34	155	160	315
35–44	119	160	279
45–54	150	165	315
55–64	116	152	268
65–69	49	49	98
70 and over	90	72	162
Total	**781**	**856**	**1,637**

Table 2. Quantitative sample: State/territory of residence and metropolitan/non-metropolitan

	Number of interviews		
	Metropolitan	Non-metropolitan	**Total**
NSW/ACT	335	229	564
Vic.	284	112	396
Qld	147	178	325
SA/NT	90	51	141
WA	115	47	162
Tas.	19	30	49
Total	**990**	**647**	**1637**

Mobile-only survey

For the mobile-only survey, Roy Morgan interviewed 241 people who had indicated in previous surveys that they used a mobile phone but did not have a fixed-line service in their household. The participants in this survey were asked to confirm this before their interview proceeded.

3.1.2 Data analysis

Results from the survey were analysed using descriptive analysis techniques, and by socioeconomic and demographic factors to identify any areas with significant differences. Only results with significant differences were reported in this research.

3.1.3 Limitations of the commissioned survey's methodology

CATI surveys

Some specific limitations of CATI surveys had an impact on the sample:

- CATI surveys exclude people without a landline telephone and people with silent numbers; this was addressed by the creation of a mobile phone–only subgroup, as outlined above.

- CATI surveys may also be biased towards those who normally stay at home (e.g., older or retired people, or those whose occupation is home duties). This was addressed in the survey by scheduling interviews across various time slots.

Sample size

While all research results are statistically significant, the sample size limits any further analysis by smaller subgroups, for example, data at state level or by both gender and age.

Rounding

Discrepancies may occur between the sums of the component items and totals due to the effects of rounding.

3.2 Subscription data sources: Roy Morgan Single Source Survey

Roy Morgan Single Source is a survey of individual consumers aged over 14 years drawn from a large base survey sample (more than 25,000 per year in Australia). Details of the methodology used for the collection and compilation of this data can be found at <http://www.roymorgan.com/resources/pdf/factsheets/OZFactSheet_A4scr_July2008.pdf>. Roy Morgan statistics cited in the report were derived from data collected between July 2007 and June 2008, and pertain to consumers aged 18 years and over.

3.3 Previous ACMA reports

This report also draws on the following key ACMA reports:

- the annual *Communications Report* <http://www.acma.gov.au/WEB/STANDARD/pc=PC_31154>
- the *Telecommunications Today* series of reports, in particular the fifth report, *Consumer Take-up and Use of Communication Services* <http://www.acma.gov.au/WEB/STANDARD/pc=PC_9058>
- the report *Fixed–Mobile Convergence and Fixed–Mobile Substitution in Australia* <http://www.acma.gov.au/WEB/STANDARD/pc=PC_311026>.

3.4 Definition of terms

Communication

In this report, communication includes all voice (fixed-line, mobile and VoIP) and internet (dial-up and broadband in all its forms such as ADSL, cable, satellite and wireless) services.

Consumers

For the purpose of this report, a consumer is, unless otherwise identified, a survey respondent, who owns, uses or has otherwise accessed communication equipment or services. A number of different sources have been analysed and reported throughout this report. To help readers interpret the results, survey participants are referred to ‘household respondents’ or ‘household consumers’.

3G mobile networks

Introduced to the Australian market in 2003, third generation (3G) mobile network services enable users to access a wide range of services, beyond the voice centric second generation mobile services. These networks support a range of new services including mobile VoIP telephony, video calls and broadband wireless data access. All major mobile carriers now offer 3G mobile broadband through a variety of access devices including handsets, plug-in cards for lap-tops and fixed modems for desktop personal computers.

Convergence

A converged environment is one in which a user can access a wide range of multimedia services using any device and any type of network connection. Examples of converged services currently available in Australia include internet access using a mobile phone and accessing television broadcasts via the internet.

Substitution

In this report, substitution refers to instances where consumers replace a service for another service offering the same functionality, for example a consumer replacing their fixed-line phone with a mobile service.

3.5 Blurring of boundaries

In an increasingly converged environment, in which a mobile phone can be used to access the internet and send instant messages, an internet connection used to make voice calls, and fixed-line services used solely for internet access, it is becoming difficult to isolate consumer trends in voice communication service types. While every effort has been made to distil voice communication information from other forms through specific survey questions, it is acknowledged that once distinct forms of voice communications are becoming less distinguishable by their delivery platforms and access device.

3.6 Consumer segments

Consumer behaviour in the area of communication varies across demographic groups, particularly age and lifestyle. In ACMA's 2008 report *Consumer Choice and Preference for Adopting Services*, three primary consumer segments were identified through a series of focus group studies:

- **Enthusiastic embracers**: usually younger consumers (aged 18 to 30) who tend to be knowledgeable about new services and technology and engage more heavily with 3G mobile and internet services.
- **Mainstream followers**: consumers who tend to keep up with services on a required basis but are less likely to proactively seek knowledge about new technology and services. These consumers are most often aged 31 to 50.
- **Technology non-adopters**: older consumers (aged over 50), who are unlikely to adopt new technology unless they are helped or pushed by someone else. These consumers are less likely to regularly engage with the online environment.

Where appropriate, this report employs these labels to describe patterns of service take-up in the Australian public.

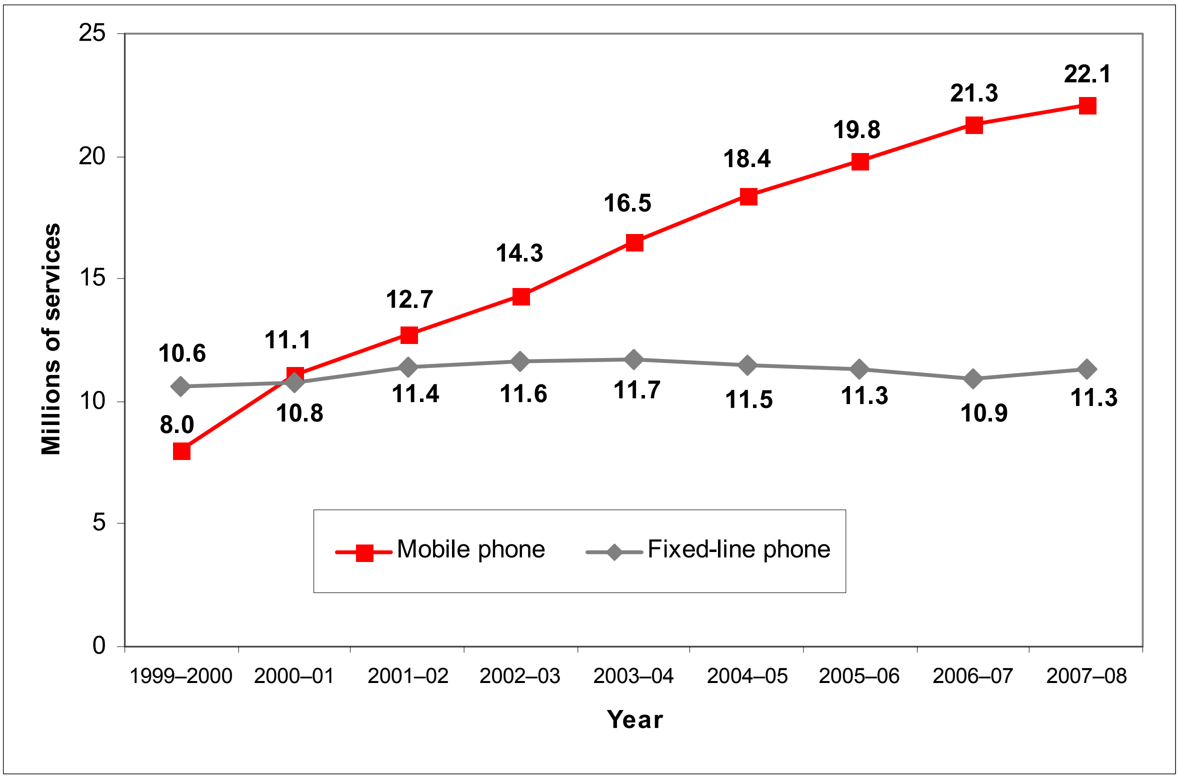
4. Results

4.1 The Australian communications environment

Digital communications services and the online environment are now integral to the Australian economy and society, transforming the way we live and work. Most Australians are now using the internet on a regular basis, with the boundaries between voice telephony and digital applications and devices becoming increasingly blurred.

The closure of the CDMA network in April 2008 has led to a strong increase in the number of 3G mobile users, and with it, the potential to access the internet and other applications via mobile technology. Since June 2007, the number of mobile services operating in Australia has risen by four per cent to 22.12 million (Figure 1). Thirty-nine per cent of mobile phone users subscribed to a 3G service, indicating the growing potential for mobile internet and content applications in the Australian market.

