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CULTURE, DISCOURSE & COMMUNICATION
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World Internet Project
New Zealand

Internet Trends in New Zealand 2007–2013

Charles Crothers
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Executive Summary

Since 2007, the World Internet Project New Zealand (WIPNZ) has surveyed New Zealanders every two years to track their usage of the internet and its impact on their lives. Survey responses were gathered both by telephone interview and online in 2013, while the first three waves of the survey used telephone interviews alone. Between 2007 and 2013, around 6000 surveys have been completed. This report reviews changes over the period 2007–2013, reporting key trends and investigating how internet usage and its effects vary across major social groupings. The aggregated results are expanded upon using a series of vignettes which describe the experiences of individuals, delving into a cohort of respondents who have participated in all four rounds of the survey.

Usage

The percentage of internet users in New Zealand has risen steadily since 2007, when 82% of respondents were internet users, to 92% in 2013. The uptake of mobile handheld devices has proceeded at a remarkable pace, from 8% of internet users in 2007 to 69% in 2013. More people are going online mainly in living areas such as their lounge or dining room, increasing from 37% in 2007 to 56% in 2013. As the internet becomes increasingly ubiquitous its perceived importance is rising. In 2013, 73% of New Zealanders feel that the internet is important or very important to their everyday life, compared to 56% in 2007.

Comparing the importance of different media

In 2007, 52% of respondents rated newspapers an important source of entertainment, more than did the internet (42%). In 2013, the internet and television are equally important sources of entertainment (56%), while the proportion valuing newspapers for entertainment has halved, from 52% in 2007 to 26% in 2013. The internet has become increasingly important as a source of information for those aged 65 and over, while its importance as a source of entertainment has only increased slightly for this group. It is younger people who have come to value the internet as a source of entertainment, with large increases in just the last couple of years.

Relationships and communication

Texting has consistently been the most popular form of daily communication across all four waves of the survey, however there are signs in 2013 that instant messaging may now be replacing texts as the number one conduit for daily communication. In 2013, 64% of users said they make or receive phone calls online, a figure which has increased steadily since 2007 (23%).

Consumer transactions, interaction with the public sector and internet security

Online consumer transactions across the board have shown steady increases since 2007, as have financial interactions with the public sector, for example in paying for fines, taxes or licences online. In 2013, there was an increase in the proportion of people who had logged in to a Government or Council website (47% of internet users). Overall, young people are given a lot of guidance about internet safety. However, there are certain rules which may be diminishing in New Zealand households, particularly those around direct control of under-18s' use of the internet such as specifying time limits for internet use, or directly monitoring internet use through supervision or a website filter.

Changing digital divides

There has been a tendency throughout all four waves of the survey for certain groups to be more engaged with the internet, having a higher percentage of internet users and generally using the internet more widely and more frequently. These groups include those who are younger, more urban, have a higher household income, and are New Zealand European or Asian. In addition, those with higher self-rated ability are more likely to be highly engaged users. Many of the digital divides that exist on these dimensions have decreased somewhat between 2007 and 2013. Differences in household income have a greater effect on those over 65 than on younger people. This gap in relation to household income has decreased substantially over time, but is still evident. There are no significant gender differences in terms of overall access to the internet, however there are differing preferences, such as men watching videos online more frequently, and women being more frequent users of social networking sites. Although divides are decreasing, partly as a result of more widespread availability of internet access, it is possible that new difficulties arise for those New Zealanders who do *not* use the internet – a shrinking minority whose risk of disadvantage may increase as internet use becomes ubiquitous. Additionally, new technology can create new divides, so that even users of the internet may be disadvantaged by not using certain devices.

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Chapter 1

Contextualising Internet Research in New Zealand

Contents of report

The World Internet Project New Zealand (WIPNZ) survey focuses not just on usage of the internet, but also on people's attitudes towards it, and how they see it affecting their lives and the world around them. This report analyses all four waves of the WIPNZ survey, undertaken in 2007, 2009, 2011 and 2013. It provides an overview of the data, showing changes, transformations and trends over a seven year span – these include the birth of a new era of mobile internet access through smartphones and tablets, and the move of dial-up connections towards obscurity.

In this introductory chapter, we briefly describe the development of internet infrastructure and adoption in New Zealand and list some of the sources of data on internet use in New Zealand and internationally. We then present a conceptual framework for the WIPNZ survey questions, including details of methodology and a description of the position of WIPNZ within the international World Internet Project. We conclude the chapter by presenting a key concept for interpreting the trends presented throughout the report: the innovation S-curve. All of this material provides a context for the presentation of top-level aggregated data across the four waves of the survey in Chapter 2. Following this, in Chapter 3, we look at a cohort of respondents who have participated in all four rounds of the survey. A series of vignettes based on these respondents illustrates more vividly the kinds of changing relationship individuals can have with the internet over time. In the final chapter, we present data which speaks to ongoing questions around internet inclusion and digital divides.

It should be noted here that the results presented in this report include only those variables which have existed in previous waves of the WIPNZ questionnaire. Results of newer survey questions, for example on usage of the cloud and uptake of subscription services, appear in the November 2013 report, available at wipnz.aut.ac.nz. The 2013 report also offers an analysis of different types and degrees of internet user. This report therefore complements and expands upon the analysis released in November 2013.

A brief history of the internet in New Zealand

The internet was adopted relatively swiftly in New Zealand, leading to high overall internet access figures. The growth of broadband, however, has been much slower than the rest of the developed world. In terms of the technical infrastructure, there have been considerable issues with the performance and coverage of the central telecommunications network. Specifically, outside of the central business districts of the main urban centres, there is a lack of fibre and an over-reliance on ageing copper cables.

In 2006, government regulation forced Telecom, New Zealand's largest telecommunications company, to open its network to competitors, increasing market competition and improving broadband services to end-users. With increasing speeds and higher data caps on subscription plans, uptake of broadband increased. In June 2006, New Zealand was ranked 22nd out of 30 OECD countries in terms of broadband uptake. By 2010, this ranking had increased to 17th place. The dominant broadband technology remains DSL, which is used by three quarters of broadband subscribers. Broadband upload speeds have increased substantially over the last few years. Most broadband subscribers now have upload speeds of greater than 256 Kbps, compared to one quarter of subscribers in 2007.

Census data shows household connection to the internet increasing from 37% in 2001 to 61% in 2006 and then to 77% in 2013. In addition, of course, many individuals also access internet elsewhere and so the individual internet access rate (as deployed in WIPNZ) is considerably higher.

Despite these improvements, the need for broadband development in New Zealand is still a high profile issue. The internet was a key topic of policy debate in the lead-up to the 2008 general election. One of the National Party's campaign platforms was the proposal of substantive new broadband investment policies, including the Ultra-Fast Broadband (UFB) initiative, which committed to building 'fibre to the premises' networks. The creation of public/private partnerships, with the support of \$1.5 billion of government funding, is developing fibre-optic infrastructure that can provide download speeds of over 100 Mbps and upload speeds of at least 50 Mbps. In addition to the UFB, is the Rural Broadband Initiative, bringing broadband connections to those rural areas still limited to dial-up through the existing copper cable infrastructure.

One manifestation of the heightened national interest in the internet was the inaugural NetHui conference in 2011, run by InternetNZ, a non-profit organisation dedicated to protecting and promoting the internet in New Zealand. The conference followed the format of multi-stakeholder collaboration introduced internationally by the Internet Governance Forum. The annual conferences provide a platform for community-focused discussions on issues such as internet access, cybercitizenship, governance, openness, and education.

While much public discourse is focused on the development of high speed broadband infrastructure, recent years have seen other internet-related policy changes. These changes deal with issues such as cyber-security, privacy and intellectual property. 'Anti-spam' legislation (the Unsolicited Electronic Messages Act) was passed in 2007, prohibiting the sending of unsolicited commercial emails. The new law also requires all commercial emails to include a functional unsubscribe facility along with accurate information about the person who authorised the sending of the message.

In 2011, the Copyright (Infringing File Sharing) Amendment Act 2011 came into force in an attempt to reduce illegal file sharing. Individuals can now be fined for copyright infringement by online file sharing using peer-to-peer protocols. 2011 saw the launch of a 'Cyber Security Strategy' which aims to increase awareness about online security and to develop resources to deal with security breaches. Meanwhile, a review of the Privacy Act by the Law Commission has recommended a range of policy changes which will protect the security of internet users' personal information. In November 2013, the Telecommunications (Interception Capability and Security) bill was narrowly passed; it requires telecommunication network operators to allow the Government Communications Security Bureau (GCSB) to intercept customer communications for the purpose of national security.

In addition to these changes in government policy, the importance of tracking developments in internet use is also increasingly acknowledged, with Statistics New Zealand having carried out a project to improve and consolidate the collection of ICT related information.

A government priority for the delivery of better public services since 2012 has included a strategy to improve the quality of the government's digital service offerings to New Zealanders. Known as Result 10 (being one of ten objectives of the government's Better Public Services Programme), the targeted outcome is for 70% of New Zealanders' most common transactions with government to be completed in a digital environment by 2017. Charged with the responsibility of leading Result 10, the Department of Internal Affairs has been working with other government agencies to achieve this result by focusing on making digital transactions easy to understand and process, and ensuring their design and delivery is focused on what is most beneficial to the customer.

Data collection on internet use

There are a range of sources of information on internet access and use in New Zealand, most coming from Statistics New Zealand. These sources include the New Zealand Census, and a suite of surveys which focus on Household Use of ICT, Business Use of ICT and on Internet Service Providers.

Private market research companies also collect data, including some which was gathered prior to that made publicly available by Statistics NZ and the WIPNZ reports. Firms such as Roy Morgan and AC Nielsen conduct regular modules on ICT access and use.

Data from all of the above sources, including the WIPNZ, feed into international analyses by, for example, the International Telecommunication Union (an agency of the United Nations), who amalgamate data from around the world. The ITU also publishes standards on best practices for internet research in the form of the 'Manual for Measuring ICT Access and Use by Households and Individuals' (PDF of 2014 edition available at http://www.itu.int/dms_pub/itu-d/opb/ind/D-IND-ITCMEAS-2014-PDF-E.pdf).

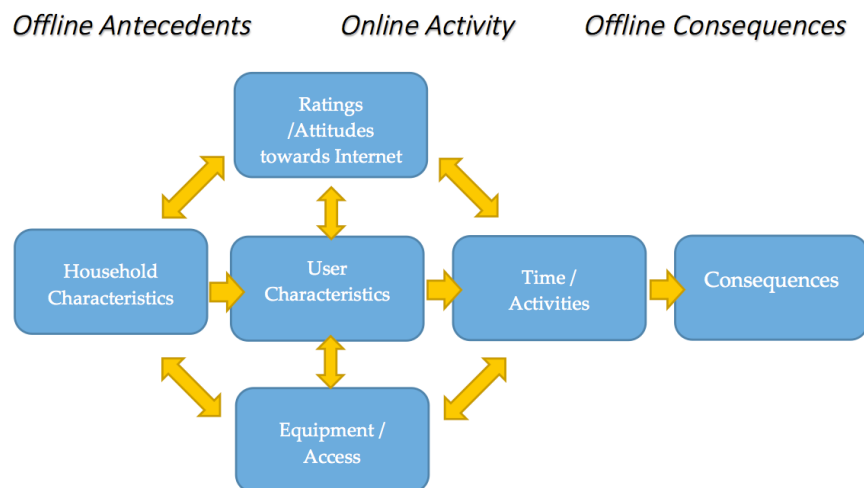
Another key international publication is the Global Information Technology Report, published by the World Economic Forum (PDF available at http://www3.weforum.org/docs/WEF_GlobalInformationTechnology_Report_2014.pdf). The World Internet Project international reports include the WIPNZ data and are released annually, covering comparable results from more than thirty countries (PDFs available at worldinternetproject.net).

A conceptual framework for the WIPNZ questions

The 65 or so WIPNZ questions (many with several sub-questions) produce around 200 variables in the analysed data-set. These can be broadly organised into six groupings or 'blocks':

1. Personal and household social characteristics.
2. Internet user characteristics – their experience, skills, and feelings about operating the internet.
3. Opportunities for accessing the internet and the equipment available.
4. Attitudes/views concerning the operation of the internet and users' particular approach to it.
5. Pattern or style of usage of the internet.
6. 'Outcomes' – reported/actual effects of the internet on people's lives (and life satisfactions).

Conceptual Framework for WIPNZ Questions



Generally, the flow of causation or influence moves from left to right as shown in the figure above, but there are many complexities and feedback loops.

In assessing the outcomes of internet use, WIPNZ has several measures including the importance of the internet, and the reported effect of the internet on respondents' interaction with contacts.

Methodology of WIPNZ

The data presented in this report are based largely on telephone surveys carried out on our behalf by Phoenix Research Ltd in each of the four waves since 2007. The 2013 data included additional online survey respondents in order to allow the inclusion of those who do not have a landline at home, which is a growing proportion of New Zealanders. These online interviews were administered by BuzzChannel.

The 2007 survey-wave was based on a simple random sample of New Zealanders together with three random booster sub-samples targeting meshblock areas with high proportions of Māori, Pasifika and Asian populations. From 2009 on, the survey design included recontacts from previous waves of WIPNZ in addition to a simple random sample with targeted boosters for under-represented ethnic groups. The first three waves of the survey included 12–15 year olds, while the 2013 survey sampled only those aged 16 and over. For the purposes of this report, 12–15 year olds have been removed from the data for the first three waves. Having removed the youngest respondents from the first three waves, each year of data was re-weighted according to the principles and formulae used in 2013 (based on Statistics New Zealand estimates relevant to each year) to ensure that the respondents are representative of the New Zealand population in terms of key demographics: age, gender and ethnicity, and correcting for likelihood of selection according to the number of adults in the household.

Since the sample for the 2013 wave has a different design from prior years, including online respondents, certain participants in the earlier waves of the survey have been given higher weights to create greater continuity across the datasets. The reweighting of data from earlier waves included a slight boosting of weights for individuals accessing the internet through a mobile device, using these individuals as a proxy for the non-landline population excluded in those landline based samples. This boosting was incrementally stronger in each wave (with no boosting for 2007), in line with the increasing proportion of non-landline households. The rationale for this was that those in households with no landline, but with internet access, are more likely to access the internet through a mobile device. In 2007, the proportion of no-landline households was lower, and mobile internet connections were still extremely rare, so it was decided that the simple random sample in 2007 was satisfactory as a base from which to compare later years. Despite these efforts to create continuity between the samples, the fact remains that the 2013 data come from a different sample design. This needs to be taken into account when comparing 2013 data to results from previous years. Similarly, the first three waves of the survey should be viewed bearing in mind that they exclude those with no landline.

The final analysed sample, across all years, is based on 5855 completed responses. Most graphs present information about all respondents or about internet users only. The full survey and analysis methodology is presented in Appendix A, detailing the shape and treatment of the database from which these results are drawn, as well as giving indicative confidence intervals for the results. For the internet users subset (n=1189, 1033, 1071, 1847 for each of the four waves, respectively), 95% confidence intervals vary from approximately $\pm 2.0\%$ on percentages under 20% or over 80%, to around $\pm 2.5\%$ on percentages in the 20%–80% range.

New Zealand internet use in an international context

This New Zealand survey is one of a number of studies conducted by more than thirty countries that contribute to the World Internet Project, an international collaborative project running since 2000, looking at the social, political and economic impact of the internet and other new technologies. The World Internet Project enables monitoring of developments and trends in internet usage both locally and internationally. The WIPNZ survey includes questions common to all WIP partners, to allow international comparisons, as well as a set of questions designed specifically for New Zealand. An international report, including a selection of the New Zealand findings presented below, will compare WIP member countries who conducted surveys during 2013. International comparisons of the 2011 WIPNZ data are available at <http://www.worldinternetproject.net/#reports>.

It is intended that the WIPNZ findings provide the country with information that assists in understanding the various social, cultural and political impacts of the internet on New Zealanders' lives, and that contributes to the decision making, planning and debate in Government policy and industry in New Zealand.

Interpreting changes over time: The innovation S-curve

As the time-depth of the WIPNZ data increases, we can discern more intricate patterns of change. Just as the uptake of internet use in its broadest sense has moved through different sectors of the population at different rates, so each online behaviour appears to have its own path, determined by both digital divides and also matters of personal taste. The “diffusion of innovations” often takes the shape of an S-curve with different social groups of adopters successively engaged with new innovations as they spread through society. Primary or early adopters are people who generally are quick to experiment with and adopt new technologies. The secondary adopters tend to delay until the primary adopters have used the innovations for some time, and tertiary adopters defer adoption until the innovation has become commonplace with the secondary adopters. Some never adopt, and others actively oppose the innovation. Primary adopters are frequently attracted by broadcast advertising while secondary adopters, more often, are socially influenced by members of the early adopter group with more emotional content brought in. Note that primary adopters also tend to be those with the greatest economic means, and thus the capacity to pay higher rates for devices and services in their earliest phase – prices tend to drop after some time, allowing the spread of innovations to continue throughout less privileged sectors of society. As well as financial privilege, other kinds of inequality can cause groups to adopt later, such as a lack of necessary infrastructure, a prime example being the late uptake of broadband in rural areas of New Zealand. When looked at on a graph over time, diffusion through a population often starts slowly and then accelerates before beginning to slow down somewhere before nearly-full saturation might occur. Hence the S-curve.

Chapter 2

Key Findings 2007–2013

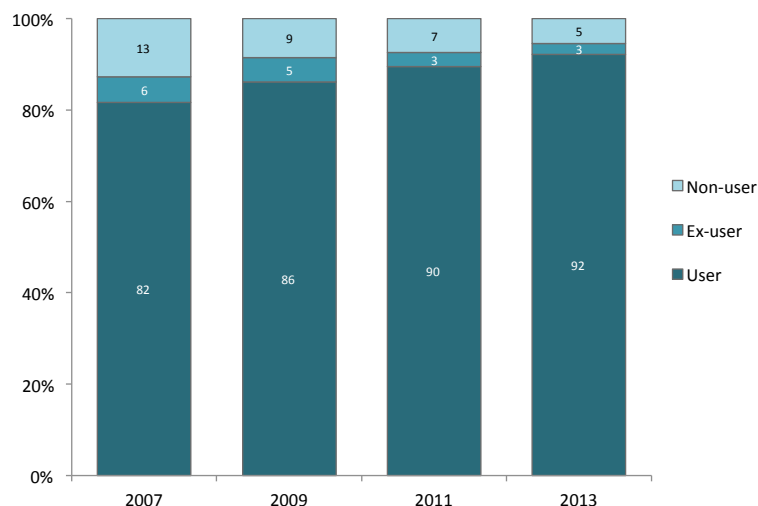
This chapter covers the main top-level trends over time, looking at each year's sample in its entirety. The results are grouped into thematic sections, beginning with a look at overall usage patterns, where we see the steady rise of internet use in general, the decline of dial-up only households, and the upsurge in mobile use, along with the increasing importance of the internet to the everyday lives of New Zealanders.