Figure 1. Take-up of voice services: Fixed-line and mobile phone



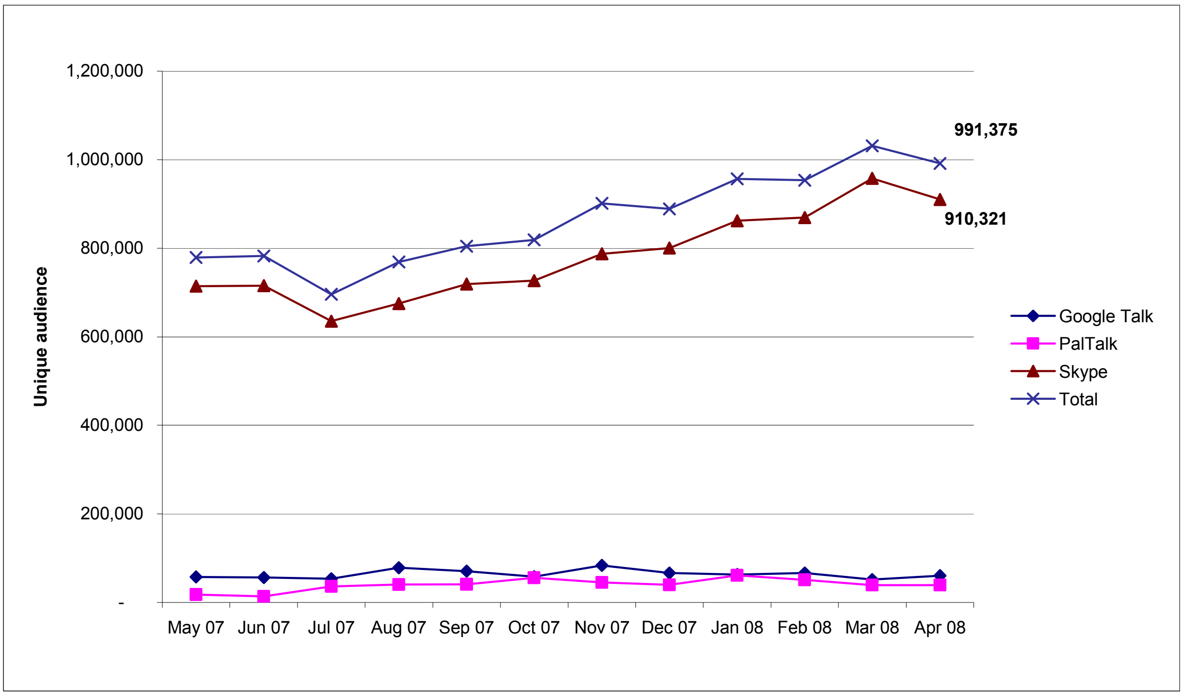
Source: ACMA Communications Report 2006–07; 2007–08.

The number of fixed standard telephone services has remained largely static in Australia in the past decade, increasing by 3.2 per cent to 11.28 million in the year to June 2008. This increase can be partially explained by the trend for carriers to supply services using unconditioned local loops, which allow them to install digital subscriber line access multiplexers in Telstra exchanges and offer services over copper lines without relying on Telstra wholesale services.

Further, there is some evidence to suggest that there has been an overall decline in the use of fixed-line services for voice calls, a trend that has been masked by an increasing number of broadband-only connections.

The use of the internet for voice over internet protocol (VoIP) calls is placing additional pressure on traditional fixed-line voice traffic. As Australians take up household broadband services, and become more aware of VoIP and the equipment required to use it, the popularity of broadband telephony is gathering pace. Traffic to Skype and other VoIP providers grew by 27 per cent in the 12 months to April 2008 alone (Figure 2), although VoIP take-up figures are yet to reach mainstream levels. In recognition of the anticipated shift to this form of voice telephony,[3] 47 per cent of Australia's internet service providers now offer VoIP as part of their bundled service offerings, and 106 fixed-service providers provide both public switched telephone network (PSTN) and VoIP services.[4]

Figure 2. Australian internet users: Traffic to VoIP service sites



Source: Nielsen Online, 2008, Netview Home & Work Panel.

This chapter examines take-up levels of fixed-line, mobile and VoIP communications services, and then considers how they are used to complement and substitute each other in the Australian household environment.

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[3] One estimate from Market Clarity forecasts a 237 per cent increase in internet-based VoIP subscribers between June 2007 (1.4 million) and June 2011 (4.8 million); ACMA, 2008, *The Australian VoIP Market: The supply and take-up of VoIP in Australia*.
[4] ACMA, 2008, *ACMA Communications Report 2007–08*, p. 24.

4.2 Consumer choice in adopting voice services

The Australian household consumer typically maintains a range of complementary communication options. The take-up of mobile phones continues to increase across the Australian population, particularly in younger age groups, while subscription rates to household fixed-line services are decreasing, having peaked in 2004.[5]

Improved handset capabilities and the increased price competitiveness of non-fixed technology are challenging the dominance of the standard home phone, in terms of both subscriber numbers and voice minutes. Fixed-mobile substitution, examined in detail in ACMA's report *Fixed–Mobile Convergence and Fixed–Mobile Substitution in Australia*, has an increasing presence in the Australian communications sector, ranging from consumers who use mostly fixed communications with some mobile calls when convenient, through to those consumers who have chosen not to connect to the fixed network but to go 'mobile only'.

While there is already a high level of awareness of VoIP (currently around 60 per cent of adults), enhanced awareness of broadband telephony and wireless technology, combined with high household internet take-up will also likely further erode fixed-line phone take up and use.

4.2.1 Fixed-line services

In June 2008, 88 per cent of Australian consumers were connected to a home fixed-line phone service.[6] In overall usage terms, however, the number of fixed-line call minutes is only marginally higher than the number of mobile call minutes, at 60 billion and 56 billion respectively.[7]

Survey results indicate a strong correlation between age and subscription to a household fixed-line service. Older Australians are more likely to have a fixed-line phone, with 96 per cent of those aged 65 to 69 maintaining a home fixed-line phone service (Figure 3). Conversely, the lowest incidence of fixed-line service take-up is seen among young adults, with 75 per cent of 18 to 24-year-olds having a fixed-line service in their household. This number is much lower among young people who have moved out of the parental home, particularly if they live in a share household, where 60 per cent are likely to have a fixed-line service.[8]

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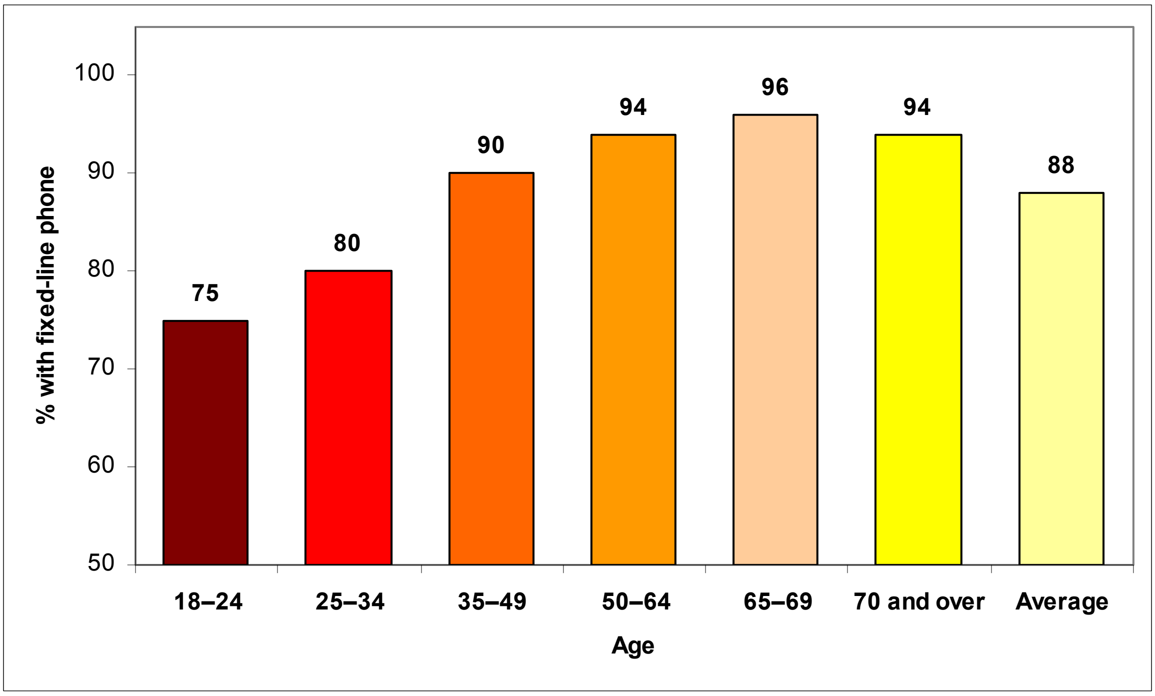
[5] ACMA, 2008, *Fixed–Mobile Convergence and Fixed–Mobile Substitution in Australia*

[6] Figures are for Australians aged 18 and over. Roy Morgan Single Source Australia, June 2007 to July 2008.

[7] ACMA research, Section 105 data request.

[8] Roy Morgan Single Source Australia database, Australians aged 18+, July 2007–June 2008 figures.

Figure 3. Proportion of household consumers with fixed-line phone, by age



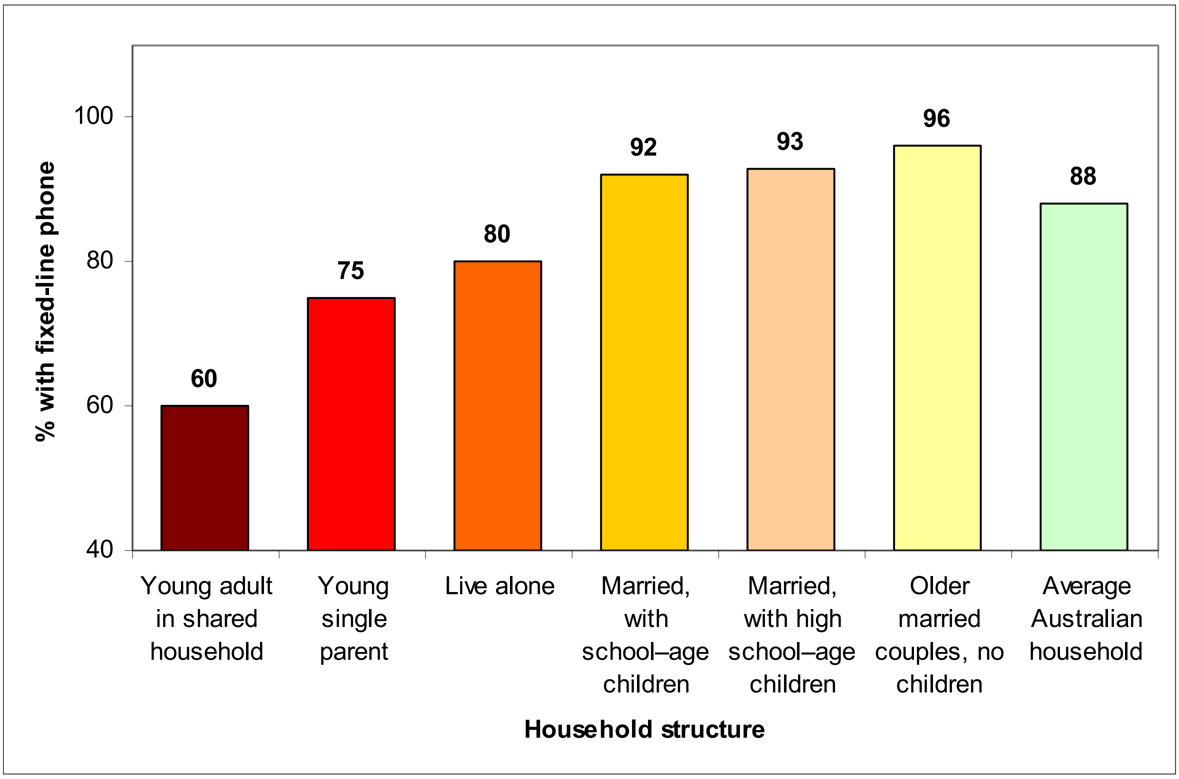
Source: Roy Morgan Single Source Australia database, Australians aged 18+, Jan–June 2008 figures

Household structure appears to influence the take-up of fixed-line services in Australia across all demographic groups. Older married couples without dependants have one of the highest take-up rates of fixed-line services, at 96 per cent, while only 75 per cent of young single parents have a fixed-line service connected at home. Single-occupant households are among the lowest subscribers to fixed-line services, at 80 per cent. This number drops to 61 per cent among 18 to 24-year-olds living alone.[9]

The presence of school-aged children in a household appears to provide additional motivation for a fixed-line service, a trend likely related to the higher internet service take-up of these families.[10] Figure 4 shows that 92 per cent of Australian households with both parents and school-aged children maintain a fixed-line phone service, rising to 93 per cent when those children are of high-school age.[11] Of these households, 96 per cent are connected to the internet, the great majority using their fixed-line service to do so.[12]

[9] Roy Morgan Single Source Australia, Jan–June 2008.
[10] ABS, 2008, *Internet Activity*, Australia, June 2008, Cat No. 8153.0.
[11] School-age children are those aged 6 to 15 years; high school–age children, 12 to 15 years.
[12] Roy Morgan Single Source Australia, Jan–June 2008.

Figure 4. Take-up of fixed-line services, by household structure



Note: Young adult = 18–24 not living with parents; Older = aged over 50 years.
Source: Roy Morgan Single Source Australia database, Australians aged 18+, Jan–June 2008 figures,

The pattern of take-up of fixed-line services shows little variation between regional households and city-dwellers. In June 2008, 89 per cent of Australians living in country areas were connected to a fixed-line service in their household, compared with 88 per cent of those living in capital cities.[13]

4.2.2 Mobile phone services

The value that Australian consumers place on mobility and convenience while away from home is demonstrated by strong levels of mobile-phone ownership. The closure of the CDMA network in April 2008 contributed to the strong take-up of 3G services, which grew by 88 per cent in 2007–08. Total mobile phone revenues also rose by 6.9 per cent during 2007–08 to $11 billion, taking almost a third more revenue than fixed-line services.[14]

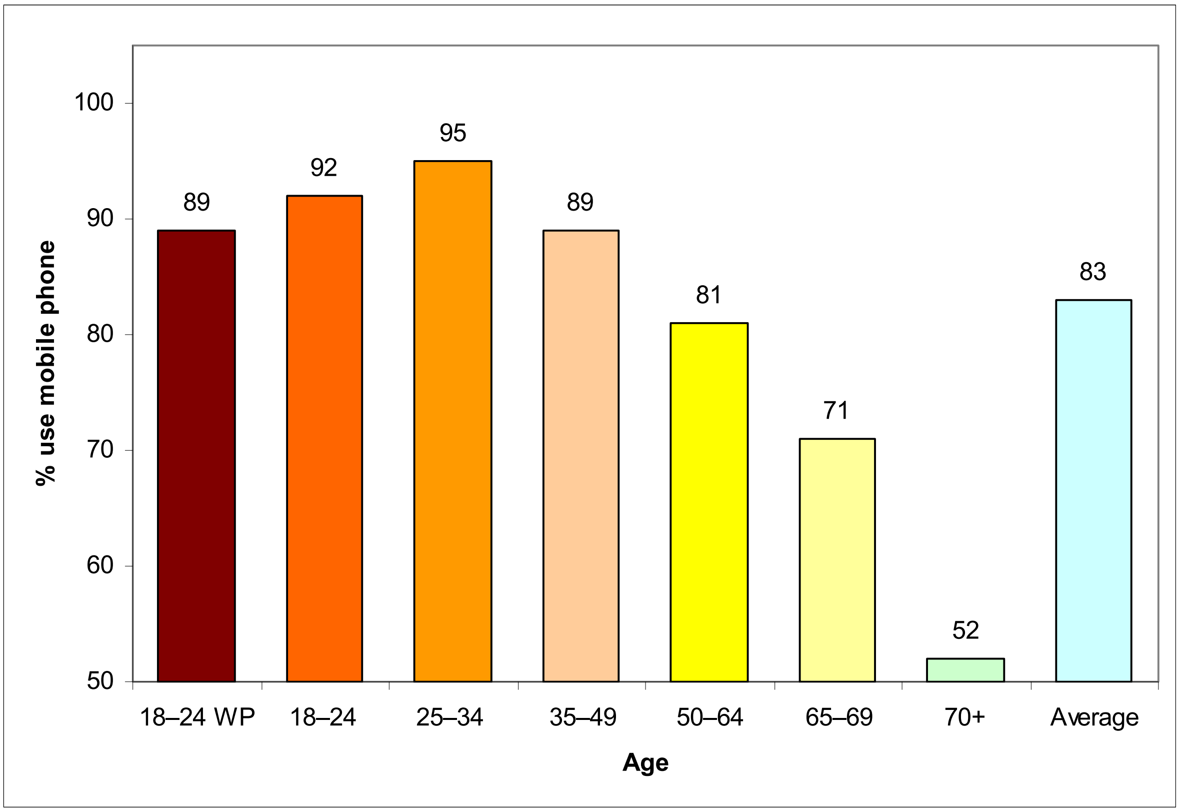
While the number of mobile subscribers suggests that Australia's mobile-phone penetration rate has reached saturation,[15] consumer surveys reveal that 83 per cent of the Australian adult population currently use a mobile phone service. A growing number of children are also using mobile phones; while not the focus of this report, available data reveals that 78 per cent of Australians aged 14 to 17 are now using a mobile phone.[16]

Young Australians have readily adopted mobile communications technology, and have the highest take-up rate in the population, at 95 per cent of 25 to 34-year-olds,[17] a contrast with

[13] Roy Morgan Single Source Australia database, Australians aged 18+, Jan–June 2008.
[14] ACMA 2008, *Communications Report 2007–08.*
[15] In June 2008, the number of mobile phone services exceeded the total population. ACMA, *Communications Report 2007–08.*
[16] Roy Morgan Single Source Australia database, Australians aged 18+, Jan–June 2008.
[17] Consumers aged 18 to 24, ACMA-commissioned Consumer Survey, Jan–June 2008.

take-up levels of 52 per cent among older Australians (over 70 years, see Figure 5). Those aged 18 to 24 years (not living with parents) have a slightly lower level of mobile phone take-up than persons aged 25 to 34 years of age, which is likely to reflect income levels rather than attitude toward this form of communication.