Results are presented as percentages. Each result is briefly discussed alongside a graph showing the proportions of respondents in each response category. Presentation of results includes the following details:

- **Survey question wording:** The full wording of the relevant survey question is given alongside each graph. This allows the presentation of truncated wording to describe questions on the graphs themselves. The number of the question as listed in the WIPNZ 2013 questionnaire is also given. The questionnaire is available online at wipnz.aut.ac.nz. Changes in question wording across the different waves of the survey are also noted.
- **Base:** A description of the set of respondents of whom the question was asked. Most commonly, this is either all respondents or all internet users. Some questions were asked of different or more restricted groups, depending on the relevance of the question to the group.
- **Methodological notes:** Underneath certain graphs are notes detailing methodological issues such as wording changes in the survey from year to year. These notes also clarify the presentation of certain graphs and give indications of where caution should be used in interpretation.
- **Confidence intervals** (with a 95% significance level) for the internet users subset vary from approximately $\pm 2.0\%$ on percentages under 20% or over 80%, to around $\pm 2.5\%$ on percentages in the 20%–80% range.
- **Numbers** (in %) are rounded to integers, and displayed on graphs for all but the smallest of results.

Usage Patterns

User status



Base: All respondents. (2007 n=1455; 2009 n=1198; 2011 n=1196; 2013 n=2006). Note: A large proportion of the 2013 sample conducted the survey online and thus could not have been non-users. The user figure for this year may therefore be slightly overestimated. | Note: The figures for 2007–2011 are based on reweighted samples correcting for age biases (towards older age groups) that existed in previous waves. These reweighted data also exclude respondents aged 12–15 to allow comparison with the 2013 sample which did not include under-16s. The figures reported here are therefore somewhat different to those reported in original reports for prior years, though generally within the confidence intervals of those figures.

Q1: Do you currently use the internet?

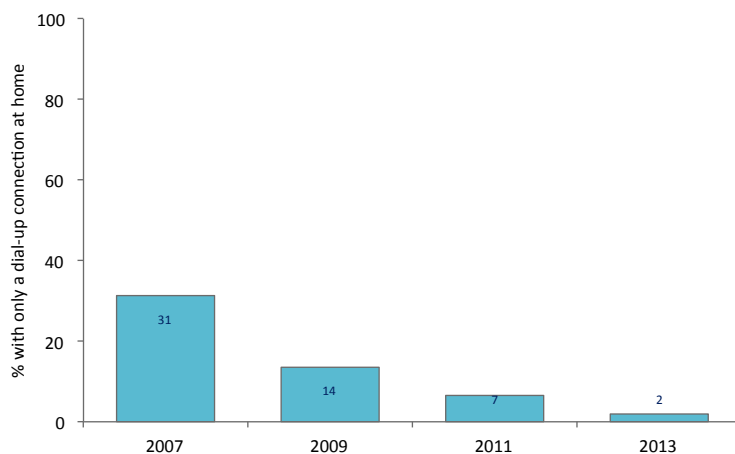
Q1B: Has there ever been a period of time in the past when you have used the internet?

The percentage of internet users in New Zealand has risen steadily since 2007, when 82% of respondents were internet users, to 92% in 2013.

There has been slightly less growth between each of the waves of the WIPNZ survey, suggesting a slight ceiling effect.

With over nine out of ten New Zealanders using the internet, it is important to consider whether the impacts of *not* using the internet are increasing. As availability of internet access becomes ubiquitous, it is possible that new difficulties arise for the shrinking minority of New Zealanders who do not use the internet. Additionally, new technology can create new divides, so that even users of the internet may be disadvantaged by not using certain devices.

Connection type at home: Dial-up only



Base: Internet users having an internet connection at home | Note: Those that belong to the panel from which online respondents were drawn are highly likely to have broadband access in order to complete surveys, the dial-up only estimate for 2013 may therefore be underestimated.

Q5A: What type of internet connection do you have at home?

In 2007, the lack of availability of broadband was a heated topic of much debate in New Zealand, with 31% of people having access to the internet at home restricted to a dial-up connection.

The past six years have seen dial-up head towards obsolescence. Many of those that do have a dial-up connection at home now also have the ability to connect through a mobile phone, but broadband connections of various types are now embedded as the standard means of household access.

2011 & 2013
Q2: Do you use the internet through wireless hand-held devices, such as a mobile phone or iPad?

2007 & 2009
Q2: Do you use the internet through wireless devices such as a wireless computer or a mobile phone from any location?

As a consequence of changing technology, the World Internet Project changed the wording in this question in 2011 to exclude laptops, and focus solely on 'hand-held' devices, such as smartphones and tablets.

Even with this narrowing definition of devices, the growth in uptake is remarkable, from 8% of internet users in 2007 to 69% in 2013.

Q6: Where in your home do you mostly use the internet?

The main location where people use the internet in their homes is changing, with a significant trend towards more people going online mainly in living areas such as their lounge or dining room, increasing from 37% in 2007 to 56% in 2013.

Most of the growth in use in living areas has been at the cost of use in offices and studies, the realm of desktop computers.

Using the internet in bedrooms appeared to be decreasing as well, until 2013. It may be that with the rapid uptake of mobile internet use, the internet is now available anywhere in the home, including in bed.

Q3: On an average day, how much time do you spend on the internet in each of the following locations ... ?
1. at home
2. at work, not in the home

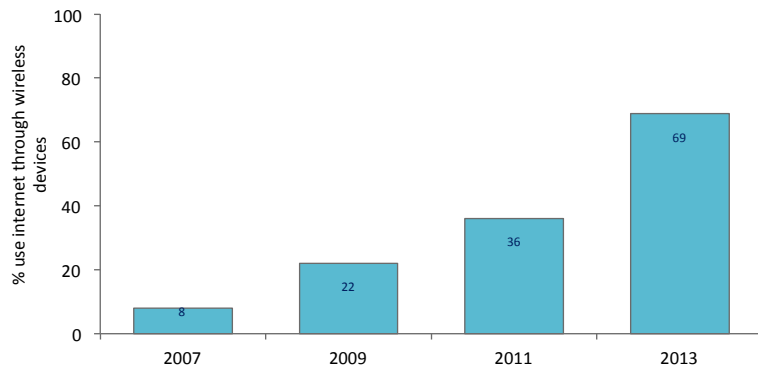
Q2A: On an average day, how much time do you spend using the internet through wireless hand-held devices such as a mobile phone or a tablet?

Almost all internet users access the internet from home, and the proportion going online at home for three hours or more on an average day has more than doubled between 2011 and 2013.

There is still a large percentage of employed internet users who do not go online at work on an average day (35% in 2011, dropping to 30% in 2013). Of those that do, the proportion using the internet at work for three hours or more has increased.

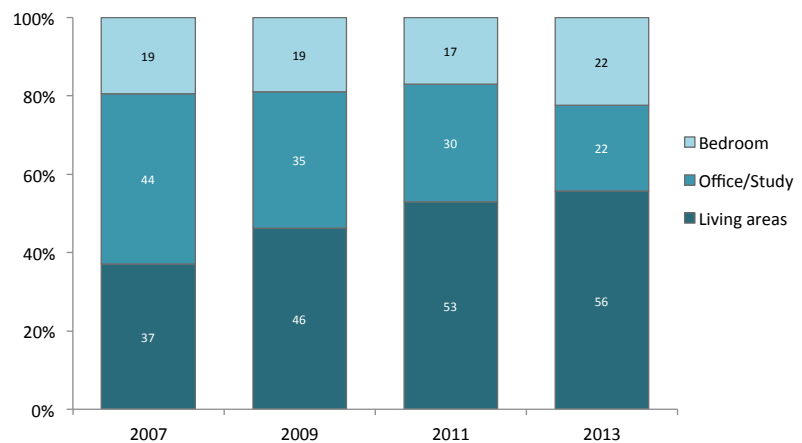
Just as overall use of mobile devices has increased, the amount of time per day people spend online on their phones and tablets is increasing dramatically.

Accessing internet through a wireless* device



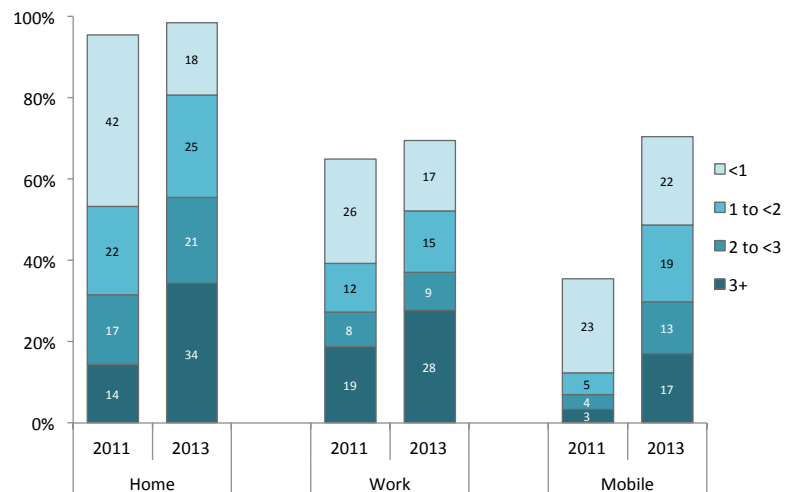
Base: Users | *Note: different questionnaire wording in different years.

Main location in house for using internet



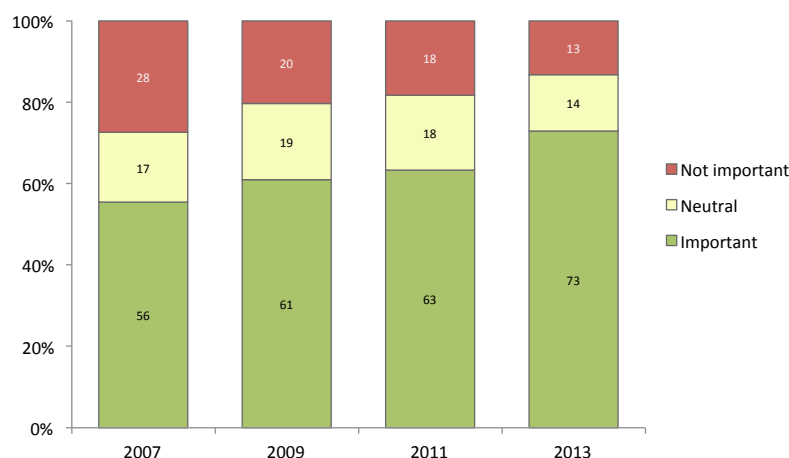
Base: Internet users with an internet connection at home.

Hours online on an average day



Base for use at home: All internet users | Base for use at work: Employed internet users (2011 n=759; 2013 n=1300) | Base for use on a mobile handheld device: All internet users | Note: Previous WIPNZ surveys have asked about time spent online in 'a typical week' – the 2013 survey updated this to 'an average day'. Figures from 2011 were divided by 7 for home and mobile, and by 5 for work, to get an estimate of the hours online on an average day.

Importance of internet to everyday life



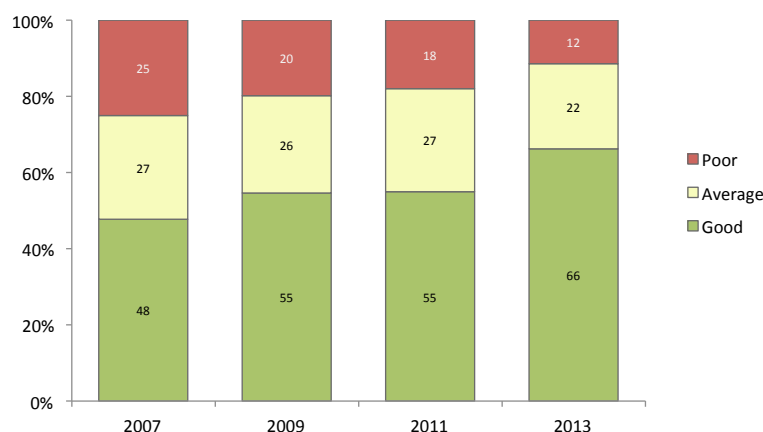
Base: All respondents. Note: On several graphs throughout the report, we represent results from five-point Likert scales in three categories, grouping together responses 1-2 and 4-5. The names given in legends are derived from the wording on the various scales in their original forms which can be found in the WIPNZ 2013 questionnaire.

Q50: Overall, how important is the internet to your everyday life?

As the internet becomes increasingly ubiquitous its perceived importance is rising. 73% of New Zealanders feel that the internet is important or very important in their everyday life, compared to 56% in 2007.

As would be expected, the internet is not important to many non-users, though this small percentage has also increased slightly, from 7% in 2007 to 10% of non-users in 2013. This increase complements an increase over time in the proportion of non-users who say they have asked other people to do things for them online (60% of non-users in 2013).

Rating of ability to use internet



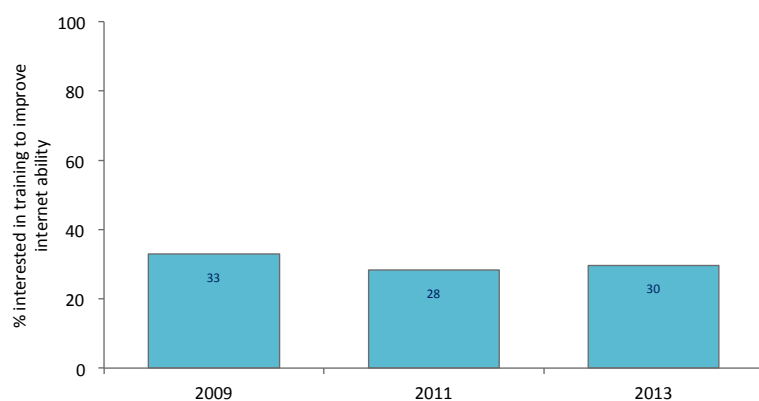
Base: All respondents.

Q11: How would you rate your ability to use the internet?

In 2007, one in four New Zealanders rated their ability to use the internet at 1 or 2 on a 5-point scale (shown on the graph as 'poor'). The size of this group has fallen in each survey, and now only one in nine have low confidence in their online literacy.

Meanwhile the proportion of New Zealanders who rate their ability to use the internet as good or excellent has grown substantially, from less than half (48%) in 2007, to two out of three (66%) in 2013.

Interest in training to improve ability



Base: All respondents.

Q12: Would you be interested in undertaking training to improve your ability to use the internet?

There has been a slight but significant decrease in the proportion of people interested in undertaking training to improve their ability to use the internet, though this drop is only apparent between 2009 and 2011. There was no significant change between 2011 and 2013. This is likely to be a sign of increasing ability in general. It is interesting to note that this decrease has occurred for non-users as well as users. In all three waves of the survey, ex-users have had a much higher proportion of respondents interested in training than either never-users or users, with an average across the three surveys of 41% for ex-users, compared to 28% for never-users and 30% for users.

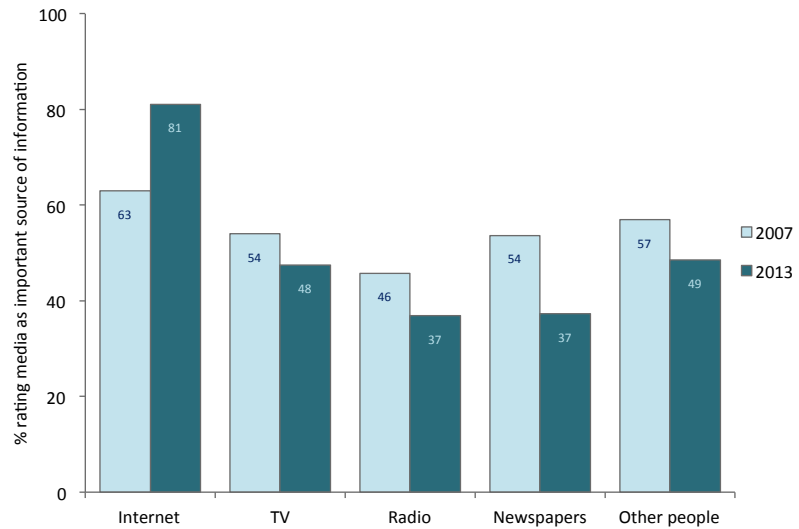
Information Seeking

Q18: How important is each of the following to you as a source of information in general?

- The internet (through any device and including online media)
- Television (not online)
- Newspapers (not online)
- Radio (not online)
- Other people such as family and friends

The internet was already seen as the most important source of information in 2007, and this pattern is now very much stronger, with internet seen as an important provider of information by a much higher proportion of respondents than is any other information source. While all media other than the internet have decreased slightly in perceived importance, it is newspapers that have lost the most ground.

Rating information sources



Base: All respondents | Note: Since 2007, television, radio and newspapers have increasingly moved online, as mass media converge. The questionnaire in 2007–2011 did not specify whether respondents were to consider online forms of these media when rating their importance. The 2013 survey clarified that we were interested only in offline TV, radio and newspapers. This graph (and the graph on p.12 on the importance of media for entertainment) presents a comparison of 2007 to 2013, based on the assumption that take-up of online media was much lower then, and that responses will have largely related to offline media. Note also, that over 2007–2011, the importance ratings of newspapers and radio did decrease, while the importance of these media online have no doubt increased, therefore we can assume that even with the lack of clarification, most respondents understood the question as referring to offline media. It is likely that the figures for television in 2007 are very reliable, slightly less so for radio (in 2007, 28% of users listened to a radio station online), and least reliable for newspapers, since online newspapers were already fairly popular in 2007.

Q51: In your opinion, how much of the information on the internet overall is generally reliable?

There is decreasing scepticism over time about the reliability of information online. Only 7%, including many non-users, feel that it is unreliable.

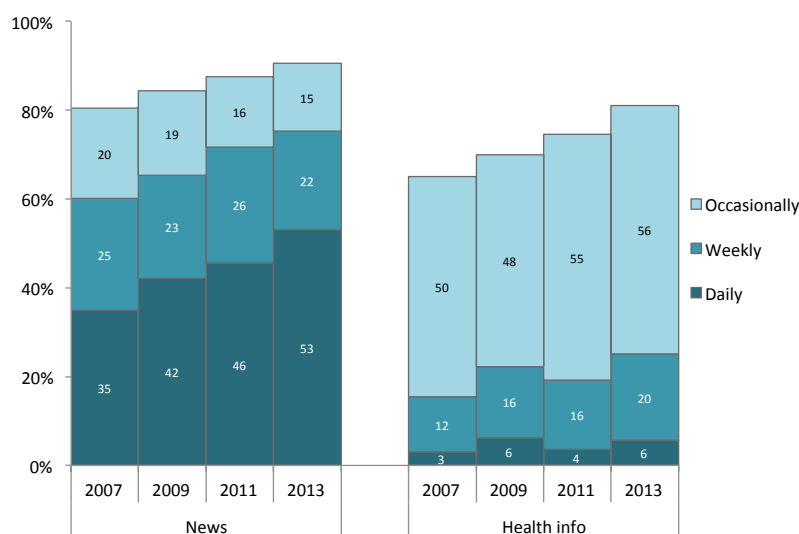
This decrease in scepticism is not replaced by trust in internet information, however. Rather, people are increasingly neutral on this question, reflecting perhaps an awareness that the internet is relatively unconstrained and thus contains material from many conflicting viewpoints.

Reliability of information on internet



Base: All respondents | Note: Results are based on a 5-point scale from 'none of the information online is reliable' to 'all of it is reliable'.

Information seeking (1): News and health



Base: Internet users | Note: The data in its original form included the following six categories: 'several times a day', 'daily', 'weekly', 'monthly', 'less than monthly', and 'never'. In many graphs reporting this kind of frequency information throughout the report, 'monthly' and 'less than monthly' are grouped together and represented as 'occasionally', while 'daily' and 'several times a day' are grouped together as 'daily'. The blank space above each bar represents the percentage of users who 'never' do the activity in question.