Figure 5. Australian household consumers: Mobile phone user profile, by age



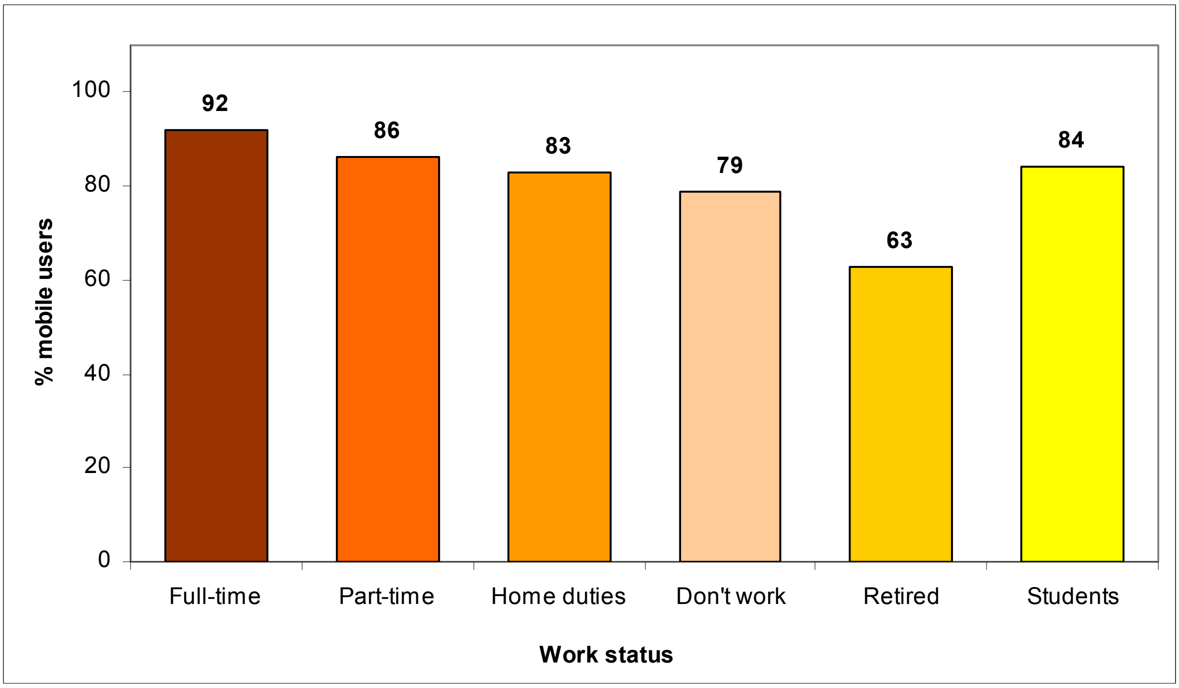
Key: 18–24 WP= Living with parents
Source: Roy Morgan Single Source Australia database, Australians aged 18+, Jan–June 2008 figures

Lifestyle, and more particularly, the proportion of time spent at home, appears to be reflected in consumer take-up patterns of mobile technology. Full-time workers have the highest level of mobile phone take-up, at 92 per cent, while students and part-time workers have a slightly lower level of mobile phone adoption, at 84 and 86 per cent, respectively (Figure 6). Retirees and the unemployed had the lowest rate of mobile phone take-up among Australians, with 79 and 63 per cent respectively.[18]

On a larger scale, geographic factors appear to play little role in determining the take-up of mobile communications. Consumers living in the country are only slightly less likely to use a mobile phone than their capital city counterparts. Eighty-one per cent of people in country areas use a mobile phone, compared with 84 per cent of city-dwellers. This difference could partly be explained by poorer mobile coverage in very remote areas, in addition to the older age profile in the regional population.[19]

[18] Roy Morgan Single Source Australia database, Australians aged 18+, Jan–June 2008.
[19] ABS, 2008, *Population by Age and Sex, Regions of Australia, 2007*, Cat No. 3235.0

Figure 6. Mobile phone take-up rates by work status, May–June 2008



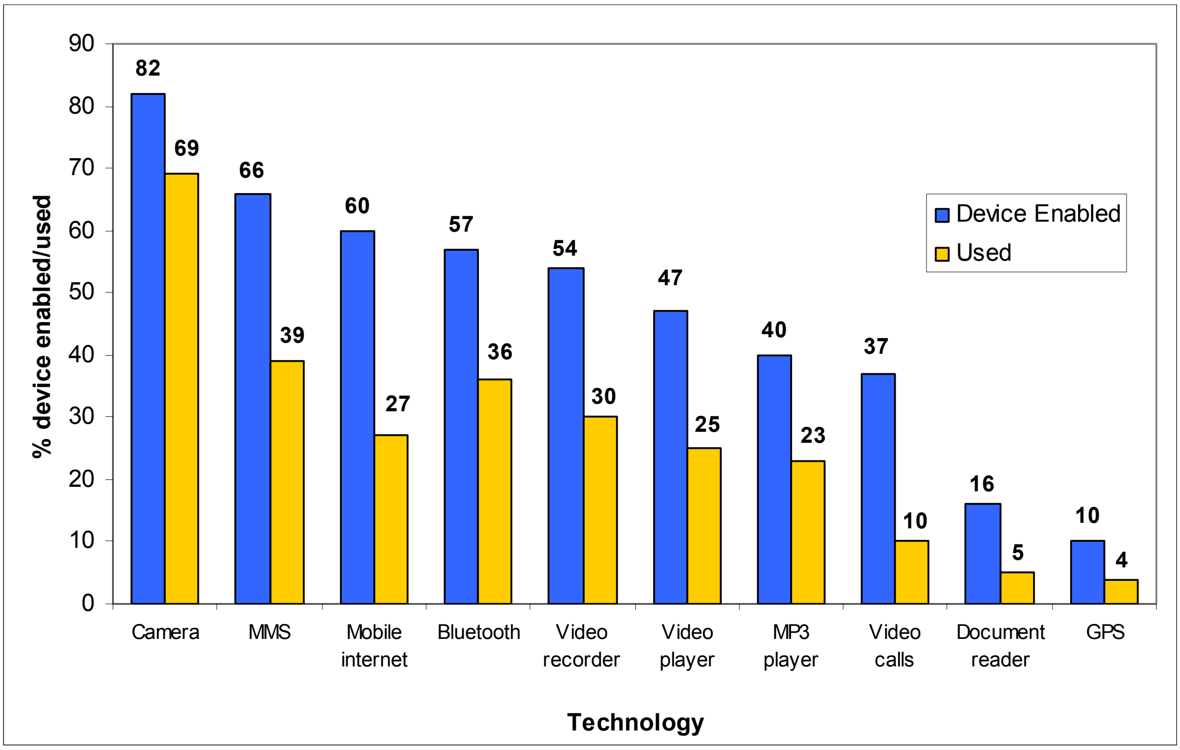
Source: Roy Morgan Single Source Australia database, Australians aged 18+, Jan–June 2008 figures.

Technical developments in mobile communications, particularly the introduction of mobile internet, professionally produced and packaged content for mobiles and VoIP, have created a demand for mobile phones well beyond voice communication. A 21.5 per cent reduction in the price of 3G services, and, more particularly, the replacement of the CDMA network with 3G technology, led to a significant increase in mobile phone take-up during 2007–08.[20] However, the use of the advanced features offered by 3G technology is far from universal.

Figure 7 shows that while with the advent of 3G, mobile phones are increasingly capable of a range of advanced functions, several, such as mobile internet and video calls, remain largely unused. Whether this is the result of the higher cost of these services or the challenge of learning new applications requires further investigation. However, previous ACMA research shows that concerns over the cost of using mobile data services are a significant deterrent to the take-up of these services.[21] It is noteworthy that while 69 per cent of mobile phone users take photographs with their phone, a task free of charge, only 39 per cent use their mobile phones to forward their images to others, a task that is also simple but attracts a charge. Further, despite 39 per cent of Australian mobile phone users subscribing to a 3G service,[22] just over one quarter of those have used their handset to access the web.

[20] ACMA, 2008, *Communications Report 2007–08*.
[21] ACMA 2008, *Telecommunications Today Report 5: Consumer Take-up and Use of Communication Services*.
[22] ACMA, 2008, *Communications Report 2007–08*.