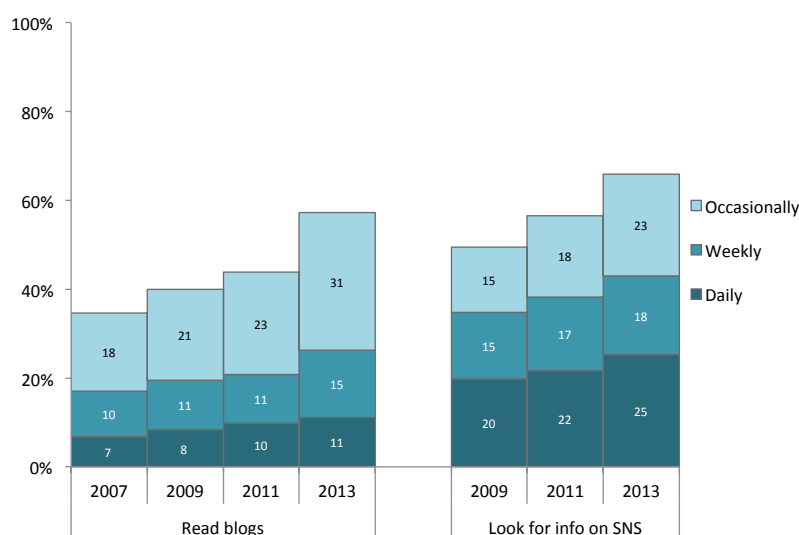
Q21: How often do you use the internet for the following purposes?

- Look for news – local, national, international
- Look for health information

The total proportion of users looking for news online has increased at a moderate rate, from 81% in 2007 to 90% in 2013. The proportion of users looking for news daily or several times a day, however, has increased more substantially, from 35% to 53%.

Searching for health information has grown steadily overall, but the frequency with which people do this has not changed greatly.

Information seeking (2): Blogs and SNS



Base: Internet users | Note: Some results showing a sudden increase in 2013, such as for reading blogs, should be interpreted with some caution. As described earlier in this report, the sample composition in 2013 is very different to previous years, including a large component of online respondents, drawn from a panel. These respondents may have certain characteristics and biases that are not representative of the population as a whole. The inclusion of such people in the sample could conceivably inflate results on certain questions.

Q21 (cont.)

- Read blogs
- Look for information on a social networking site

Internet users increasingly turn to non-traditional sources of information online. Blogs and social networking sites (SNS) convey information in different ways compared with the established media. They deal with specific and potentially idiosyncratic themes in a different format, and at varying levels of reliability.

For most internet users, though, these sources of information are adopted in addition to – not instead of – more traditional online information sources.

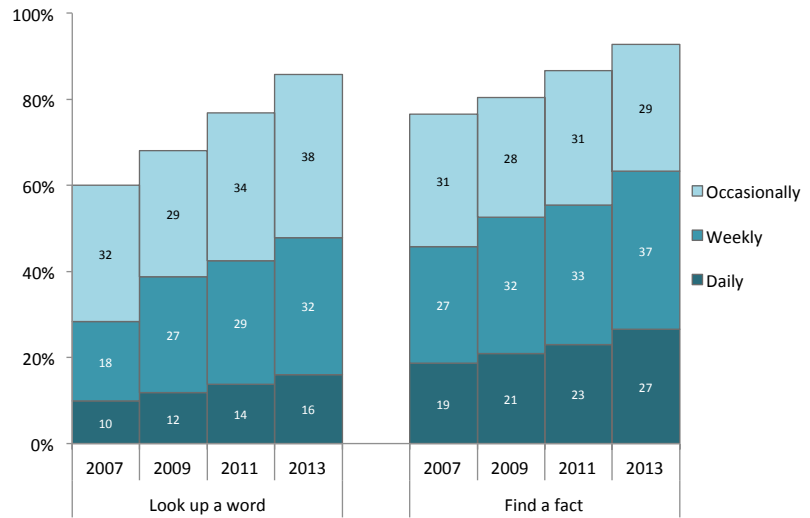
Q38: Some people use the internet for classes or to support their learning, many others do not. How often, if ever, do you use the internet for the following purposes?

- Look up a definition of a word
- Find or check a fact

Two core information seeking activities online are finding and checking facts, and looking up the definitions of words.

Both of these activities have increased in prevalence and frequency in each wave of the survey.

Information seeking (3): Words and facts



Base: Internet users.

Entertainment and Leisure

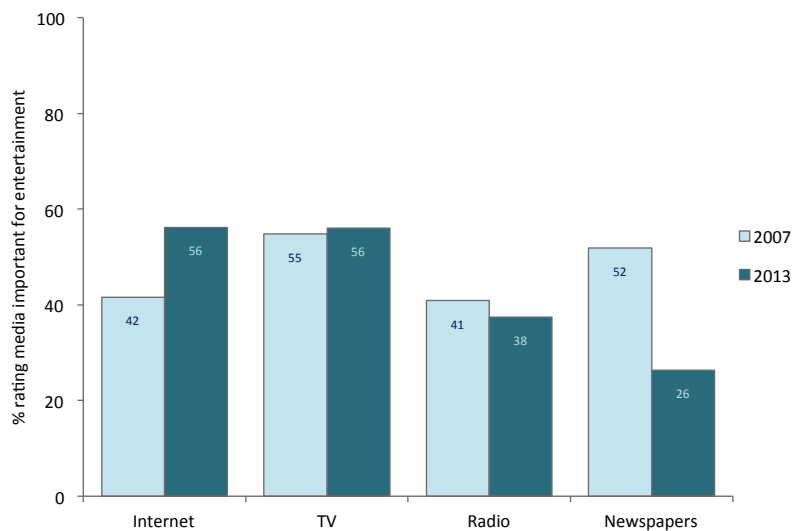
Q17: How important is each of the following media to you as a form of entertainment?

- The internet (through any device and including online media)
- Television (not online)
- Newspapers (not online)
- Radio (not online)

In 2007, respondents were more likely to rate television (55%) and newspapers (52%) as an important source of entertainment than the internet. The internet and radio were important to 42% and 41%, respectively.

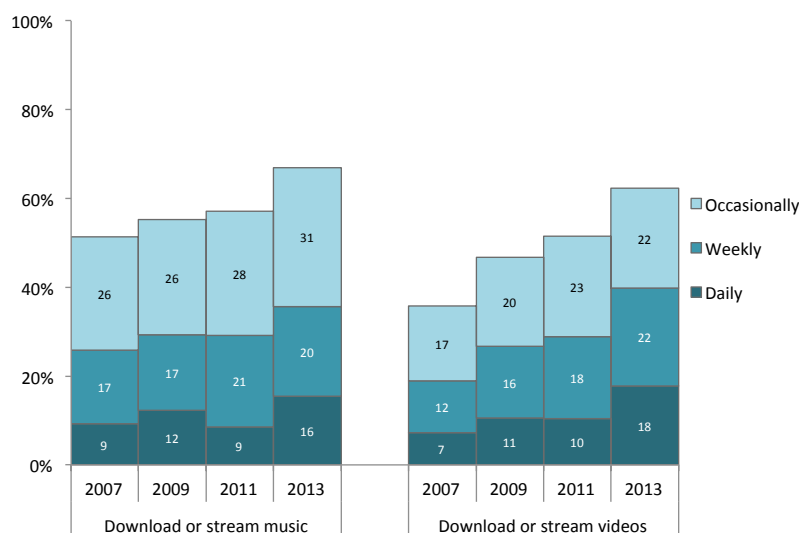
The results for this question in 2013 paint a very different picture, with the internet and television equally important as sources of entertainment, while radio has decreased a little in importance, and the proportion valuing newspapers for entertainment has halved, from 52% in 2007 to 26% in 2013.

Rating entertainment sources



Base: All respondents | Note: The wording of this question was changed in 2013. See the note on p.10 for details.

Online entertainment (1): Music and video



Base: Internet users.

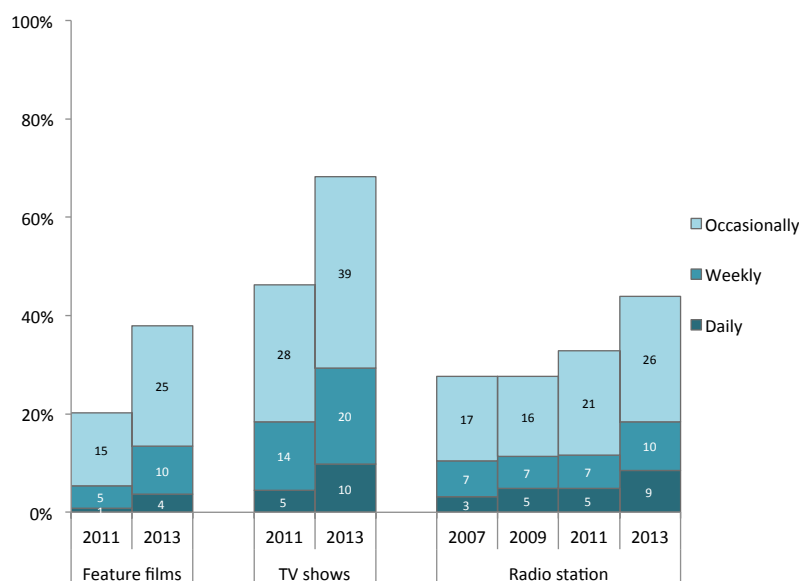
Q19: Now I'd like you to think about the routine things you do for personal entertainment, like playing games or listening to music. How often do you use the internet for the following purposes?

- Download or listen to music online
- Download or watch videos online

Downloading or streaming video, for example on YouTube, has grown steadily since 2007, both in terms of overall penetration and frequency. In 2007, 36% of internet users at least occasionally watched videos online, increasing to 62% in 2013.

Downloading or streaming music showed less growth over the first three surveys, but has taken off in 2013, perhaps in part due to the release in New Zealand of legal subscription services such as Spotify, which became available in May 2012.

Online entertainment (2): Films, TV, radio



Base: Internet users.

Q19 (continued):

- Listen to a radio station online
- Watch TV shows online or on demand
- Download or watch feature films from the internet

TVNZ, one of the two major television networks in NZ, launched its on-demand services in 2007, charging a fee for downloads and streaming of shows. Since then, however, all on-demand services have become free, and in February 2013, accessible on iPhone/iPad.

Almost 70% of internet users watch TV shows online at least occasionally. Rising from 47% in just two years, this is one of the most dramatic increases in the survey. This includes other ways of watching TV shows online, both legal and illegal.

Downloading or streaming feature films depends on a good internet connection, and 39% of users engaged in this activity in 2013, up from 21% in 2011.

In 2007, 27% of internet users listened to radio stations through their internet connection, this has risen to 45% in 2013.

Q19 (cont.):

- Play games online
- Bet, gamble or enter sweepstakes online

Online gaming has grown steadily in popularity over the four waves of the survey. In 2007, one in three users played games online (33%). By 2013, half of internet users were playing games online, with almost one in five doing so daily. The nature of online game-playing has changed over these years, particularly with the rising popularity of tablets and smartphones, and the increasing embedding of games into Facebook. Games such as 'Candy Crush' have been extremely popular, being playable on Facebook or in apps on smartphones and tablets.

In 2013, 13% of users do some sort of online gambling or betting, more than double the 2007 figure of 6%.

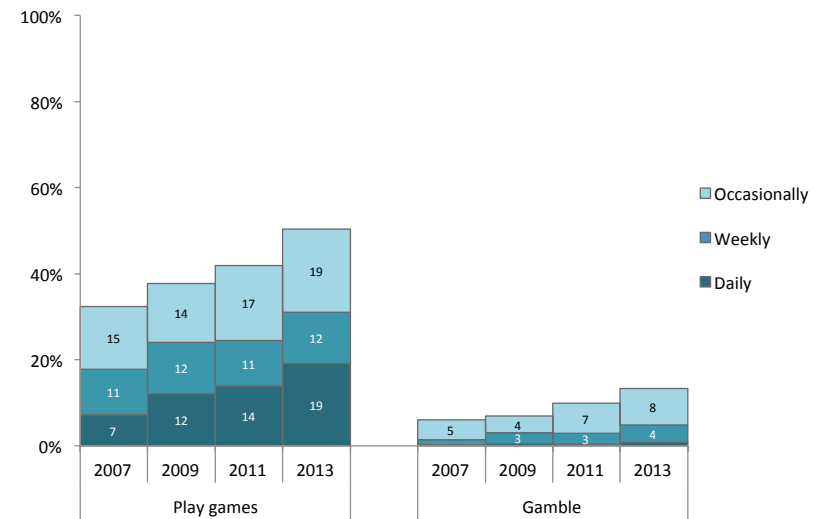
Q19/Q21 (cont.):

- Surf or browse the web
- Look for jokes, cartoons or other humorous content

Browsing through websites is a fundamental element of internet use. Over the four surveys, the total proportion of users doing this has remained constant at around 95–97%. However, there are still significant increases over time in terms of the proportion of users doing this on a daily basis. The proportion of users surfing the web less than daily has almost halved since 2007, from 41% in 2007 to 21% in 2013. Surfing the web several times a day (not shown on graph) has also increased dramatically, from 14% in 2007 to 36% in 2013.

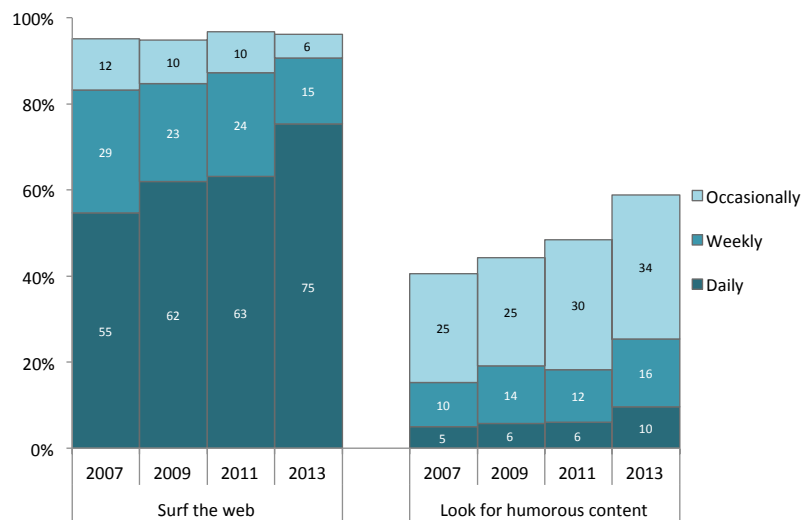
Internet users also increasingly search for humorous content. Unlike surfing the web where the growth has been only in terms of frequency, growth in looking for humorous content has occurred across the board.

Online entertainment (3): Games and gambling



Base: Internet users.

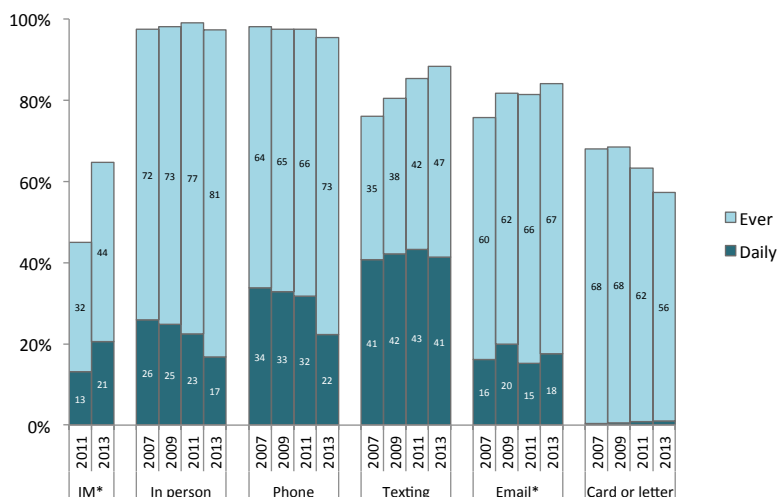
Online entertainment (4): Surf the web, look for humour



Base: Internet users.

Relationships and Communication

Ways of keeping in touch



Base: All respondents | *Note: Questionnaire wording changes in 2013 make these parts of the question less clearly comparable with earlier survey rounds | Note: The use of IM is higher when people living in the same household are included in the question wording, as shown in the results for Q25, below. | Note: In this, and several other graphs throughout the report, the responses 'less than monthly', 'monthly', and 'weekly' have been grouped together and labelled 'ever'.

Q30: Thinking of people who do not live in the same household as you, how often do you contact family or friends by... ?

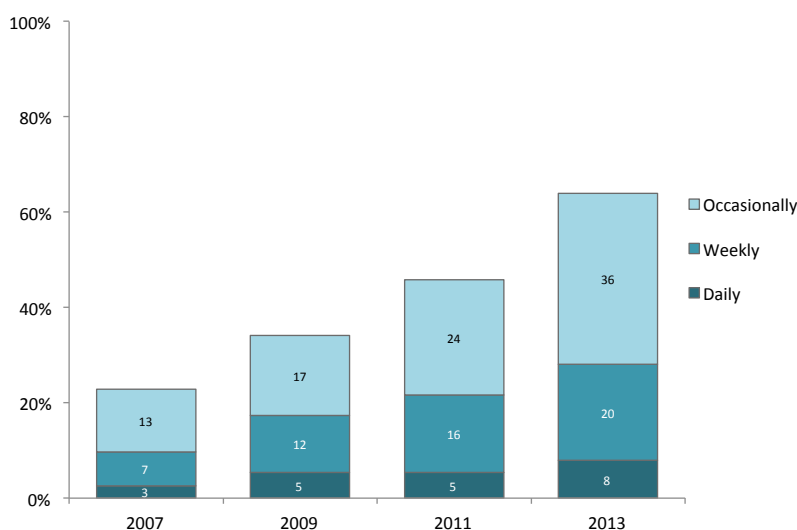
- Meeting them in person
- Writing a card or a letter to them
- Texting them
- Calling them on the phone
- 2007-2011: Emailing them
- 2013: Emailing them (including sending private messages in a social networking site)
- 2007-2011: Using instant messaging
- 2013: Using any kind of instant messaging (including the chat features offered in Gmail, Facebook or Skype, etc.)

As would be expected, almost everyone meets up in person with friends and family. However, meeting in person on a daily basis has shown a significant decrease since 2007.

Calling contacts on the phone is almost as widespread as meeting in person, but this means of contact on a daily basis has also decreased in prevalence.

Texting has consistently been the most popular form of daily communication across all four surveys, and take-up of texting has been gradually increasing.

Phone calls over the internet



Base: Internet users.

Q25: Now I'd like you to think about the different ways people keep in touch with each other in their everyday lives. How often do you use the internet for the following purposes?

- Make or receive phone calls over the internet

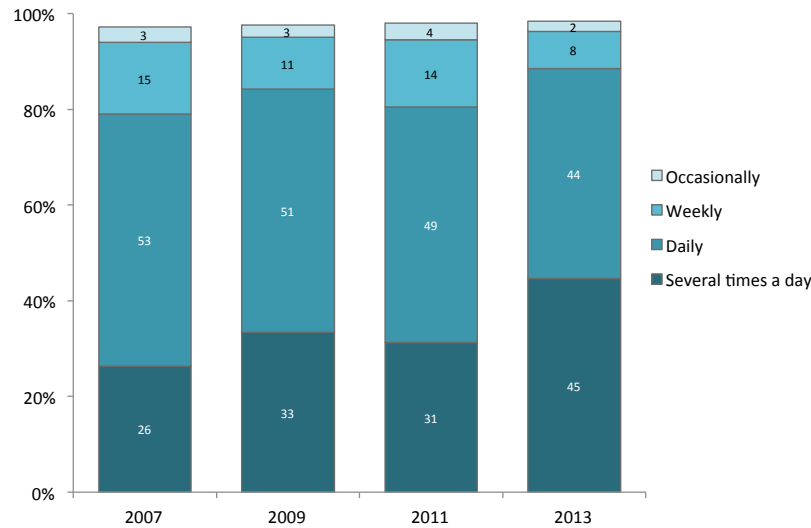
In 2013, 64% of users said they make or receive phone calls online, through an application such as Skype. This has grown steadily, at all levels of frequency, since 2007 when 23% used the internet to make phone calls.

Q25 (cont.):

• Check your email

Checking of email has an interesting trajectory over time. When looking at the whole population, the results are not striking, because two different trends are conflated. There is a move away from traditional email for young people, while it has become a more frequent activity for older users as they have become more active online over the last six years. This pattern is shown on p.42.

Checking email



Base: Internet users.

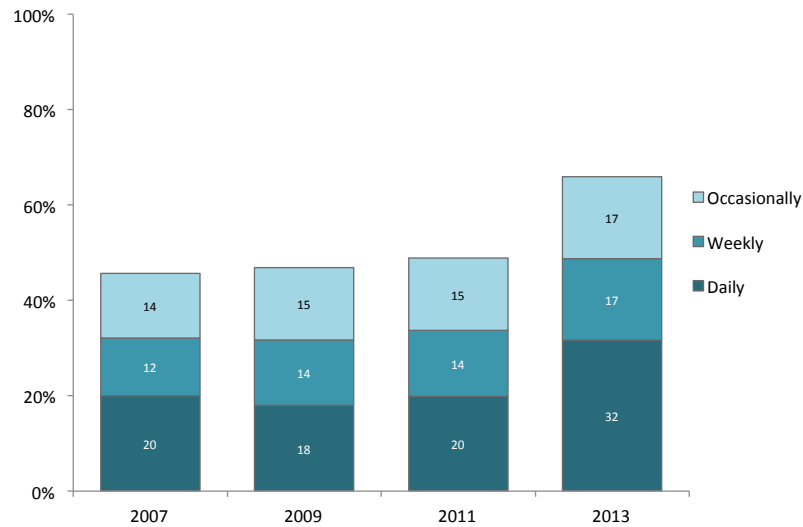
Q25 (cont.):

• Do instant messaging

In the 2013 survey, a dramatic increase occurred in the reported use of instant messaging (IM), with 32% of internet users saying they engage in instant messaging on a daily basis, up from around 20% in all three previous waves of the survey.

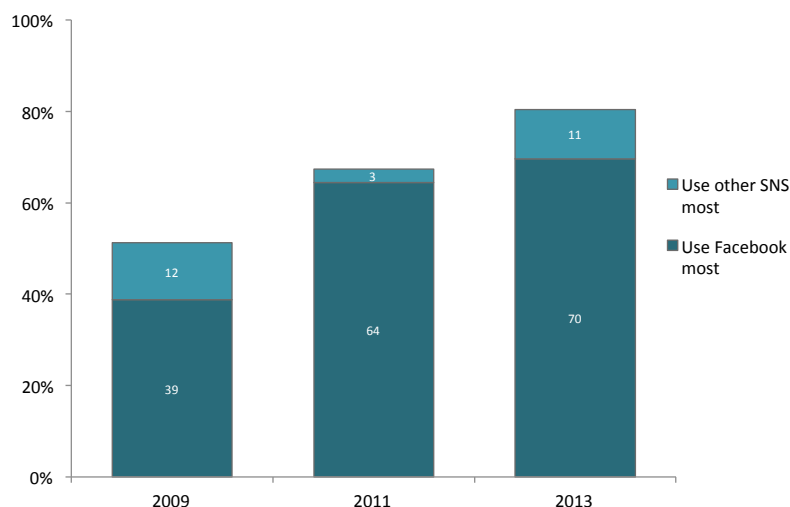
There is a rapid increase in IM with the uptake of smartphones, on which IM can be used in place of traditional SMS texting, through apps such as WhatsApp, Snapchat and Facebook Messenger.

Instant messaging



Base: Internet users | Note: This sudden change relative to the other years could be due to the different sample composition – especially the fact that in 2013, 17% of the sample had no landline, while all previous years were based entirely on landline interviews. 83% of those with no landline at home do instant messaging at least on occasion, compared to 62% of those who do have a landline at home. There are also signs that this jump could reflect a genuine change. There have been reports in the media of IM taking over SMS as the leading form of messaging in the UK in 2013, and the same may also be true of NZ.

Social networking site membership



Base: Internet users. 1 Note: The white space above the bars represents the proportion of users who do not belong to any SNS.

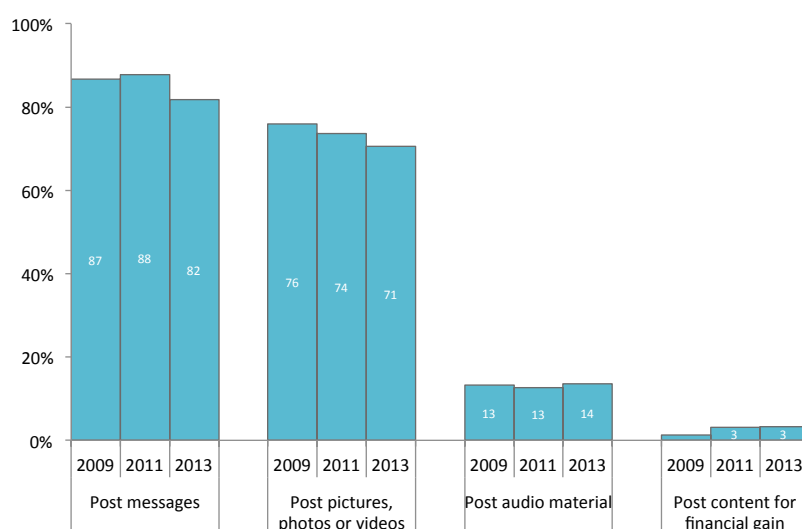
Q23: Are you a member of a social networking site or sites, e.g. Facebook, Google Plus, LinkedIn?

Q24: Which social networking site do you use most often?

In 2009, just 51% of internet users belonged to a social networking site (SNS), growing to 67% in 2011, and to 81% in 2013.

In 2011, Facebook appeared to be at its peak in terms of dominating the SNS market. This was after the demise of MySpace, and before LinkedIn and YouTube started to become rivals as most-used social networking sites, as they are (albeit marginally) in 2013.

Content creation and sharing (1)



Base: Users who are members of a SNS.

Q24A: Thinking about the social networking site or sites you use, do you ... ?

- post messages
- post pictures, photos or videos
- post audio material
- post content for financial gain

While more and more internet users have SNS memberships, there is a growing minority of SNS members who are quite passive in their use of these services. In 2013, 82% of those with a SNS membership said they post messages, down from 87% in 2009. 71% now post pictures or videos, down from 76% in 2009. Interestingly, this decrease is carried largely by those under the age of 40, while there have been increases in older age groups.

Posting content for financial gain is a consistently rare behaviour, suggesting that social networking is still largely just that – social.

Q25 (cont.): How often do you use the internet for the following purposes?

- Update your status, such as what you are doing now [2011] / Update your status [2013]
- Comment on other people's blogs, message boards, etc. [2011] / Comment on other people's blogs, posts, etc. [2013]

More than three quarters (78%) of those who have a membership to a social networking site update their status at least occasionally, however only 29% are actively engaged in this activity, on a weekly basis or more.

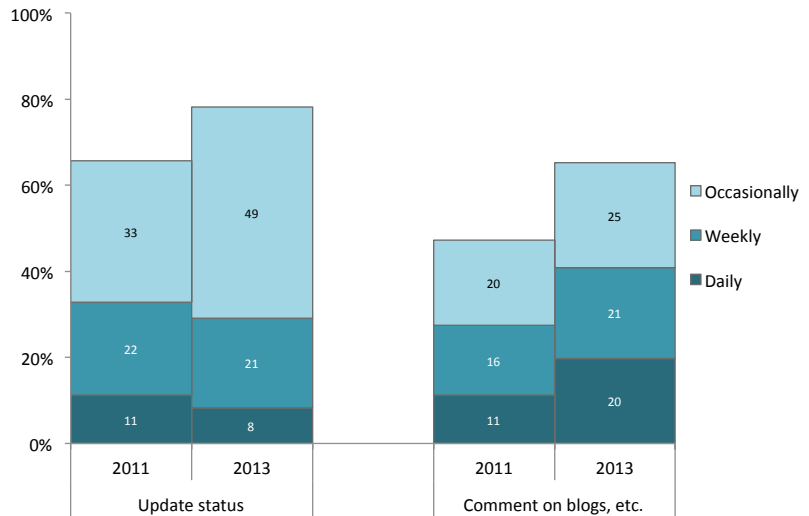
Updating status has increased significantly for those aged 30 and over, but has decreased for those aged 16–29, evidenced by the decrease in daily and weekly status updates: in 2011, 23% of SNS users aged 16–29 updated their status daily, and this has dropped to 10% in 2013.

Commenting on other people's content has continued to grow across all age groups and at all frequency levels. This is becoming more prevalent and more frequent across the board.

Q26. How important are social networking websites to your everyday life?

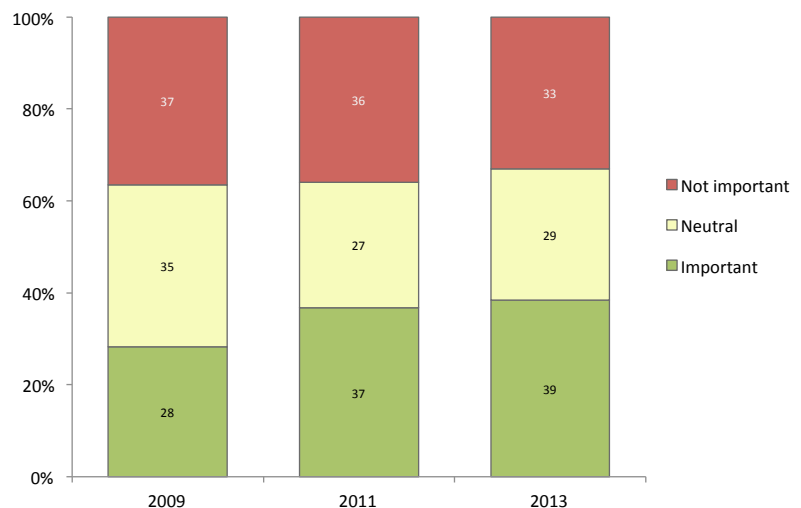
Of the growing population of those who belong to a social networking site, an increasing proportion feel that the SNS is important or very important to their everyday life, though this group is still a minority, at just under four out of ten.

Content creation and sharing (2)



'Update status' base: Users who are members of a SNS | 'Comment on blogs or posts' base: All internet users.

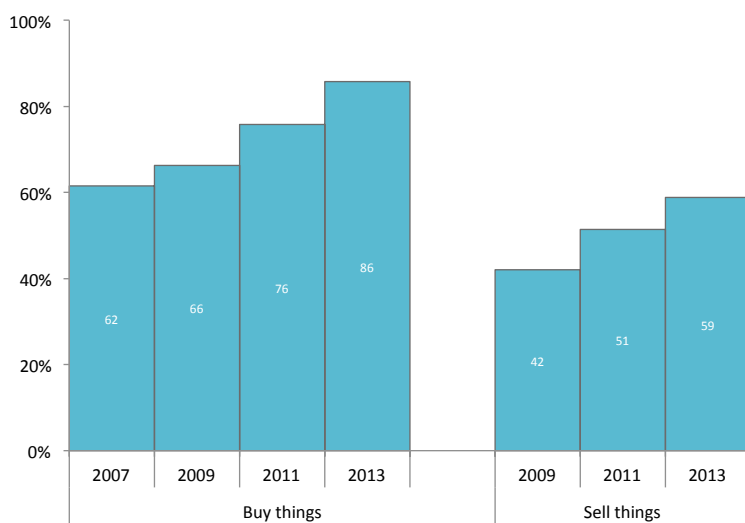
Importance of social networking sites to everyday life



Base: Users who are members of a SNS.

Consumer Transactions

Online consumer transactions (1)



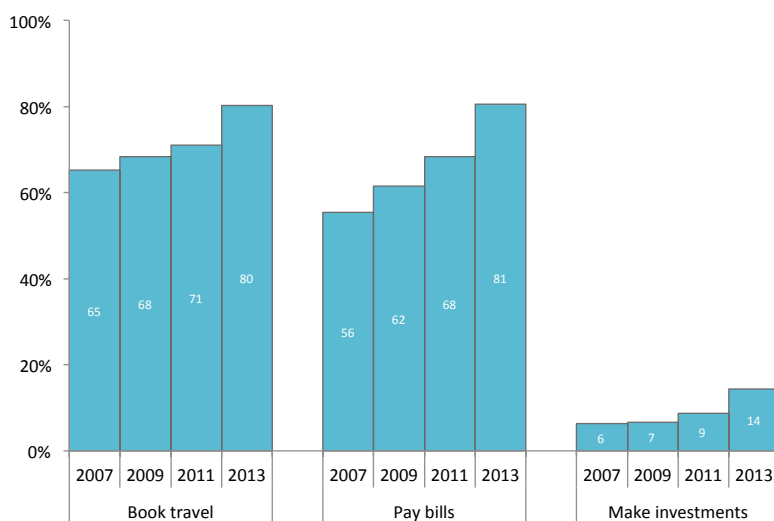
Base: Internet users.

Q31: Now I'd like you to think about different transactions people do in their everyday lives like banking or shopping. How frequently do you use the internet for the following purposes?

- Buy things online
- Sell things online

Most internet users conduct a wide range of transactions online. 86% buy things online, up from 62% in 2007, and 59% sell things online, up from 42% in 2007.

Online consumer transactions (2)



Base: Internet users.

Q31 (cont.):

- Make travel reservations/bookings online
- Pay bills online
- Invest in stocks/funds/bonds online

The proportion of users booking travel online has increased from 65% in 2007 to 80% in 2013, with much of that growth happening between 2011 and 2013.

Paying bills has shown substantial growth with each survey, from 56% of internet users in 2007 up to 81% in 2013.

Making investments online is a rare activity overall, but alongside other commercial activity online, the increase in this area amongst users is notable, moving from 6% in 2007 up to 14% in 2013.

Q31 (cont.):

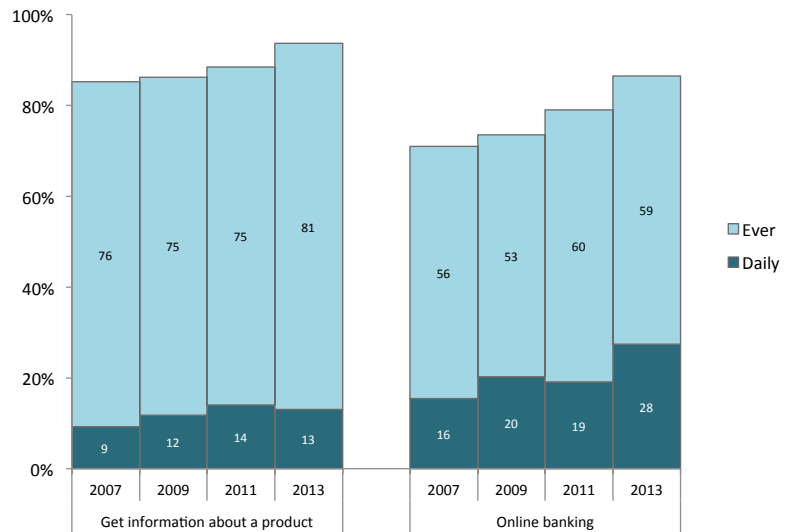
- Get information about a product online
- Use your bank's online services

Two of the most prevalent e-commerce activities are getting information about products, and doing online banking.

The use of the internet to obtain information about products is an activity which nearly all internet users (94%) now do at least on occasion. This proportion has increased in each wave of the survey since 2007.

Online banking has also increased steadily overall, but unlike getting product information, it is becoming a more frequent activity, with 28% of users now using their bank's online services every day, up from 16% in 2007.

Online consumer transactions (3)



Public Sector and Politics

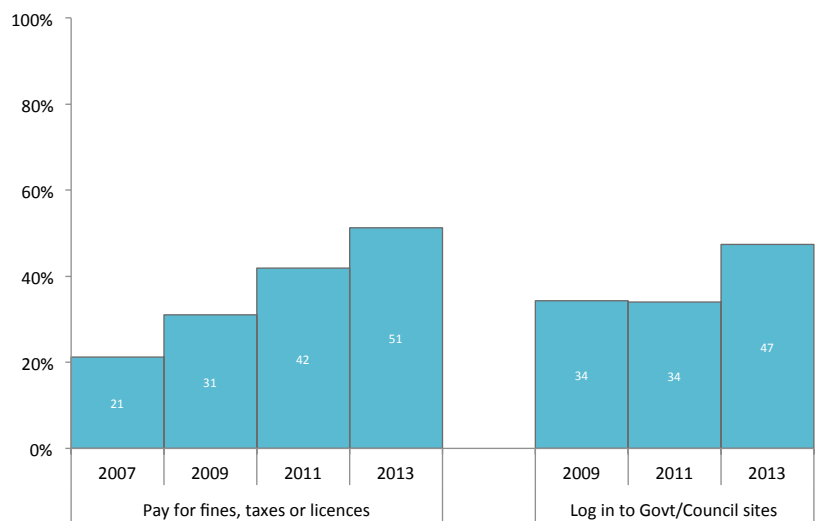
Q34: Talking now about Government information and services, have you used the internet in the past year for the following purposes?

- To pay for taxes, a fine, or licence online
- To log in to secure areas on Government or Council websites

In 2007, only one out of five (21%) internet users had paid for taxes, fines or a licence online. This figure has increased strongly in each wave of the survey, and now over half of users (51%) pay for these Government or Council fees online.

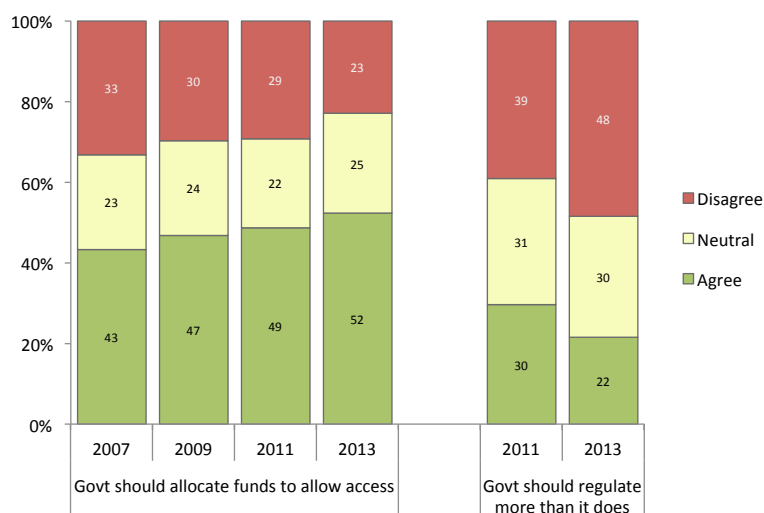
Almost half (47%) of internet users in the 2013 survey said they have logged in to secure areas on Government or Council websites.

Use internet for public information/services



Base: Internet users.