Figure 7. Mobile device capabilities and their use by the Australian population



Source: Nielsen Online, 2008, Australian Internet and Technology Report 2007–08, 10th Edn.

4.2.3 VoIP services

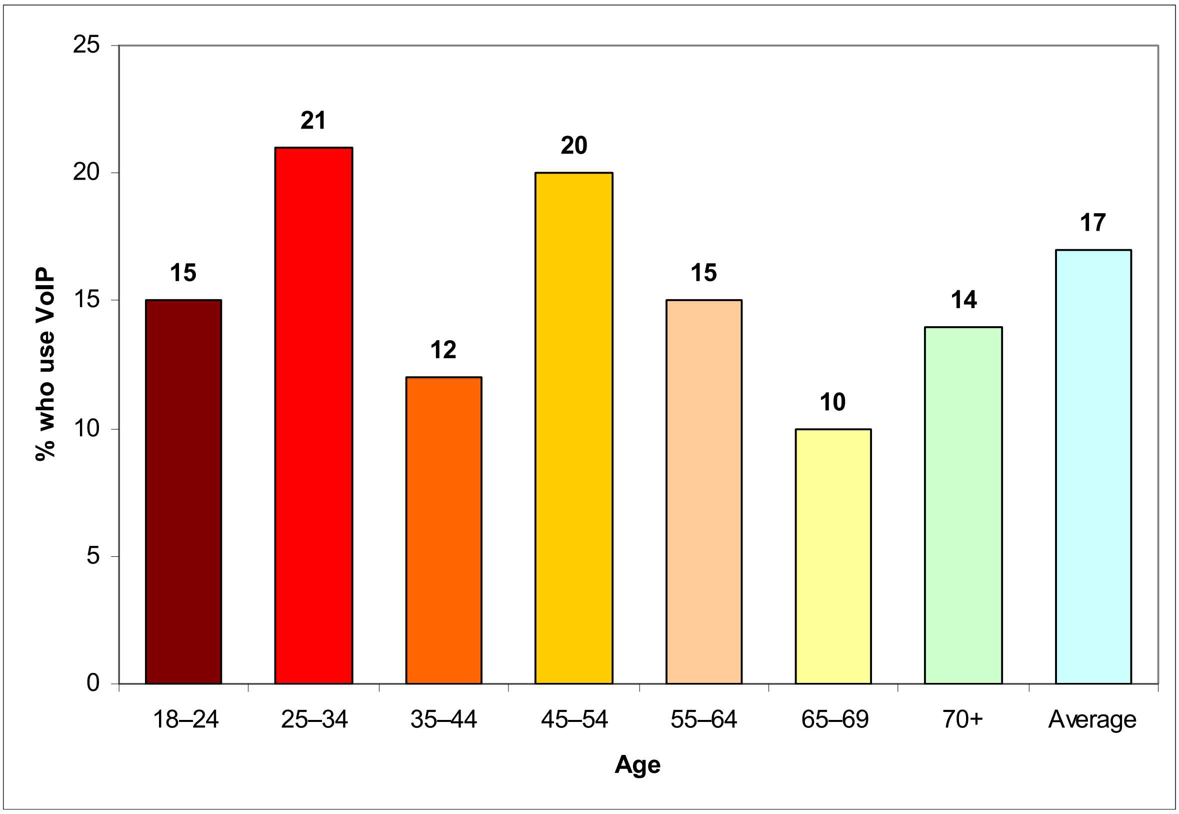
Awareness of voice over internet protocol (VoIP) is growing among Australian consumers. However, although broadband internet is becoming widely available in Australian households (at 69 per cent), the take-up of VoIP services remains comparatively low at 12 per cent of the adult population surveyed, rising to 17 per cent of home broadband users.[23] ACMA's consumer survey found that among home broadband users, 25 to 34-year-olds and 45 to 54-year-olds have the highest rates of VoIP adoption in Australia (at 21 per cent and 20 per cent respectively), well above those of traditionally early adopters of technology, 18 to 24-year-olds (15 per cent, see Figure 8). This pattern may be a function of the cost (or perceived cost) of the requisite hardware, as the highest rate of VoIP use is seen among individuals with incomes in excess of $130,000 a year (18 per cent).[24]

The cost–saving benefits of VoIP, specifically on international and long-distance calls, appear to be a strong incentive for the take-up of these services. Figure 9 shows that 69 per cent of users make international calls using VoIP, while 45 per cent use VoIP to make long-distance calls. Local calls are made by 38 per cent of users.

[23] ACMA-commissioned Consumer Survey, May–June 2008.

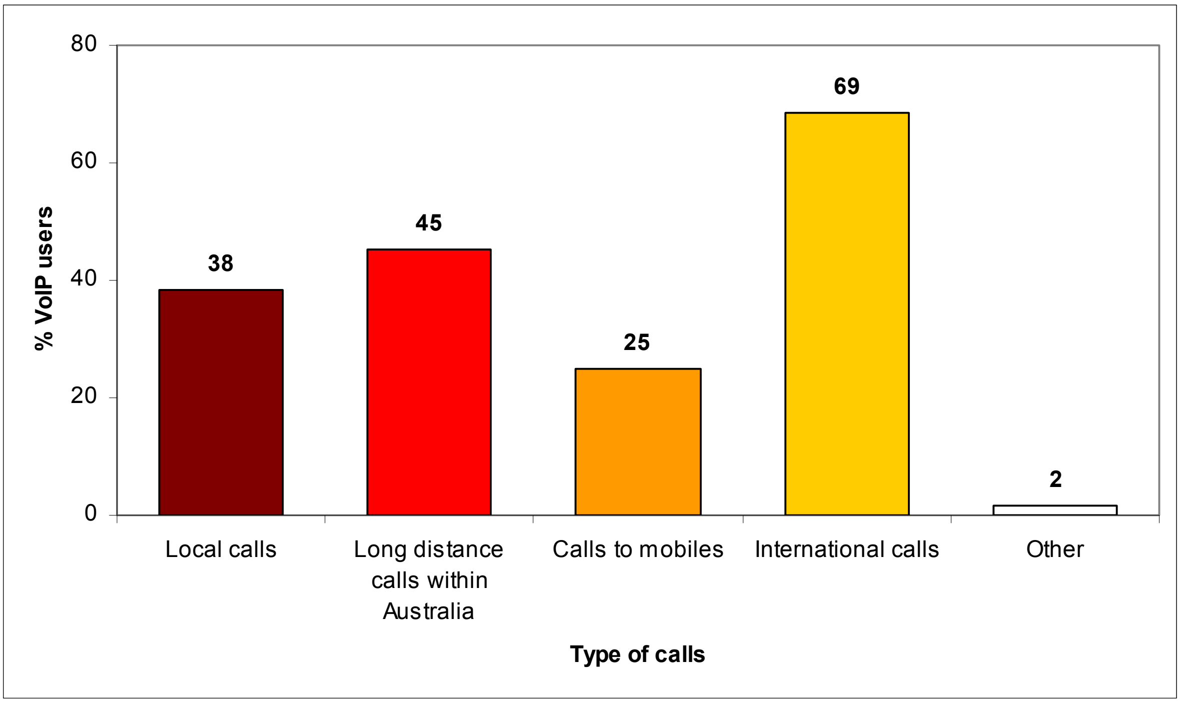
[24] Roy Morgan Single Source Australia database, Australians aged 18+, Jan–June 2008.