Opinions about political issues on the internet



Base: All respondents.

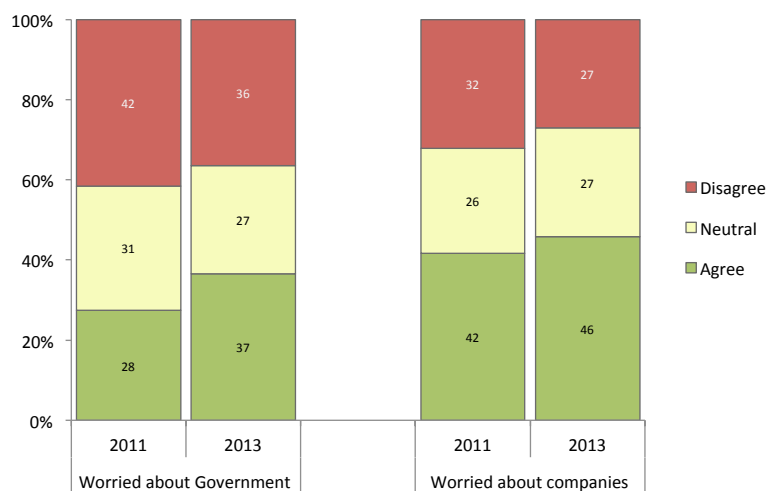
Q37: I'm going to read you a list of statements. Please tell me how much you disagree or agree with each of these statements.

- The NZ Government should allocate funds to enable all New Zealanders to have access to internet services
- The Government should regulate the internet more than it does now

More than half of the full survey sample (52%) agreed that the New Zealand Government should allocate funds to enable all New Zealanders to have access to internet services. This sentiment has been gaining popularity since 2007.

While there is increasing agreement that internet access should be Government-assisted, people are increasingly against the Government regulating the internet itself. Nearly half (48%) of the respondents did not agree that the Government should regulate the internet more than it does now, compared to 39% disagreeing with this in 2011.

Worried about monitoring of online behaviour



Base: Internet users.

Q37 (cont.):

- I am worried about the Government checking what I do online
- I am worried about companies checking what I do online

Between 2011 and 2013, there has been an increase in concern about institutions, both public and commercial, checking on individuals' online activities.

The increase was particularly significant in terms of Government, with 37% agreeing that they were worried about the Government checking what they do online, up from 28% in 2011.

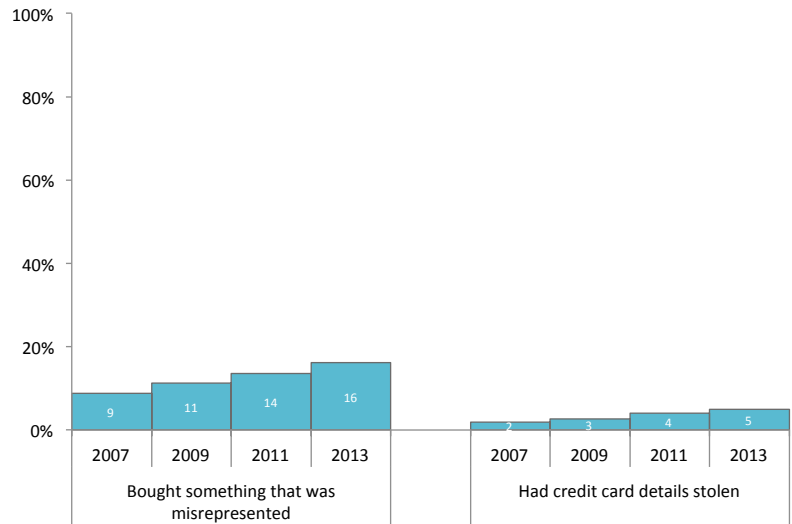
Internet Security

Q48: In the past year have you ...?

- Bought something which has been misrepresented on a website
- Had credit card details stolen via use on the internet

While the internet offers a wide range of positive experiences for users, there are also some dangers. As online purchasing has increased, so have problems associated with online purchases such as theft of credit card details (affecting 5% of users in the last year, up from 2% in 2007), and the misrepresentation of products online.

Security of buying online



Base: Internet users.

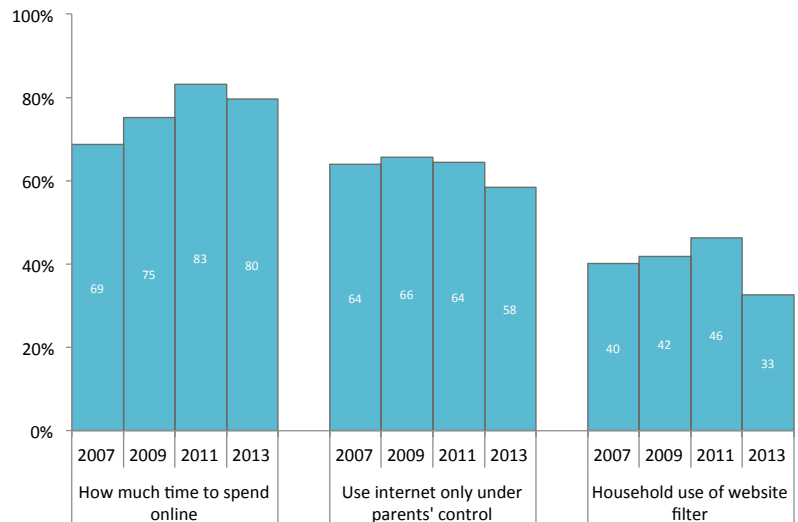
Q46: What rules does your household have regarding use of the internet? Are children guided or told ...?

- How much time to spend online
- To use the computer only under parents' control

Q47: Does your household use a filter that controls or restricts access to certain websites?

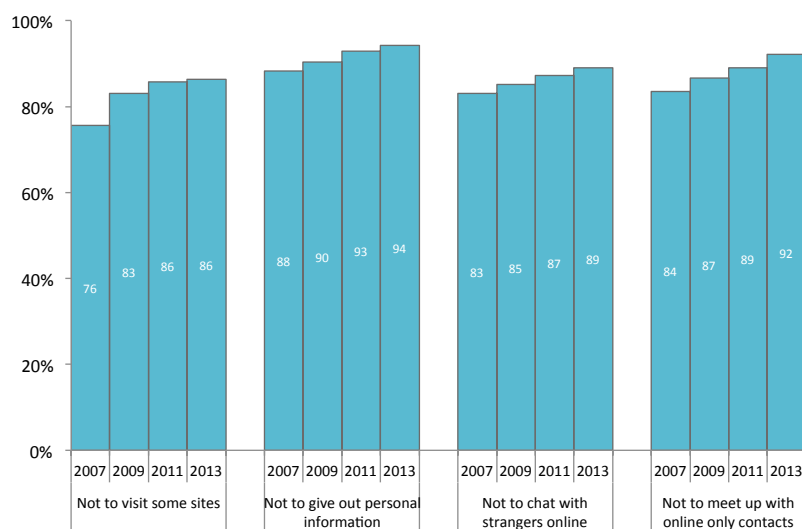
Overall, young people are given a lot of guidance about internet safety. However, there are certain rules which may be diminishing in New Zealand households, particularly those around direct control of under-18s' use of the internet such as specifying time limits for internet use, or directly monitoring internet use through supervision or a website filter.

Household rules for internet use (1)



Base: Internet users in a household that includes somebody under the age of 18.

Household rules for internet use (2)



Base: Internet users in a household that includes somebody under the age of 18.

Q46 (cont.):

- Not to visit some sites
- Not to give out personal information
- Not to chat with strangers online
- Not to meet up with someone they've only met online

Despite the decrease in strict supervision of internet use, caregivers are increasingly likely to give advice to under-18s about their online activities. A large and growing majority of caregivers advise young people not to visit certain sites, and to be cautious about trusting people who they have only met online.

Chapter 3

Vignettes

Before continuing on with presentation of aggregate survey results in Chapter 4, this chapter brings a human touch to the averaged figures by looking at the way individuals' engagement with the internet can change over time in different ways. Approximately 200 respondents participated in all four waves of the survey, and they offer a good indication of how New Zealanders have either embraced digital technology, tried it for a period, or rejected it completely. Most of these 200 respondents were internet users at each of the four waves of the survey. Another group are those consistently being non-users throughout, while some picked up internet use after initially being non-users. There are also a couple of interesting cases where respondents had been internet users but then quit. To illustrate these various patterns and as an introduction to the analytical chapter that follows, we present a selection of vignettes which are written up from survey responses. By focusing on individuals, these vignettes are able to draw on several questions in the WIPNZ survey which are not included in the aggregated displays of results elsewhere in the report, painting a more nuanced picture of the role of the internet in the lives of New Zealanders.

While developing these narratives, care has been taken to protect the anonymity of the respondents involved in the case studies: demographic information is only presented in terms of categories, never in specifics, and all names used are pseudonyms. We include respondents from each of the over-time internet usage patterns outlined above, while also including a range of respondents in terms of gender, age, ethnicity and location. We begin with three cases involving non-use, followed by a range of examples illustrating different experiences of changing internet use over time.

Anne: Consistent non-user

Gender: F
Age: 60s
Ethnicity: NZ European
Education: High school qualification
Income: Low
Location: Town

Anne has been a non-user of the internet in all four waves of the survey. With no computer at home, and no interest in obtaining one, in 2007 Anne said she was unlikely to start using the internet in the future.

Throughout the survey period Anne read the newspaper and listened to the radio less and less. Her main source of information and entertainment was and continues to be the television. In the first survey wave, Anne's family and friends were also an essential source of information for her. Her reliance on family and friends gradually diminished, however, and in 2009 and 2011 Anne felt they were only 'important' and this decreased further in the final survey when she indicated that they were not an important source of information to her at all.

Many of her answers follow this pattern. While in 2007 Anne would call her friends or family daily and meet up with them weekly, this social contact diminished to monthly and in the most recent survey Anne reported that she never called friends or family on the phone. However, in 2009 she began texting her friends and family, and in the last survey was texting them weekly.

In all four surveys she strongly disagreed that the internet can help people better understand politics or enable people to have a stronger civic voice. While she felt that citizens should be free to criticise the government online, she felt it was unsafe to do so.

In the first two surveys Anne reported that she had never asked someone to do something on the internet for her, however, by 2011 and 2013 she had needed someone's help a few times with internet related tasks. This is a sign that even staunch non-users have an increasing need to access the internet, even if it is by proxy.

Betty: From non-user to user

Gender: F
Age: 70s
Ethnicity: NZ European
Education: High school qualification
Income: Low
Location: Main city

When first surveyed, Betty was a non-user and said she was 'not likely' to start using the internet anytime soon. For Betty, the radio seemed to be a satisfactory source of information and entertainment.

However, two years later Betty surprised herself by regularly browsing the web from her living room, searching for information on health, playing games online and checking her email daily. She accessed the internet on both her desktop and laptop and felt her ability to use the internet wasn't too bad.

By 2011, her confidence in her skills decreased and she rated her ability to use the internet as 'poor'. Still, Betty had no interest in obtaining training. And although Betty felt extremely concerned about sharing her credit card information online she was confident enough that she could keep her details safe. Sadly, she felt the internet 'greatly decreased' her contact with people in her local community. In 2013 she no longer played online games and was now using the internet to look for information on entertainment activities. By 2013 Betty's confidence in using the internet had gone up and she now considered her skills to be average and she felt the internet was an important source of entertainment. Whereas in the 2007 survey Betty did not use the internet at all, in 2013 she felt it was a very important source of both information and entertainment.

Richard: Alienation – from non-user to user, and back again

Gender: M

Age: 60s

Ethnicity: NZ European

Education: High school qualification

Income: Mid

Location: Town

This case study tracks an unusual trajectory in internet use over time. In 2007, Richard was a non-user, but said he was ‘very likely’ to use the internet in the future. He had asked other people to do things online for him several times over the preceding year. He said the main reason he didn’t use the internet was because he didn’t have a computer.

By 2009, he had started using the internet in his workplace. He still could not go online at home, having no computer access there. He increased his self-rated ability to use the internet from 1 out of 5, up to 3 out of 5. He used the internet particularly for entertainment activities, listening to radio online several times a day, playing games, streaming music and engaging in instant messaging weekly. He never joined a social network or used Skype, but he did check his email on a daily basis.

By 2011, Richard’s story had changed. The shine had come off of his internet experience and he was slightly jaded – he reduced his ability rating to 2. He continued to play games and listen to music, but stopped using online radio stations. He looked at spiritual or religious websites every week, but stopped browsing the web.

He was never particularly interested in the internet as a source of information, though he occasionally looked for news or movie times. He never engaged in any kind of e-commerce activities. Online banking, paying bills or purchasing items never became a part of his internet experience.

As his confidence as an internet user waned, so did his enthusiasm about its impact on his life. In 2009, he said that using the internet had increased the amount of contact he had with his family. In 2011, he felt it had decreased this contact.

By 2013, Richard was an ex-user. After three years of internet use, he stopped using the internet saying that it was too difficult to use. He still thought it was somewhat likely that he would use the internet again in future, and maintained that he would be interested in training to improve his ability, a position he had held since 2007.

This is a story of somebody who tried to embrace the internet, but in the end, felt alienated by it.

Crystal: Confident user

Gender: F

Age: 30s

Ethnicity: Asian

Education: Tertiary qualification

Income: Mid

Location: Main city

Crystal has been a confident internet user in all four waves. She has had a computer at home with a broadband internet connection since 2007.

Although in the first two surveys Crystal relied heavily on the newspaper and radio as sources of information, her attitude shifted towards favouring content on the internet in 2011 and 2013. In the most recent survey her daily internet activities included checking her email and Facebook, browsing for news and information, and playing games. Crystal also occasionally looked at spiritual content online, downloaded music and movies and watched TV shows on demand. In the surveyed period she also went from never paying bills online to paying bills online monthly as well as making purchases through her smartphone or tablet.

Although she already had paid employment in retail (part-time in 2009 and then full-time in 2011 and 2013) in all four surveys she was also regularly searching online for work. She has been an active follower of blogs since 2011, commenting weekly on posts, but in 2013 increased to daily participation. In 2013 she also began downloading apps to her smartphone. Curiously, her involvement in chat-rooms waned from daily in 2007 down to weekly and then decreased further still in 2011 and 2013. In 2013 Crystal agreed that the use of the internet increases one’s sense of ethnic identity and she sometimes used websites in a language other than English. Crystal feels that the internet is very important to her everyday life and has a high level of confidence in the reliability of the information she accesses online.

Gareth and daughter Molly: Family rules

Gender: M; F

Age: 30s; mid-teens

Ethnicity: NZ European

Education: High school qualification; attending school

Income: Mid

Location: Main city

While both Gareth and Molly are early adopters and confident users of the internet, their story illustrates how patterns of internet use can vary across generations. They have a broadband connection at home and, generally speaking, Molly tends to be more satisfied with its reliability and speed than her father. Molly mainly accesses the internet in the bedroom, while Gareth uses it in other areas of the home as well such as the living room/lounge and the home office/study. Molly also connects to the internet via her mobile phone (and increasingly so), something that her father does not do. Neither of them uses the cloud.

Gareth uses the internet for personal entertainment daily: downloading or watching videos online, surfing the web, looking at sites with sexual content, and looking for news. Less frequently, he plays games online, looks for travel information, looks for work, reads blogs, looks for/at humorous content, and looks for information on entertainment activities such as shows and movies. Molly, on the other hand, mainly uses the internet for playing games online, downloading or listening to music and watching videos, surfing the web, reading blogs, looking for humorous content, and looking for information on entertainment activities. Other minor activities include looking for travel information, looking for health information, and news. They also share the same level of interest in some online activities such as web browsing and accessing videos online while other time spent is completely contrasting such as accessing music, reading blogs, searching for humorous content and information about entertainment activities, which Molly appears to do with much more enthusiasm.

Both of them are Facebook users (as of 2011), and they both post messages and pictures/videos on it. Gareth has also experienced posting messages on discussion boards and posting pictures and videos and audio material on the internet outside the social networking site. Molly, on the other hand, used to keep a blog that she worked on weekly, and through which she had been contacted by a visitor. Gareth checks his email daily, while Molly's email checking decreased from daily (2009) to weekly (2011). Also, both have made online friends and have met them in person. (Interestingly, in the 2013 survey, Gareth reported that their household internet rules included never chatting with strangers online and never meeting them in person.)

Gareth regularly uses the internet for transactions such as getting information about a product, buying things, paying bills and using his bank's online services. And though his daughter's use of the internet for transactions such as these has become more frequent in 2011 and 2013, it still has not been as frequent as her father's usage. Both have grown more concerned about the security of credit information online over time and in the 2013 survey Gareth reported having his online credit card details stolen.

Gareth very rarely engages with Government through the internet. He has used the internet to get information about Government services and reported using these online services only in the 2009 wave. Molly has also used Government services online, specifically reporting this in the 2009 and 2011 waves, to get information about Government policy issues and to look for information about an MP, political party or candidate. Gareth strongly disagrees (in 2011 and 2013) that people like him can have more political power through using the internet, but agrees that it can help one better understand politics. While Molly agrees with her father on the latter, she also believes that people like her will have more say about what the Government does, that public officials will care more about what people like her think, and that funds should be allocated to enable all New Zealanders to have internet access. In the 2013 survey Gareth felt that the internet did not accord people more political power nor allow for a better understanding of politics. Gareth also believes that his use of the internet greatly decreases his contact with people in his profession and local community.

As expected, Molly uses the internet to support learning. They both use the internet to look up a word or check a fact, but Molly also uses it to get information on school-related work, includes content on the internet as part of educational activities, and uses social networking as part of educational activities. She has also reported visiting a website in a language other than English.

Although he does not monitor his daughter's activities on social networking sites, Gareth has instituted some rules for her regarding the use of the internet: not to visit some sites, limiting time spent online, not to give out personal information, not to meet up with someone she has only met online, and not to chat with strangers. The first two rules were only practiced for the year 2009, which may explain Molly's increased internet usage in the following years. In 2011, they began to use a website filter.

Both father and daughter have had experiences receiving spam emails, viruses, and having bought something that was misrepresented on a website. Interestingly, Gareth's confidence to handle internet security issues has increased, while his daughter's has decreased, so that their present level of perceived confidence is now the same.

Gareth's regard for the importance of the internet has fluctuated across the years, while Molly's has remained consistent. However, in the final analysis, both of them generally see the internet as important in everyday life and a source of reliable information.

Joan: Newspapers to online news

Gender: F

Age: 50s

Ethnicity: NZ European

Education: Tertiary qualification

Income: High

Location: Smaller city

Joan has been using the internet since 1998. She has a home network and is moderately satisfied with the speed of the broadband connection. Although she usually accesses the internet using her desktop computer in her home office, other devices she has access to include a mobile phone, e-reader, and game console. Over the course of the four surveys, her rating of the internet as a source of information and entertainment moved progressively from being 'not important' in 2007, to 'neutral' in 2011 and then to 'important' in 2013. Interestingly, the value she placed on print newspapers as a source of information and declined in direct correlation to this: In 2007 she rated newspapers as 'important', was then 'neutral' for 2009 and 2011 and in 2013 she said they were 'not important'. Her estimation of the importance of radio followed the same decline. It is likely that, over the course of the survey period, Joan began increasingly relying on online news rather than reading a print newspaper.