Figure 8. Levels of VoIP use among home broadband users, by age



Source: ACMA-commissioned Consumer Survey, May–June 2008

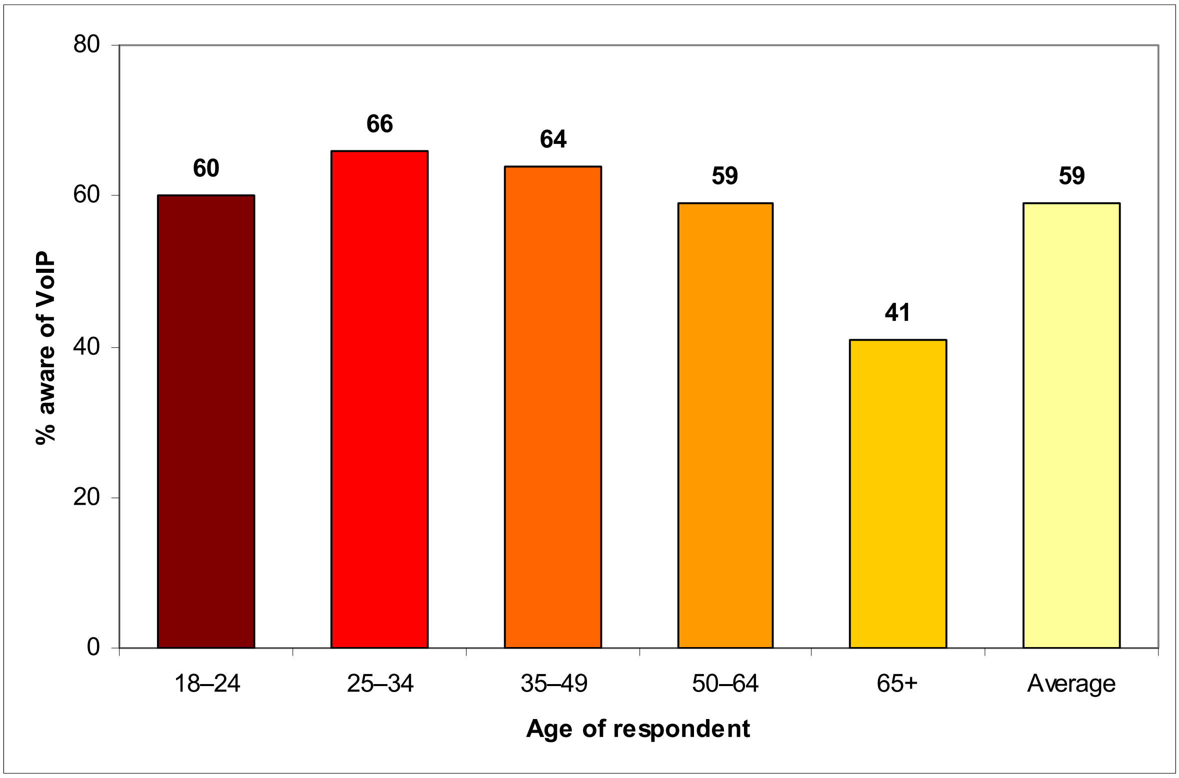
Figure 9. Types of calls made by Australian consumers using VoIP



Source: ACMA-commissioned Consumer Survey, May–June 2008

Awareness of VoIP services is comparatively high across the population, and particularly among consumers aged between 25 and 49 years of age (Figure 10). Less than half those surveyed aged over 65 were aware of VoIP services. The combination of a relatively high awareness of VoIP in general and low take-up suggests that the majority of consumers are not sufficiently motivated to acquire additional technical skills to establish a VoIP service in their household, particularly if there is already a fixed-line or mobile service. Alternatively, some consumers may not be willing to invest in the equipment required for the service, especially those not already connected to the internet, or who have low incomes.

Figure 10. Awareness of VoIP communication services in the Australian population, by age



Source: Roy Morgan Single Source Australia database, Australians aged 18+, Jan–Jun 2008.

Nevertheless, while few Australians currently use VoIP, subscription levels are likely to increase in the near future as the public becomes more familiar with the technology, the equipment required and call costs. A further driver might also come from more internet service providers bundling VoIP services with other communication services—if Australia follows a similar adoption pattern to other countries. In the 2008 ACMA-commissioned consumer survey, 18 per cent of respondents expressed an interest in using VoIP in their home in the next 12 months, including consumers not connected to the internet. Among home broadband users, the level of interest was 23 per cent.[25]

4.3 Substitution and complementarity in voice communication

While the take-up of mobile communications in Australia has been comparable to that of many OECD nations, a large majority of Australian consumers continue to use their fixed-line service at a higher rate than in most other countries.[26] Most commonly, mobile and fixed-line telephony services are used by Australian householders to complement each other, providing consumers with the versatility to suit their lifestyle and communication needs. However, as the cost of mobile calls go down, with competitive pricing plans such as

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[25] ACMA-commissioned Consumer Survey, May–June 2008

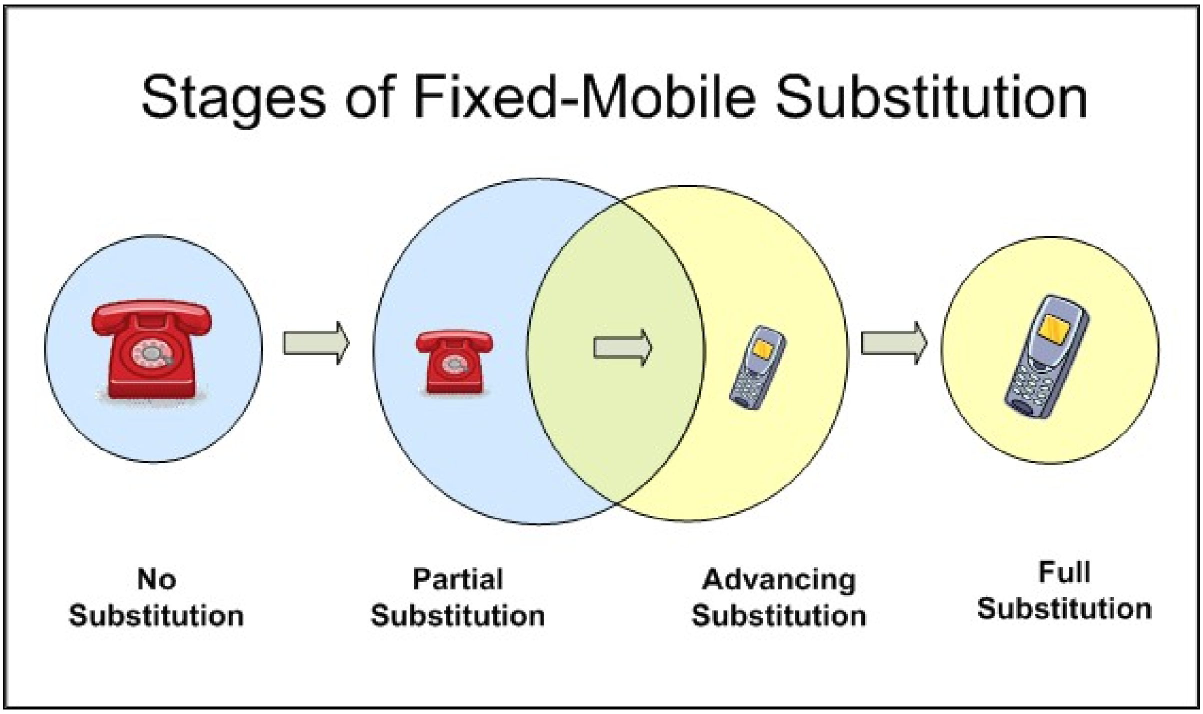
[26] OECD, 2007, *OECD Communications Outlook 2007*, Organisation for Economic Co-operation and Development, Paris.

'call caps',[27] more consumers are turning to mobile technology as their primary or sole mode of communication.

Fixed–mobile substitution (a mobile service being used in lieu of a fixed-line phone) is becoming more common in Australia, evident in both increasing mobile voice traffic levels and subscription numbers. The rising popularity of VoIP services has added a layer of complexity to tracing substitution patterns, as it is available via mobile, wireless and fixed-line platforms, and requires further research. Given that the take-up of VoIP services is yet to reach mainstream levels, this report focuses on fixed–mobile substitution.

The process of substitution is rarely a simple switch from fixed-line communications to mobile technology. Rather, survey results suggest the existence of a four-stage substitution continuum, with consumers at different levels according to their lifestyles; communication preferences and technical knowledge (see Figure 11).

Figure 11. Stages of fixed–mobile substitution



The stages of fixed–mobile substitution encompass:

1. **No substitution**: In these households, only fixed-line services are used, and no additional communications technology is employed. This accounts for approximately four per cent of Australian households.[28]
2. **Partial substitution**: Multiple services are used, with fixed-line services preferred at home and mobile technology outside the home.
3. **Advancing substitution**: Multiple services are used, with higher voice traffic levels from mobile phones, including at home. The household fixed-line service is retained primarily for broadband or as a safety net.

[27] Call caps enable subscribers to make calls to a predetermined value for a reduced price. For example, $500 worth of calls for $79 per month.
[28] Roy Morgan Single Source Australia database, Australians aged 18+, Jan–Jun 2008.

Consumers with partial or advancing substitution constitute almost nine out of ten Australians.

4. **Full substitution (also known as access fixed–mobile substitution):** The fixed-line service is abandoned and the mobile phone is the primary household communications tool used for voice communication. Internet may be accessed via 3G mobile services or wireless modem devices. This category also includes straight-to-mobile users for whom a fixed-line service has never been connected. Eight per cent of Australian consumers are now mobile only.

As circumstances such as employment status or household structure change, consumers can change their communications preferences, and with them, their position on the substitution continuum.

4.3.1 Influences on fixed–mobile substitution in Australian households

This section updates the findings of ACMA's 2008 report *Fixed–Mobile Convergence and Fixed–Mobile Substitution in Australia* about the emerging patterns of Australians' communication preferences in a multi-choice environment.

Demographics

The survey results suggest a strong correlation between the age of the consumer and substitution. Figure 12 shows that although most Australians use both fixed and mobile communications, few use them equally, preferring one mode over the other, with the choices correlating to age. Younger consumers show a clear preference for mobile communications, with 79 per cent using their mobiles more often than a fixed-line service. The preferences of consumers aged 35 to 44 are less clear, with equal numbers nominating their main form of communication as mobile and fixed line. Conversely, older Australians appear to prefer fixed-line phones, with a high proportion of those aged over 65 most often using this mode of voice service.