In 2009 she started downloading or listening to music online. In 2013 Joan extended the activities she did via the internet including using her e-reader and playing games online. Joan also began occasionally watching TV shows on demand as well as using a social networking site (Facebook) to look for information. Although Joan has never used cloud computing she has sporadically made use of navigation sites such as google maps and in 2013 began commenting on people's blogs for the first time. Throughout the four surveys, Joan's internet usage seemed to be following a predictable pattern moving from passive to active participation.

Moana: An internet success story

Gender: F

Age: 50s

Ethnicity: Māori

Education: Tertiary qualification

Income: Mid

Location: Main city

Moana was an internet user in all four surveys. She is moderately satisfied with the speed of the broadband connection of her desktop computer, which is located in her lounge. Although very confident in her ability to use the internet, Moana is still keen to improve her skills further with training.

In 2007 she was an avid TV watcher and was neutral on the importance of radio and newspapers. Although she rated the internet as an important source of information, a 'very important' source of information for Moana was her whanau – her family and friends. (This echoes WIPNZ 2013 survey results which found a significantly higher proportion of Māori and Pasifika respondents rated other people as an important source of information than did NZ European people.)

In 2007, she played online games weekly, occasionally downloaded music, and checked her email daily. She felt that the internet had little or no effect on her social life and did not consider the internet to be a main source of information for local, national or international news.

By 2013, however, she was reading online news every day and more of her daily life was happening online. She had joined Facebook and her activities including updating her status, sharing links, commenting on other people's postings. In 2013 Moana was also playing online games several times a day. She was downloading or listening to music online weekly and had started watching videos online every day. For the first time, in 2013

Moana also began posting audio material on the internet. And although still less than half of her personal spending was occurring online, she had started doing her banking online. She had even made friends online and met them in person. In contrast to her 2007 responses, in 2013 she agreed that the internet increases one's sense of ethnic and national identity. She also said that the internet had greatly increased her contact with friends and people in her local community.

Stanley: Buying and selling online

Gender: M

Age: 70s

Ethnicity: NZ European

Education: High School qualification

Income: Low

Location: Rural area

Stanley was an internet user in all four surveys. While radio and newspapers were important sources of information to Stanley, the internet seemed to play only a small role in his life as he rated the internet as 'not important' in each of the four surveys. In 2009 he strongly agreed that people can gain political power through using the internet. And in 2013 believed that the government should regulate the internet more than it does. Stanley also felt it was not completely safe to share one's political opinions online.

In 2007, he had a dial-up internet connection at home and never played games online. In 2009 he changed to a broadband connection and, predictably, his satisfaction with the speed of the internet went up from 'neutral' to 'very satisfied'. He also began playing games online every day. By 2013 his internet use expanded to include accessing a social networking site where he was communicating with friends and occasionally posting content such as photos. He also meets up with friends and sometimes texts them. As of the last survey, he had not used Skype and was not doing his banking online. Stanley had major concerns about the security of his credit card information online. Despite this obstacle, he began occasionally selling things online in 2009 and in 2013 started buying things online. Perhaps living in a rural area makes online commerce even more attractive to Stanley.

Tane: Social networks

Gender: M

Age: 60s

Ethnicity: Māori

Education: High school qualification

Income: Low

Location: Town

The internet was not an important part of Tane's life in 2007. At the time of the first survey, he did not know or was confused about how to use the internet and in fact said that he was unlikely to start using it. This was in spite of having access to a computer at home and having asked others to do something on the internet for him on several occasions. Television, newspaper and the radio seemed to provide him the information and entertainment that he required.

In the last two surveys, however, things started to change. He got a broadband connection and the internet dislodged the television from its place as the most important source of information and entertainment. He watches less television than he used to, and his newspaper reading has waned. He plays games online, downloads music and reads blogs. He surfs the web regularly and looks for news – local and beyond – online. Perhaps with his age as one of the reasons, he increasingly uses the internet for seeking health information and participates in more physical activity now than he did when he was a non-user. In terms of seeking information, one thing remains the same: Tane's family, friends, and community are consistently valued as a source of information.

Tane is also now a member of social networking sites: he is on Twitter and Facebook, posting messages, photos and videos. Through the internet and most likely through social media, he was able to make friends online and even met some of them in person. This runs counter to the traditional perception that the internet encourages solitude: contact with people did not wane with the introduction of the internet to Tane's life.

The internet and new forms of communication technology have become a way for Tane to connect with other people, given that he lives by himself. Meeting people in person and calling them on the phone may have decreased, but sending them emails and text messages has become more frequent. Connecting to the internet, it

appears, also intensified his connection with other groups: people with the same hobbies, those with whom he shares political interests, people outside the locality and even (especially) those who are overseas. He has never used the internet for professional and financial transactions. He is wary of internet security and has never done any online banking.

Beyond its information, entertainment and communication value, Tane feels that the internet heightens his sense of Māori and New Zealand identity. He also considers it to be a powerful political tool. He believes that through the internet, people can have more political power, a better understanding of politics and better chances of being heard by public officials. However, these ideas about the political potential of the internet translate into limited practice in Tane's case since his use is more consistently confined to seeking information from Government websites rather than providing information or communicating with the Government or Council directly. It is clear that going online has become an indispensable part of his regular activities compared to some years ago. It is definitely a different tune he is singing presently when he says that the internet is now a very important part of his daily life.

Chapter 4

Changing Digital Divides

This chapter highlights some of the most interesting changes over time relating to age group, gender, ethnicity, household income and area (urban–rural). There is evidence that digital divides have lessened over time, though differences still exist, particularly for those who intersect several of the lower access groups, for example, elderly people with a low household income. The chapter begins with a comprehensive look at the proportion of New Zealanders who use the internet in these various groups. One or two variables of interest are then presented from each thematic section of the questionnaire. Each social grouping has tendencies that recur throughout the survey questions. These are briefly summarised here:

- **Age:** Internet use decreases as age increases, though the steepness of this trend varies greatly for different online activities. Each activity has its own ‘S-curve’, with different behaviours being taken on at different times: gradually at first, and then spreading through the population very quickly, followed by gradual growth once again. Different growth rates are seen for different age groups according to how far along they are in their take-up of a given online behaviour. There are also activities which are favoured by certain age groups over others on a more stable basis.
- **Gender:** Females tend to be higher-end users on social and relational activities, while men are more highly engaged in online entertainment activities. There are, however, no gender differences in terms of overall usage.
- **Ethnicity:** Asian internet users are more highly engaged across the board, while Pasifika users more often tend to be low-level users.
- **Household income:** Internet use increases with household income. Higher income households have greater levels of access to multiple devices. However, young people are relatively immune to this effect due to reaching saturation levels of internet access and use.
- **Area:** Internet use is higher in cities than in towns and rural areas, and this pattern holds true for young people. Interestingly, there has been greater growth in internet use for those in rural areas than for those in towns, with the latter having the lowest usage levels for many survey questions in later years.
- **Skill:** Aside from the broad social demographic categories listed above, the WIPNZ data can be viewed through other lenses. For example, we include some information about patterns of use according to self-rated ability to use the internet.

As a way of representing changes in the extent of divides between different demographic groups, we present some results in terms of ratios between high-user and low-user groups. This way of viewing the data can capture changing digital divides over time.

Presentation of results includes the following details:

- **Base:** A description of the set of respondents of whom the question was asked or the group over which percentages are calculated.
- **Confidence intervals** (with a 95% significance level) are shown as error bars on the simpler graphs in order to give a sense of the margin of error for each population.
- **Numbers** (in %) are rounded to integers, and displayed on graphs for all but the smallest of results.
- **Survey question wording:** The full wording of each survey question is not included in this chapter, but can be found in Chapter 2. The questionnaire is also available online at wipnz.aut.ac.nz.
- **Graph headings** are included above the descriptive text in this chapter rather than over the graphs themselves.

User Status

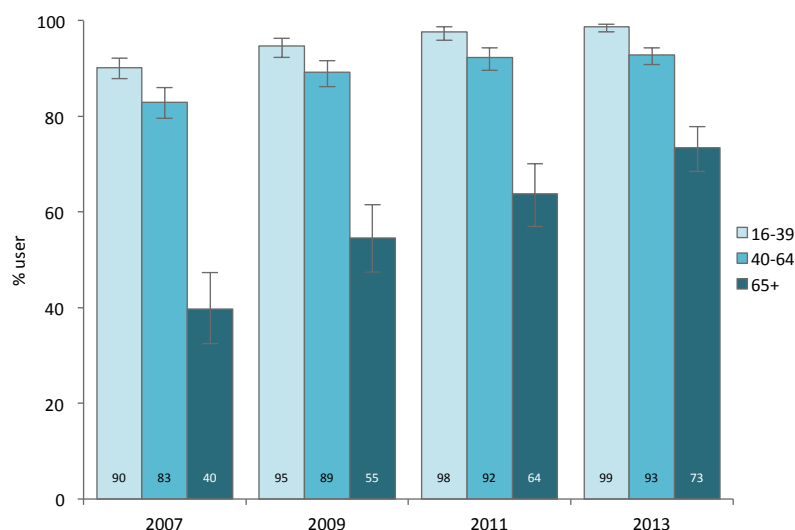
User status: Age

Usage of the internet has increased significantly over time for all age groups. For those under 40, the internet has become a part of life for almost the whole population, having increased from 90% in 2007 to 99% in 2013.

Internet use has surged for those aged 65 and over, from 40% in 2007 to 73% in 2013. This is partly due to the aging of the cohort of internet users that already existed in 2007, but mainly due to new people in this age bracket adopting the internet in the last six years.

The first WIPNZ survey was early enough to capture a time when internet users over 65 were a minority amongst their peers. By 2009, users formed a majority, and in 2013 almost three quarters of those 65 and over use the internet.

Despite this growth, there is still, however, a significant difference between age groups – the result of digital disadvantage for some, and personal preference for others.

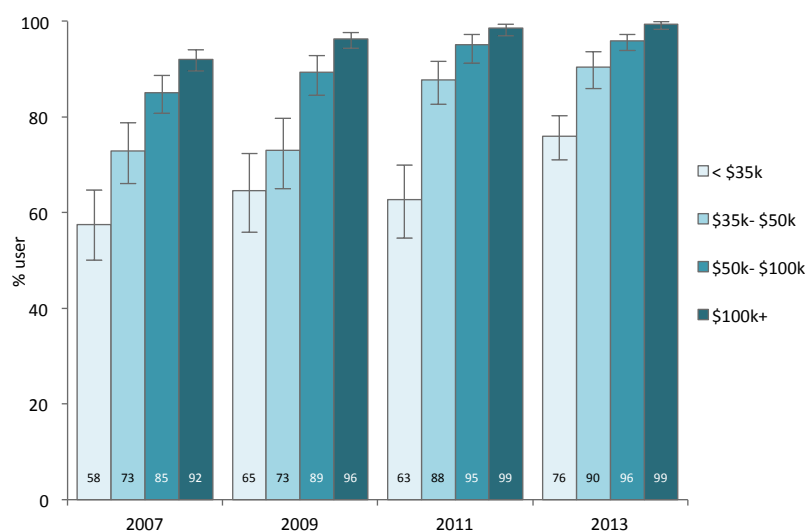


Base: All respondents. | Note: This is the first of many graphs in this chapter to include error bars. These indicate the range in which the true population mean is likely to be. The margin of error is larger when analysing smaller sub-groups of respondents.

User status: Household income

Income is one of the key demographics that divides the New Zealand population's access to the internet. This graph shows that in 2013, the gap between the highest and lowest household income groups has closed.

These figures need to be considered in relation to age groups, as household income has a strong effect on whether or not older people will use the internet, but has little effect on young people.

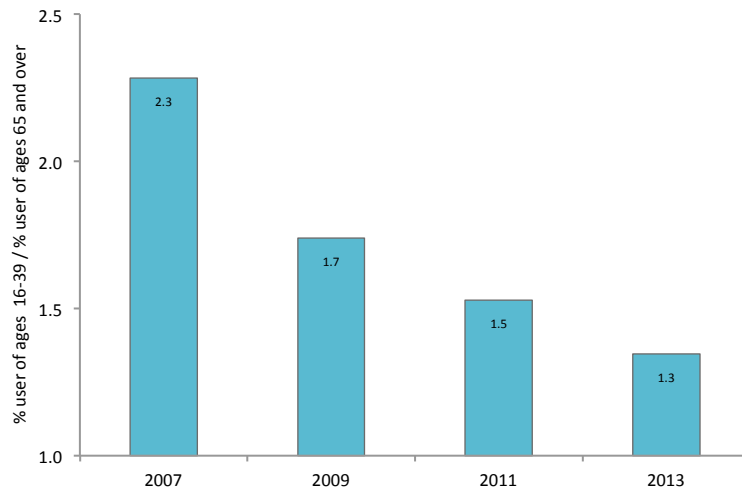


Base: All respondents | Note: The figures for household income categories have changed over time, see reports for each WIPNZ survey year for details.

Note: The graphs on this page represent the extent of digital divides by calculating the ratio of high-user groups to low-user groups. A higher ratio means there is greater disparity between those groups.

For example, when comparing young people (high-user group) to older people (lower-user group), a ratio of 2.0 would mean the young group had twice the percentage of users as the older group. A bar at the very bottom of the chart, at 1.0, would mean the two groups had the same percentage of users.

This concept is presented here so that it can be used throughout the chapter as a means to capture changes in the extent to which there is a disparity between various groups.



Base: Respondents aged 16–39 and respondents aged 65 or over.

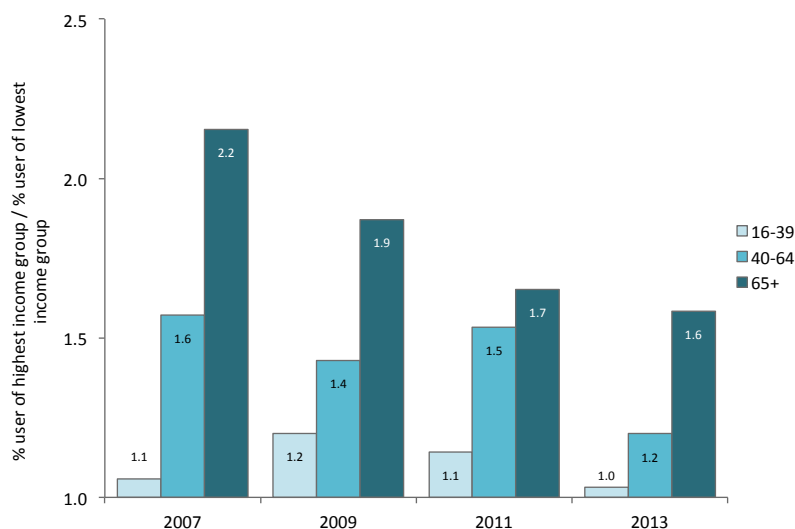
User status: Ratio of young to old

The previous graphs show that use of the internet is still affected by age, income, area and ethnicity. However, there are also signs that the extent of these divides is shrinking.

This graph shows the shrinking of the digital divide for usage of the internet in terms of age, by looking at the ratio of the percentage of users in the younger group (16–39) compared to the percentage in the older group (65+).

In 2007, respondents under 40 were 2.3 times as likely to use the internet as those aged 65 or over.

This ratio has decreased in each survey, to the point where in 2013, the young group were only 1.3 times as likely to use the internet as the older group.



Base: Respondents from the lowest and highest household income groups.

User status: Ratio of 'rich' to 'poor' for different age groups

As mentioned above, household income and internet use are strongly related for older people, while young people's usage rates are high independent of income.

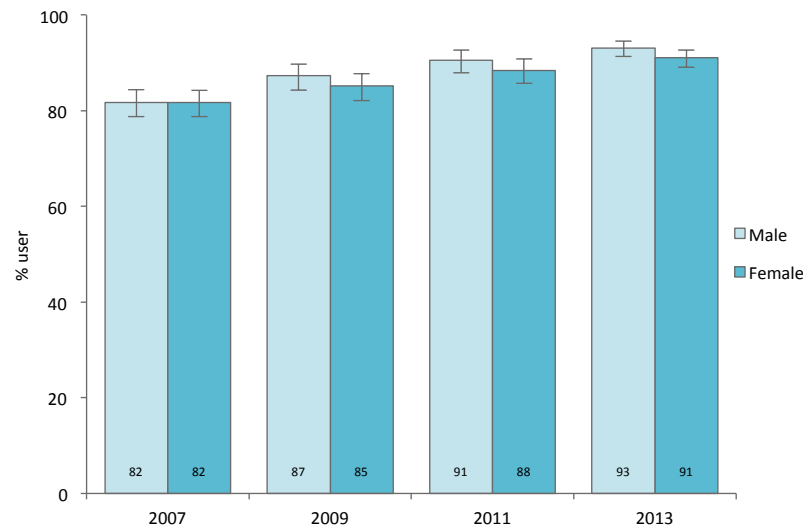
The gap in internet usage between 'rich' and 'poor' was very large for those aged 65 and over in 2007. Those with the highest household incomes were more than twice as likely to be internet users than those with a low household income. This divide has decreased greatly over time. The divide has also decreased somewhat for the middle age group.

Across all four survey rounds, there has been relative equality in internet use for young people in terms of household income.

User status: Gender

Males have had a slightly higher proportion of users in each wave of the survey since 2009, but the difference is not statistically significant.

Even if all of the data across four years are pooled together, there is no significant difference in user status according to gender.

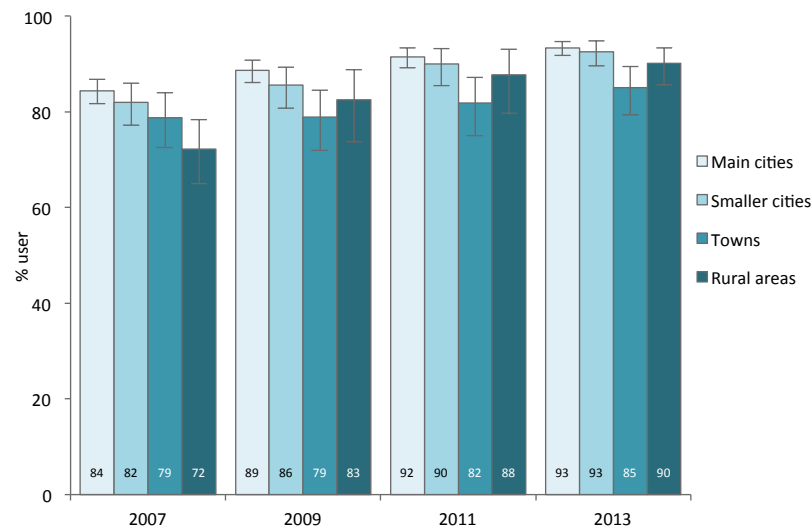


Base: All respondents.

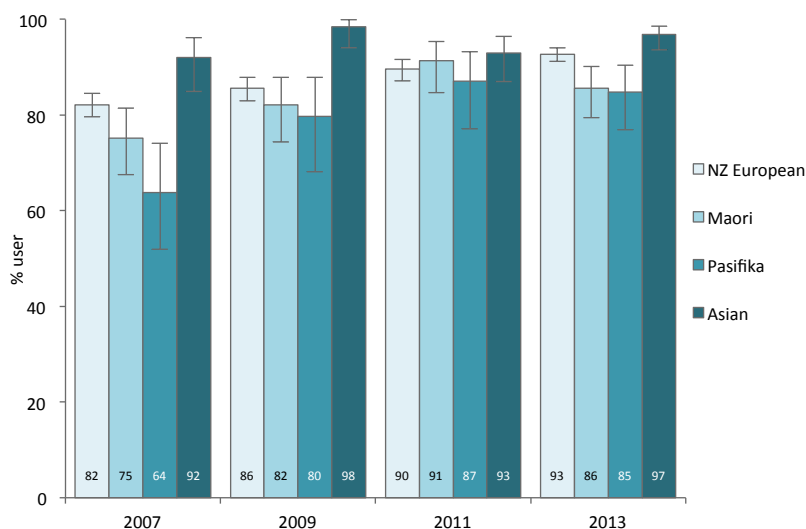
User status: Area

In 2007, there was a decrease in internet use with decreasing population size of settlements, with people in rural areas significantly less likely to be internet users than those in the main cities (Auckland, Wellington, Christchurch).