It is not surprising, then, that many consumers aged over 55 are yet to engage in substitution of voice services; that is, they do not use any additional communications service beyond their fixed-line phone. While only four per cent of the Australian population were found to fall into this category, in households with consumers aged over 65 this number rose to 39 per cent, a higher rate than for any other age group. When asked why they did not use a mobile phone, the most frequent response from older Australians was that they did not see the need (44 per cent). This underscores a disinclination by this section of the community to change long-established communication habits, or to adopt new technology without compelling cause.[29]

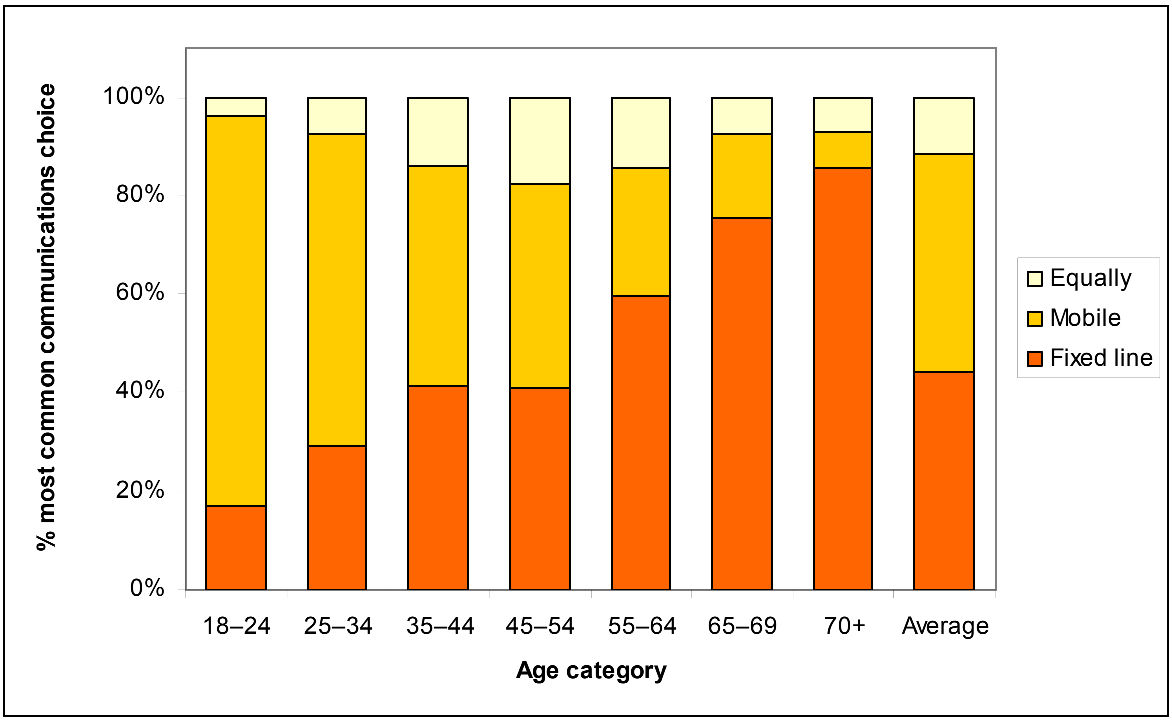
For Australians aged between 25 and 55, the level of substitution is measured in terms of voice traffic, with most Australians in this demographic using fixed-line and mobile phones as complementary services. As shown in Figure 12, consumers aged between 35 and 55 are most likely to be engaged in partial substitution; that is, this age group shows no obvious preference for either mobile or fixed-line communication. However, those consumers aged 25 to 34 show a clear preference for mobile use, with 63 per cent using their mobile phone more often, keeping a fixed-line service for a home internet connection or as a safety net.

Young adults aged 18 to 24 show a much greater preference for mobile-phone use and have the highest levels of full substitution. Figure 13 shows that one-third of Australians in this

[29] ACMA-commissioned Consumer Survey, May–June 2008.

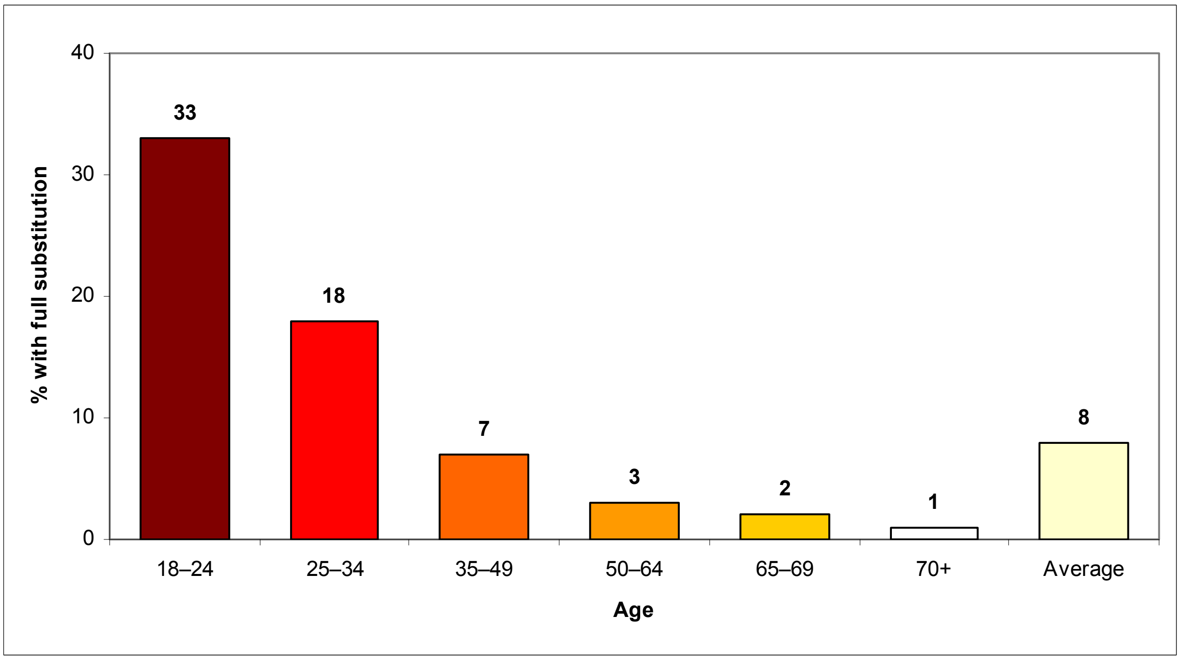
age group live in a mobile-only household, which is a significantly higher rate than any other group.

Figure 12. Voice service most often used by household consumers, by age



Source: ACMA -commissioned Consumer Survey 2008, May–June 2008.

Figure 13. Proportion of the Australian population with mobile only (full substitution), by age



Note: Figures are for respondents not living with parents.

Source: Roy Morgan Single Source Australia database, Australians aged 18+, Jan–Jun 2008.

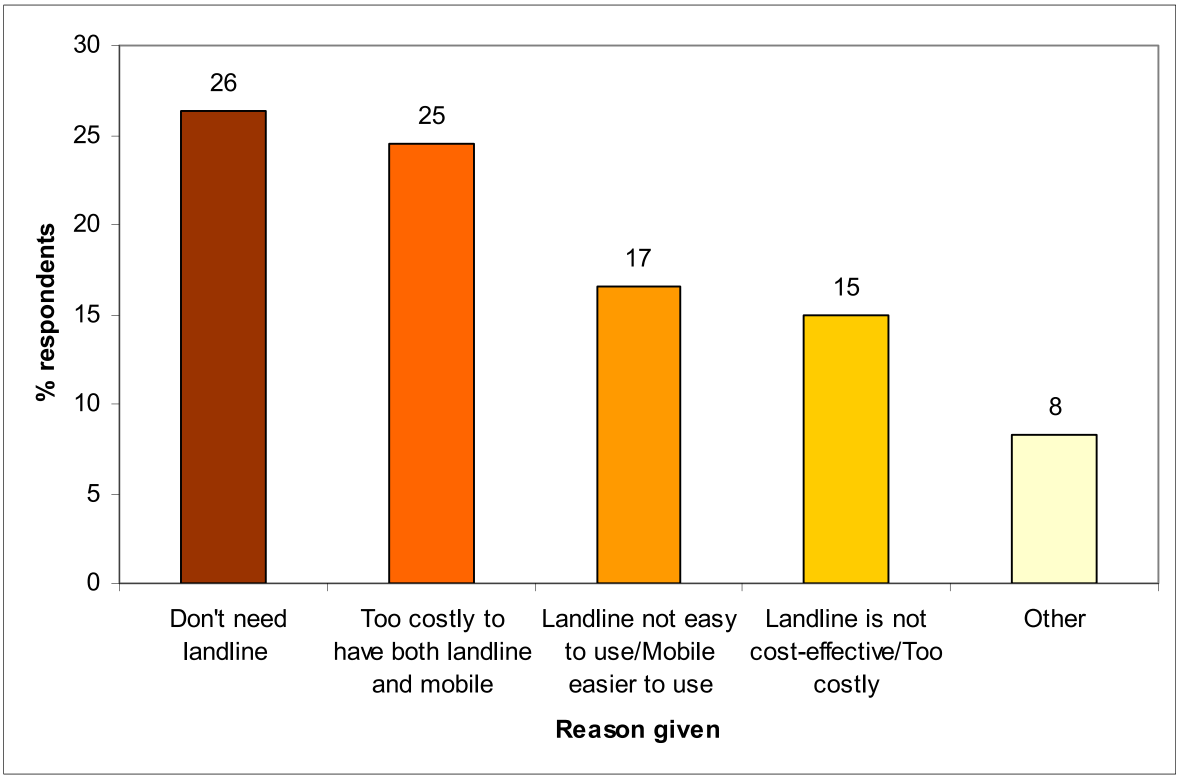
Price premium

As noted in previous ACMA reports, the mobile price premium or perceived premium[30] has made many consumers hesitant to go 'mobile-only'.[31] While the cost of mobile calls is declining in Australia,[32] 36 per cent of respondents reported that they would not disconnect their fixed-line service, as landlines offer cheaper calls.[33] Further, more than half of those who reported that they would consider relinquishing their landline nominated cost–saving and cheaper mobile phone calls as the primary incentive (Table 1).

The expense of maintaining a fixed-line service is also a strong contributing factor for consumers choosing to go mobile-only. As reported in ACMA's *Telecommunications Today: Consumer Take-up and Use of Communication Services*, 'enthusiastic embracers' who require a fixed line solely to maintain an internet connection asserted that they would disconnect the service to save money were it not for other factors, such as maintaining a broadband connection (Table 1).

In addition, when asked why they did not have a fixed-line service, 40 per cent of respondents to the mobile-only consumer survey cited cost-effectiveness or the expense of having both mobile and fixed-line services as a their primary reason (Figure 14).

Figure 14. Reasons given by consumers for not having a household fixed-line service



Source: ACMA -Commissioned Consumer Survey 2008, May–June 2008

While very low mobile call costs have played a strong role in accelerating fixed–mobile substitution overseas,[34] the likelihood of the fixed-line market being eroded by similar price

[30] The mobile price premium is the cost differential between fixed and mobile calls.
[31] ACMA, 2008, *Fixed–Mobile Convergence and Fixed–Mobile Substitution in Australia*. ACMA, 2008, *Telecommunications Today: Report 5: Consumer Choice and Preference in Adopting Services.*
[32] ACMA, *Communications Report 2007–08.*
[33] ACMA-commissioned Consumer Survey, May–June 2008.
[34] Dobardziev, A., 2006, *Defending the Line: Counter FMS Strategies for Fixed Operators,* OVUM Report.

falls in Australia is fairly low. Full-service operators hold about 80 per cent of mobile subscribers[35] and do not have strong commercial incentives to erode their fixed-line revenue.

Network coverage/reliability

While mobile networks in Australia now cover 98.8 per cent of the population,[36] a perception remains that mobile networks offer inferior reliability, and that coverage is patchy, particularly in rural areas. When asked why they would not consider relinquishing their fixed-line phone service, 15 per cent of consumers said that landlines offer more reliability and better quality, while seven per cent stated that they had problems with mobile use and coverage (Table 3). Interestingly, the level of concern about this appears considerably reduced from the previous year, when almost one in five consumers nominated fixed-line reliability as a reason to retain a fixed-line phone, and 17 per cent reported problems with mobile use and coverage as a disincentive to go mobile-only.[37] The reason for this changing perception may lie in the expansion of mobile 3G networks, and the large number of mobile phone–users shifting to these networks.

Table 3. Reasons residential consumers provided for considering replacing/not replacing a fixed-line service

Reasons for considering replacing a fixed-line phone service	2007	2008	Reasons for not considering replacing a fixed-line phone service	2007	2008
To save costs/If mobile calls were cheaper	58%	54%	Fixed lines offer cheaper calls	49%	36%
If happier with mobile service	17%	4%	Fixed lines more reliable/better quality	19%	15%
Both not necessary; like one phone/one bill	9%	6%	Problems with mobile use and coverage	17%	7%
Do not use fixed line much anymore	9%	17%	Need fixed line for internet/fax connection	15%	8%
If did not need fixed line for internet	8%	7%	Fixed lines are always there—suit my needs	10%	19%
Technology is moving that way	7%	5%	Legacy service—what I am used to	7%	8%
If mobile coverage was better	3%	2%	Need it to access emergency call service	N/A	4%
			Need a landline for business use	2%	2%
Other	**7%**	**20%**	**Other**	**8%**	**24%**

Sources: ACMA 2008, Telecommunications Today, Report 5; ACMA Consumer Research May–June 2008, (N = 1,637); multiple choice question.

Phone numbers and identity

The number attached to a fixed-line phone service may also play a part in older Australians in particular retaining this technology, and being reluctant to go mobile-only. Even if a consumer has taken up mobile technology, those who have kept the same home fixed-line number for years may be reluctant to lose a way for old friends and businesses to keep in touch. Unsurprisingly, 85 per cent of fixed-line users said that it was important to them to keep their landline number if they moved house, whether locally or within the state (Table 4).

Additional research into the role of numbers and communications choice will shed further light on this area. However, the portability of VoIP services may encourage its take-up

[35] ACCC, 2007, *Telecommunications Market Indicator Report 2005–06.*
[36] 3G coverage; ACMA, *Communications Report 2007–08.*
[37] ACMA, 2008, *Fixed–Mobile Convergence and Fixed–Mobile Substitution in Australia.*

among younger consumers, whose loyalty to a particular type of communication has not been established.

Table 4. Importance of number portability to Australian consumers

Question	1	2	3	4
How important to you is keeping your landline number when moving house within your own town or suburb?	**66**	**19**	**14**	**1**
How important to you is keeping your landline number when moving house within your state?	**41**	**24**	**35**	**1**
How important to you is keeping your landline number when moving house interstate?	**26**	**19**	**53**	**2**

Key: 1 = Very important; 2 = Important; 3 = Not important; 4 = Can't say.
Source: ACMA Consumer Survey, Jan–Jun 2008.

Mobile applications and convergence

As noted above, the range of applications enabled by many mobile handsets goes well beyond voice communication, and includes internet, scheduling software, games and access to premium services. The attraction of this additional functionality may partly explain the rapid growth in the number of consumers choosing to subscribe to the 3G network, although as Figure 7 shows, take-up of advanced mobile capabilities by Australians remains low. The cost and complexity of converged technology may inhibit its take-up, particularly among older consumers.

However, simple low-cost mobile applications such as stored numbers, text messaging and cameras, are widely used and may offer a competitive advantage over traditional communications tools. Several of the respondents who were mobile-phone users suggested that they used their mobile more frequently because it provided easy access to stored numbers.[38] This simple feature may contribute to the nine per cent of consumers who asserted that making phone calls using a mobile handset was easier than using a fixed line.

[38] ACMA-commissioned Consumer Survey, May–June 2008.

5. Conclusion

The Australian communications environment is becoming increasingly complex, providing consumers with a range of platform and device choices for voice communication. While fixed-line services remain the most common choice for consumers in terms of voice minutes, an increasing number of mobile services are connected each year and mobile traffic will likely surpass that of fixed lines in the near future.

The data presented in this report shows there to be a strong correlation between age and communications choice. Younger consumers are leading Australia's transition to mobile-only communications, with many 18 to 24-year-olds choosing not to connect a fixed-line phone in their residence. Those aged 25 to 40 increasingly maintain a fixed-line service solely to provide broadband access, or as a backup to their mobile service, but are shifting away from fixed voice communications. Older Australians commonly adhere to fixed-line services for a variety of reasons, including communication habits developed over a lifetime. While lifestyle, service affordability and technology have been shown to have some influence on the choices made by Australians, loyalty to established communication habits should ensure that substitution will be relatively gradual, at least among consumers in the older age brackets.

Emerging services such as VoIP are expected to affect the take-up of household fixed-line services. With the presence of broadband services increasing in Australian households, and awareness of VoIP services growing, the take-up of broadband telephony is likely to increase. The rising take-up of wireless and cable internet connections will place additional pressure on providers of fixed-line services.

The implications of the changing environment for consumers are considerable. As communications services converge, the products available to consumers will move further away from the single-service offerings of fixed-line, mobile and internet services, and become more integrated packages, differentiated by the level of additional service offerings, price plans, and data speeds.

Evaluating the suitability of communication services may therefore become more difficult in the future, particularly for older Australians who have had little exposure to a multifaceted communications environment. It is possible that as mobile technology becomes more widely used, fixed-line communications will receive less attention from users. Through its obligations under the *Telecommunications Act*, ACMA will continue to monitor the engagement of all Australian consumers with communications technology.

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