Since 2009, however, rural locations have increased greatly in terms of internet access, while it is secondary and minor urban areas (shown here as 'Towns') that have fallen into the lowest usage level position. From 2009 onwards, there have been significantly fewer users in towns than in the three main cities, and in 2013 towns were significantly lower than the smaller cities. This suggests a growing divide of which further exploration is warranted.



Base: All respondents | Note: The smallest n for any of the 16 cells of data shown here was 97 respondents.

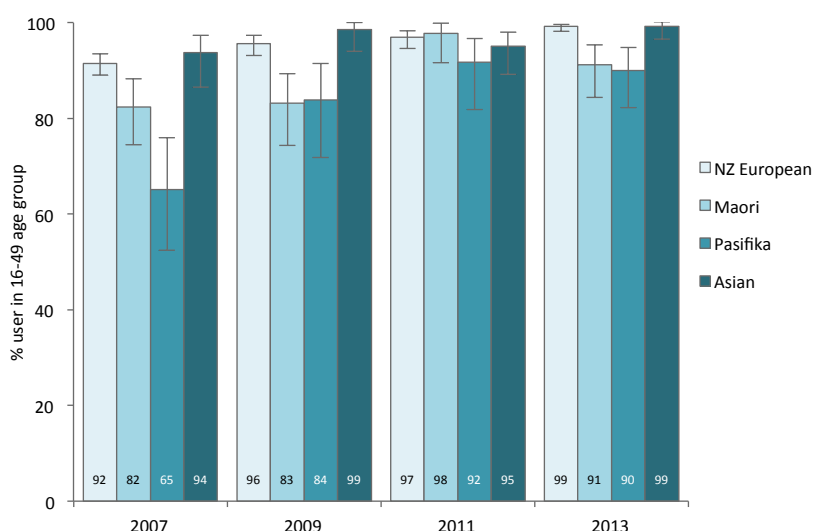


Base: All respondents of the four ethnicities shown. Other ethnicities not included in this graph.

User status: Ethnicity (whole sample)

Each wave of the survey consistently shows Asian respondents as the ethnic group most likely to use the internet, with Pasifika respondents as least likely (though due to the small sample sizes in these groups, many of the differences between ethnicities are not significant).

The results from the full sample shown here reflect the different age profiles of these ethnic groups in NZ, with Māori and especially Pasifika and Asian having a much younger average age than NZ European. In order to get a better understanding of the results without this age bias, the next graph looks at only those under the age of 50.



Base: All respondents of the four ethnicities shown aged 16–49.

User status: Ethnicity (ages 16–49 only)

Looking at user status by ethnicity only for those under the age of 50 gives a clearer picture of the digital divide according to ethnicity, which still exists.

Māori and Pasifika tend to have the most non-users (with the exception of an unpredicted high user rate for Māori in 2011). NZ European and Asian people under the age of 50 have similar high usage rates.

Internet Ability and Importance of Internet

Self-rated internet ability: Area

In 2007, there was great disparity between urban and rural areas in self-rated ability to use the internet. Only one in three people in rural areas rated their ability at 4 or 5 on a five-point scale.

This situation changed in the 2013 survey results. While there was still more confidence in more urban areas, the ratio of the main three cities to rural areas for a 'good' self-rated ability had dropped from 1.8 in 2007 to 1.2 in 2013.

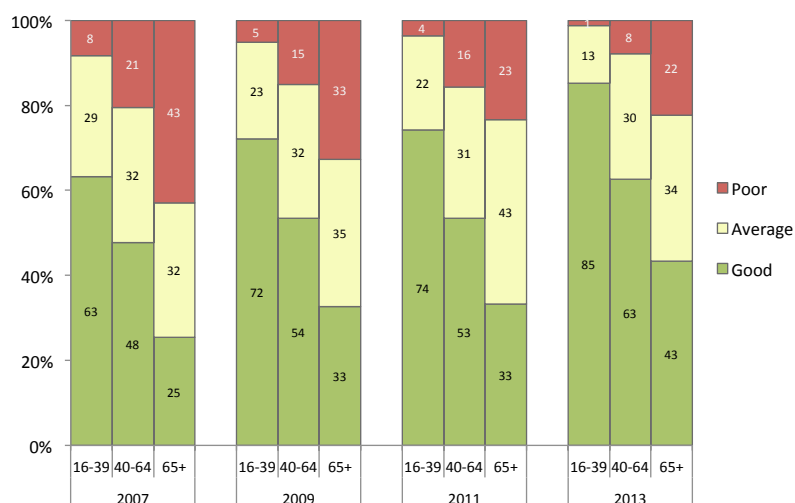


Base: Internet users.

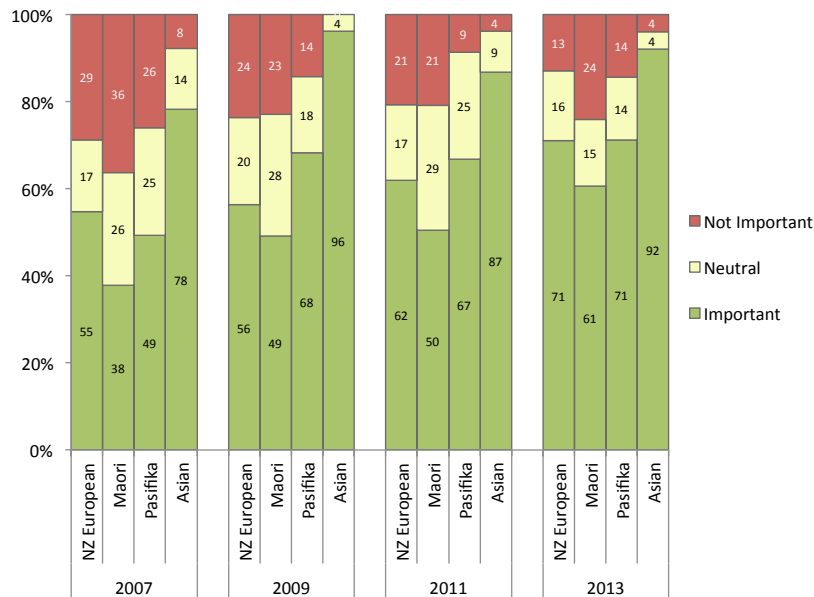
Self-rated internet ability: Age

There is a persistent divide in terms of ability to use the internet according to age, despite overall increases in confidence. The percentage of older internet users with a good level of internet skill has increased from 25% in 2007 to 43% in 2013.

Those under 40 are still almost twice as likely to give themselves a good rating as those in the older group. In 2013, only 1% of internet users under 40 gave themselves a low ability rating.



Base: Internet users.

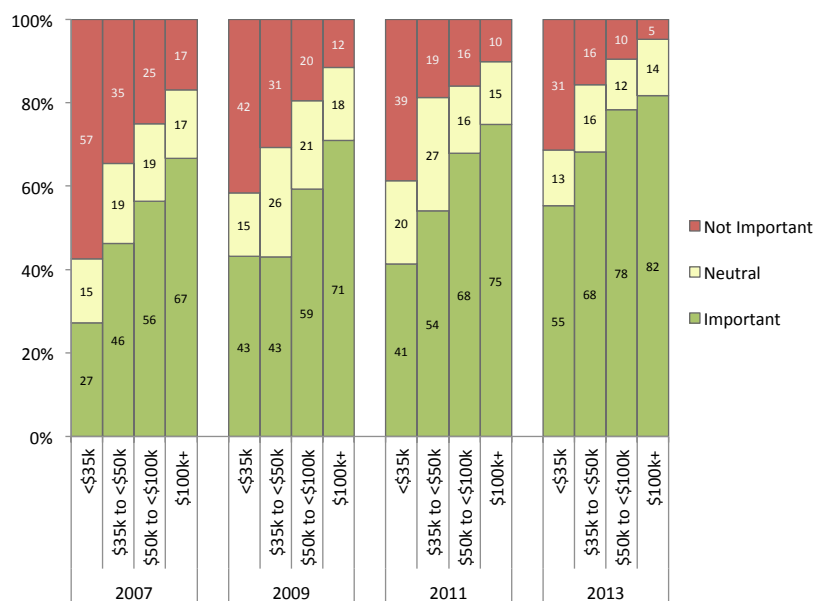


Base: All respondents of the four ethnicities shown.

Overall importance of the internet to everyday life: Ethnicity

The internet has different levels of importance in the everyday lives of New Zealanders of different ethnicities. This graph includes the whole sample, but since the NZ European group has a much older average age than the other three ethnicities, this reduces the average importance level for this group as compared to the others.

It is the case, however, that Asian respondents assign a much higher importance to the internet than Māori and Pasifika people.



Base: All respondents.

Overall importance of the internet to everyday life: Household income

The overall importance of the internet to the lives of New Zealanders depends greatly on their household income, with higher income groups placing more importance on the internet.

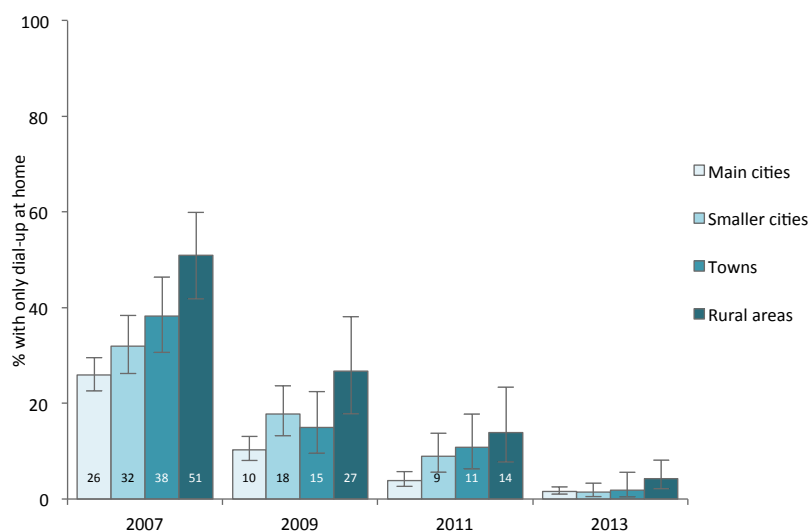
This pattern has flattened slightly over time, but the difference is still very clear.

Access and Usage Patterns

Only dial-up at home: Area

In 2007, there was great disparity between urban and rural areas in the availability and affordability of broadband connections, leaving around half (42–60%) of internet users in rural areas with only a dial-up connection in their home, compared to 23–29% of those in Auckland, Wellington and Christchurch.

This situation has now changed dramatically, particularly with broadband gradually reaching more people in rural areas. The difference according to area is now minimal as the proportion of people with only a dial-up connection at home approaches zero.

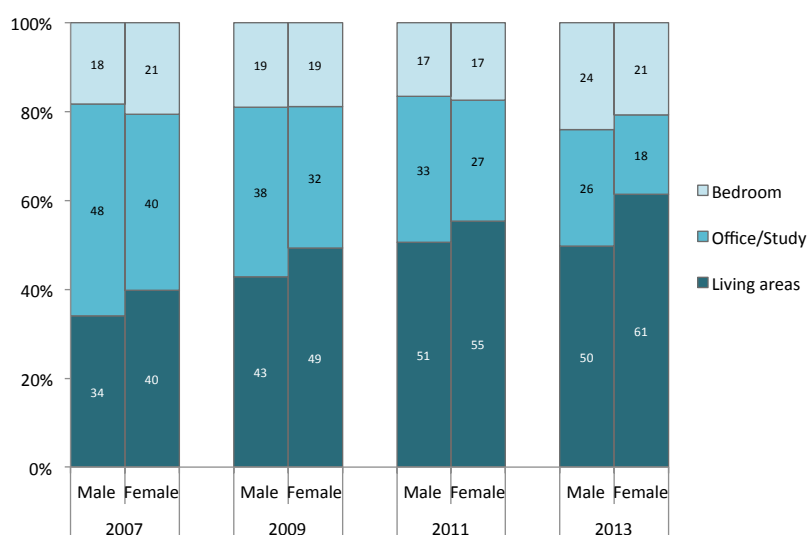


Base: Internet users with an internet connection at home.

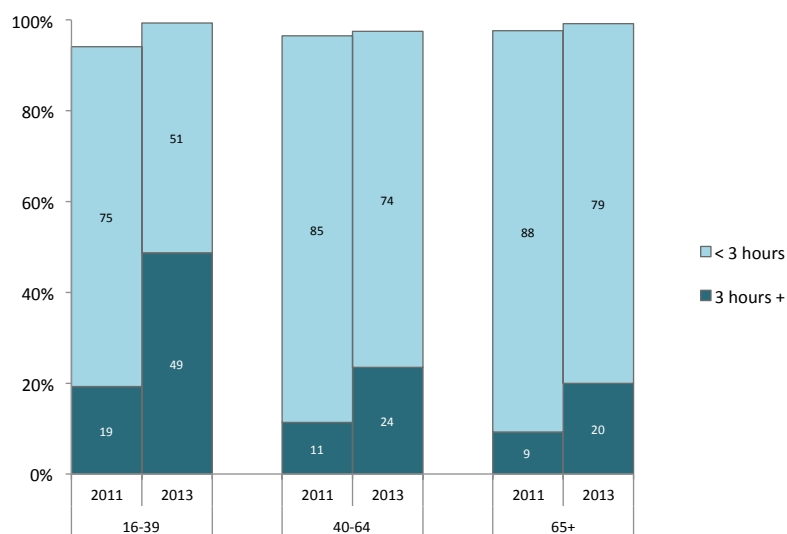
Main location in house for internet use: Gender

Across time, there has been a consistent trend for women to be more likely to use the internet mainly in living areas, while a higher proportion of men use it in an office or study at home.

This graph reflects the overall trend over time towards using the internet in communal spaces, a change associated with the adoption of wireless devices within the dwelling. However, there are some interesting exceptions to this pattern. Young men aged 16–29, for example, have shown the opposite trend to the majority. In 2013, 53% said that they use the internet mainly in their bedroom, almost double the figure of 27% in 2007. This group has shown a slight decrease in use in living areas, and a large decrease in use in an office or study.



Base: Internet users.

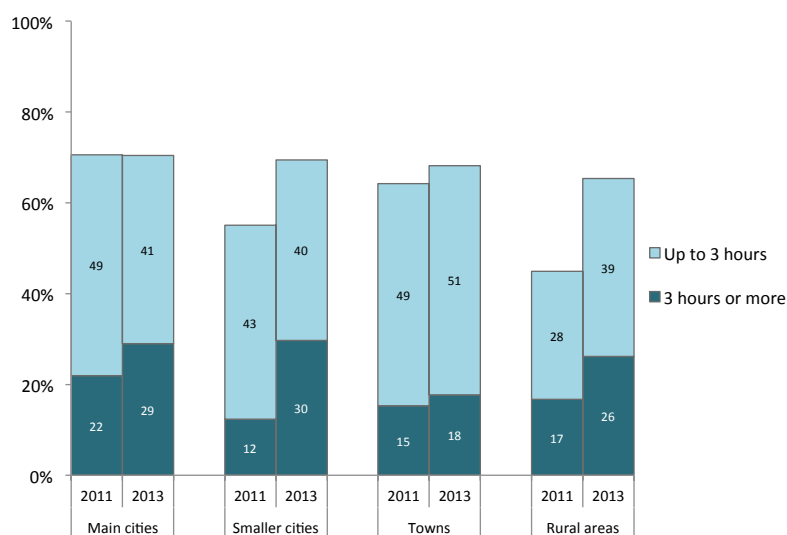


Base: Users | Note: 2011 figures have been calculated by dividing the hours online at home during a 'typical week' by seven.

Hours online at home: Age

Between 2011 and 2013 there was a huge jump in the proportion of young people spending three hours or more online at home on an average day, increasing from 19% to nearly half (49%).

Increases in time spent online at home can also be seen in the older age brackets.



Base: Employed internet users | Note: 2011 figures have been calculated by dividing the hours online at work during a 'typical week' by five.

Daily hours online at work: Area

In just two years the proportion of employed internet users in rural areas using the internet at work on an average day has increased from 45% to 65%, with those online for three hours or more per day increasing from 17% to 26%. There has also been a large increase in time online at work in smaller cities such as Hamilton and Dunedin, particularly for high-level use of three hours or more per day, increasing from 12% to 30%.

There has been no significant growth for towns (secondary and minor urban areas), and only moderate growth for high-level use in the main cities, but no change in the overall proportion of employed people using the internet at work.

It is useful to consider these results in light of the concept of the S-curve introduced in Ch. 1. We see the greatest growth rate in rural areas – a sector of New Zealand society late to adopt broadband technology (not by choice, but by infrastructural disadvantage).

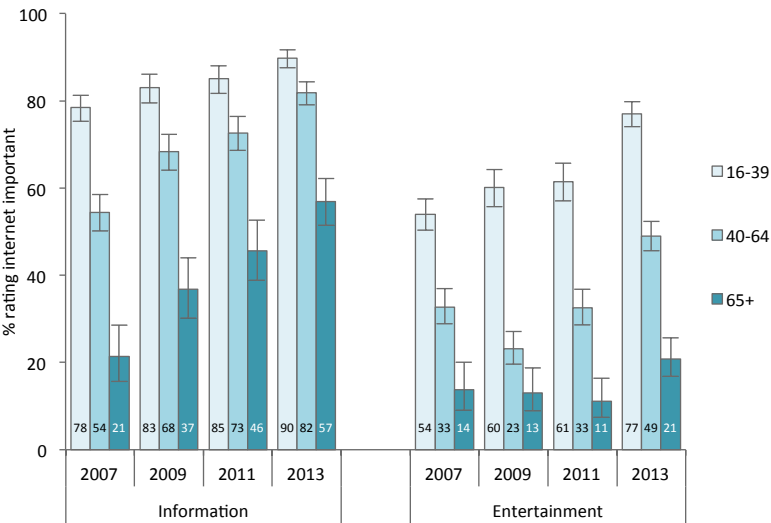
Information and Entertainment

Importance of internet for information and entertainment: Age

In previous longitudinal comparisons of WIPNZ data, we have seen the importance of the internet as a source of entertainment remain constant, or in some cases decline. This was a surprising result to us since the importance of the internet was growing rapidly as a source of information, and in people’s lives in general.

However, in 2013, we have seen a dramatic shift in the value of the internet as an entertainment source, particularly for younger people.

The importance of the internet as a source of *information* has grown steadily, with higher growth rates for older people, a group closer to the middle of their S-curve for the adoption of online information seeking behaviours.

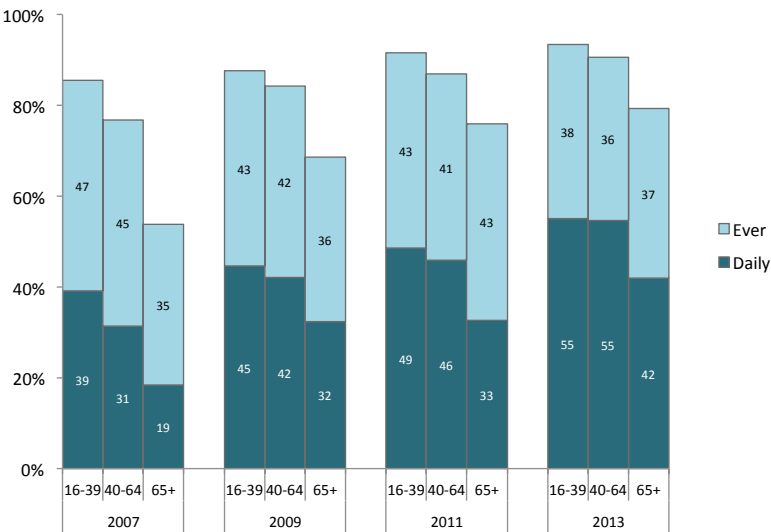


Base: All respondents.

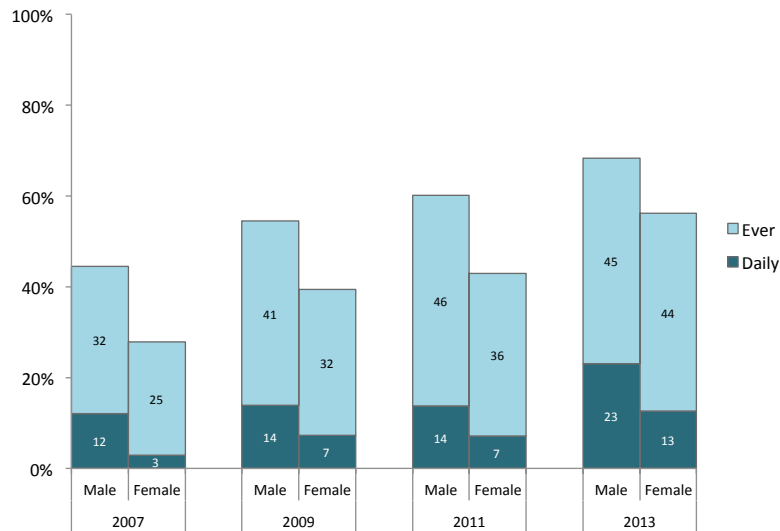
Look for news online: Age

In 2007, there was an overall bias towards young people using the internet. This was the case almost completely irrespective of interests. However, as larger proportions of older people have come online we have begun to see the sorts of activities which particularly attract those in middle and older age groups.

In the case of looking for news, the 65+ group has gone a long way to catching up to the younger groups, with 42% of internet users aged 65 or over looking for news online on a daily basis, up from 19% in 2007.



Base: Internet users.

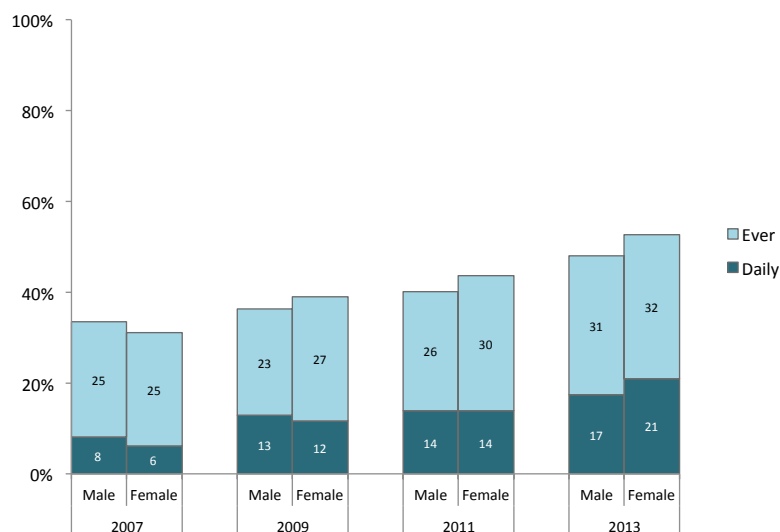


Base: Internet users.

Download or watch videos online: Gender

There has been a steady increase over time for both the uptake and frequency of watching videos online or downloading videos. However, there has been a consistent trend for a higher proportion of males than females to watch videos online, including doing so on a daily basis.

A similar pattern exists for listening to music online, listening to a radio station online, and downloading feature films. When it comes to watching TV shows online, however, more women do this at least occasionally than men. In 2013, despite women watching TV shows more than men overall, more men than women watched TV online on a daily basis.



Base: Internet users.

Playing games online: Gender

In 2007, a slightly higher proportion of men played games online than women. Over time, this has reversed, with more women playing games online than men in 2013. This pattern becomes clearer when looking at the results according to age.

Women aged 50 or over have taken up playing games online very swiftly, to the point where in 2013 45% of women 50 and over play games online, compared to 26% of men. 23% of women 50 and over play games online on a daily basis.

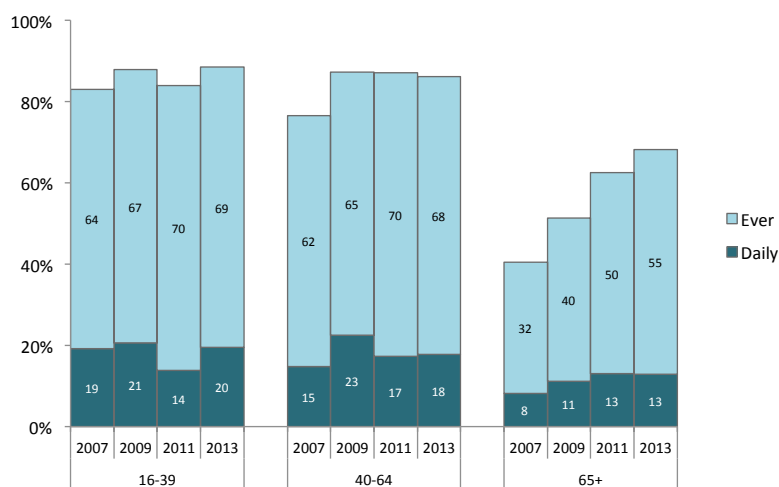
Note that the survey does not specify the *type* of games respondents play online – these are likely to vary greatly with gender and age.

Relationships and Communication

Contact by email: Age

There has been little change over time in the popularity of email for those under the age of 65, but the older age group has exhibited increased uptake of email in each survey round. There are early signs that this growth may now be slowing down, either due to a ceiling effect or as email itself is superseded by other ways of communicating, such as instant messaging.

Ways of contacting friends and family



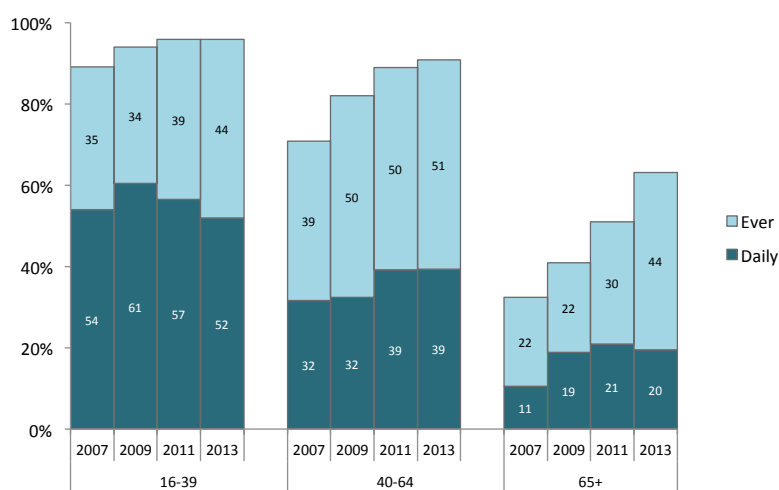
Base: Internet users. | Note: The wording of this question changed in 2013, see p.15 for details.

Contact by text: Age

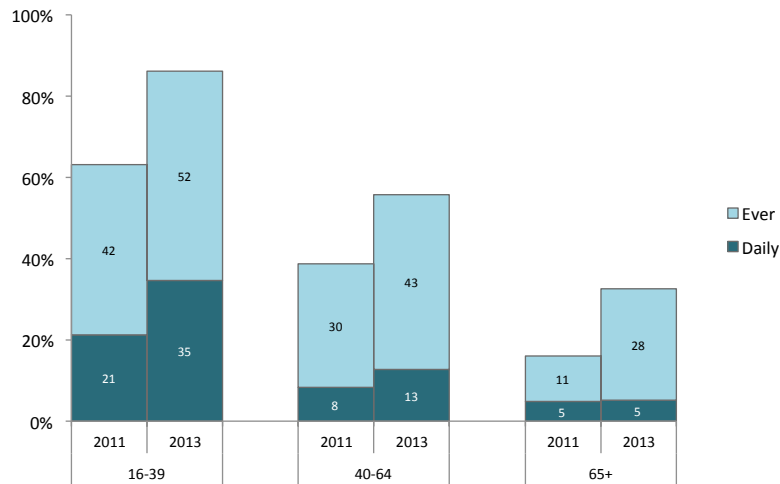
In 2013, texting was approaching saturation point for those under 65, with 96% of those aged 16–39 and 90% of 40–64 year olds contacting friends and family by text.

The youngest group has begun to turn away from texting as a *daily* form of communication, and there are signs that the older groups may be heading in the same direction.

The reason for this decrease of texting is closely related to the increase in access to smartphones and mobile internet connections. These mobile connections are reaching a critical mass where people can engage in instant messaging in place of texting, evidence of which is seen in the following graph.



Base: Internet users.



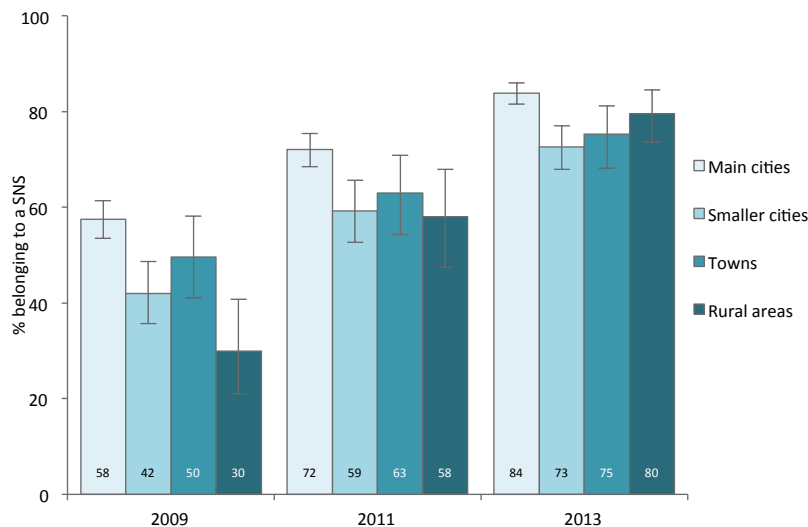
Base: Internet users.

Contact by instant messaging: Age

Instant messaging is one of the oldest uses of the internet, used steadily through fixed internet connections throughout the 1990s and 2000s. Since smartphones have taken over traditional handsets as the norm, however, instant messaging has taken on a whole new significance. It is now a viable replacement for texting. Other than the data used, instant messaging is generally free.

There has been a large increase in all age groups in the uptake of IM in the two years from 2011 to 2013. The younger group, however, shows a very large increase in terms of daily use of IM. This increase is likely to be related to the decrease in daily texting in this group.

Member of social networking site



Base: Internet users.

Member of social networking site: Area

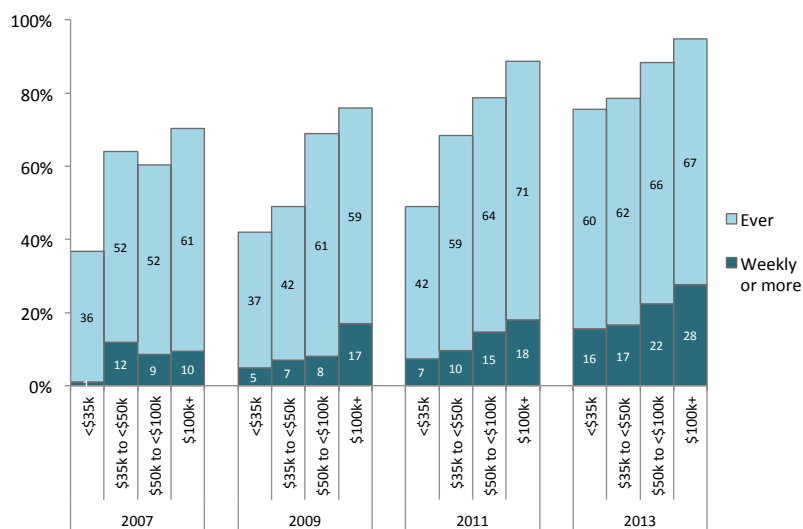
Internet users in Auckland, Wellington and Christchurch joined up to social networking sites (SNS) such as Facebook earlier than people in less urban areas. In 2009, users in these cities were almost twice as likely to be on a SNS as those in rural areas (58% vs. 30%). By 2013, urban-rural differences have almost disappeared, with rural internet users not significantly different to those in the bigger cities. In 2013, it was actually those in smaller cities and towns who were least likely to have a SNS membership.

Consumer Transactions

Buy things online: Household income

There is a clear relationship between household income and the likelihood that a person will make online purchases.

The steepness of this divide has decreased somewhat over the years, however. In 2007, those in the highest household income bracket were 1.9 times as likely to buy things online as those with low household incomes. This ratio dropped to 1.25 in 2013, with more than three quarters of those in the lowest income category making purchases online.

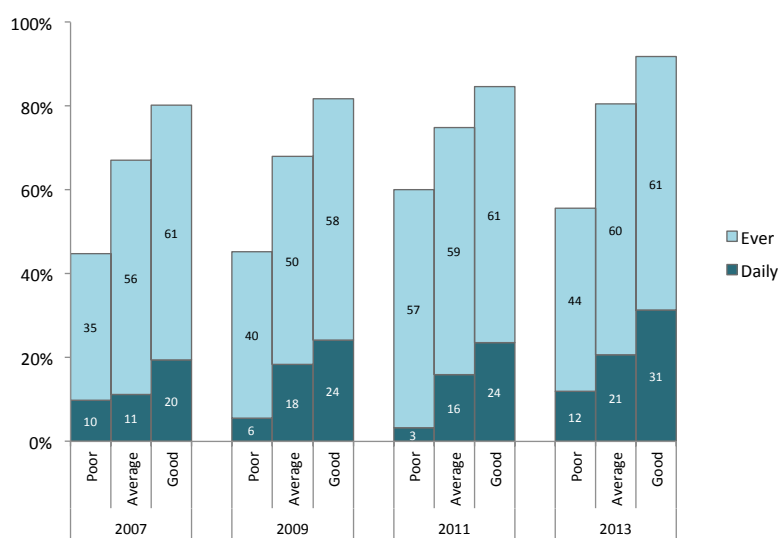


Base: Internet users.

Online banking: Self-rated internet ability

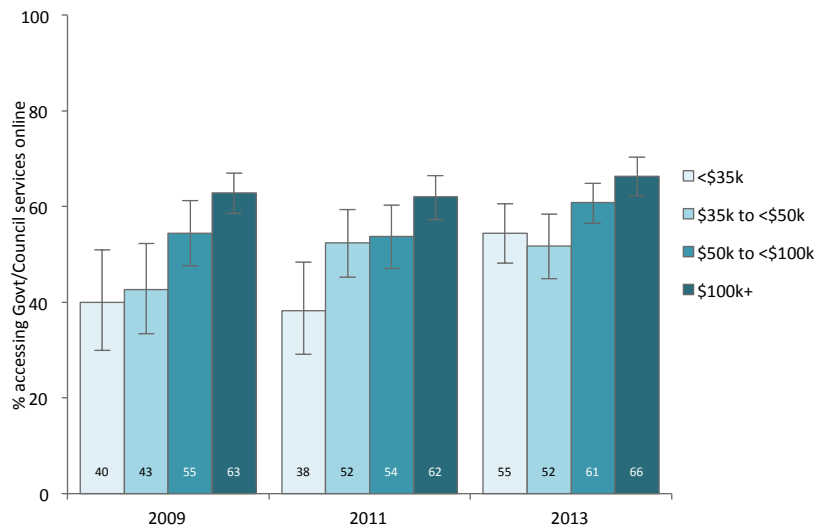
The higher a person's self-rated ability to use the internet, the more likely they are to do their banking online. This is a pattern which does not appear to be changing. In 2007, 45% of those who rated their internet ability at 1 or 2 on a five-point scale used their bank's online services at least occasionally. By 2013, this figure increased to 56%. The figure for those with higher skill levels (4 or 5 on the scale) increased from 81% to 92%.

The ratio of good ability to poor ability has dropped only very slightly, from 1.8 in 2007 to 1.7 in 2013. Skill level is still a core digital divide in 2013.



Base: Internet users.

Engagement with E-Government



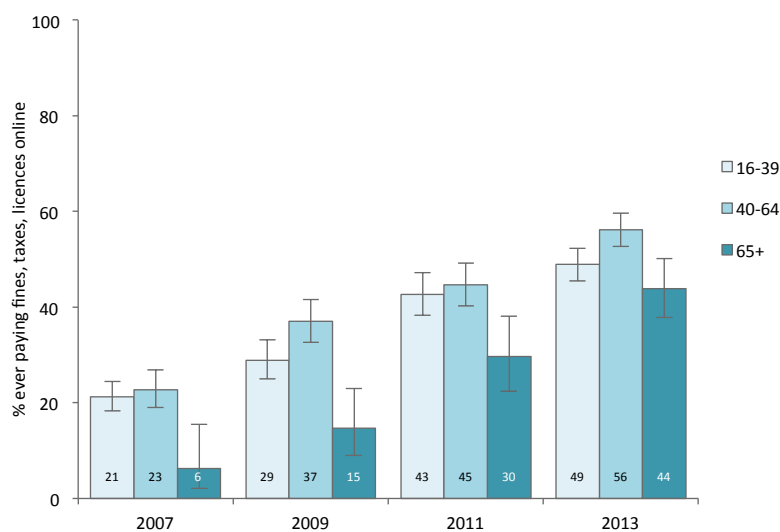
Base: Internet users

Use Government or Council services online: Household income

In 2009, the use of Government or Council services online was strongly stratified by household income. This divide appears to have lessened in the four years to 2013. The 'rich' to 'poor' ratio decreased from 1.6 to 1.2.

In 2013, 66% of those with high household incomes used public services online, compared to 55% of those with low household incomes.

Most of the moderate level of growth in online access to E-Government services has been from the lower income groups.



Base: Internet users

Paying for fines, taxes, licences online: Age

Making payments to Government or Council for fines, taxes, licences, etc. has been a very fast growing online activity. What is striking is the speed with which senior citizens have adopted this online behaviour.

In 2007, only 6% of senior users had made a payment to a public body online. This more than doubled by 2009 (to 15%), and again by 2011 (to 30%). By 2013, 44% of senior internet users said they do this activity, only 5% less than under-40s. This indicates trust in the security of the websites that take these payments, and a willingness in the older generation to interact with government online at least on a pragmatic basis.

Appendix A: Methodology

The specific methodological details of each wave of the WIPNZ survey can be found at the back of the main report for each year. These reports are freely available at wipnz.aut.ac.nz. Details of the 2013 survey are included below.

Sample design

The 2013 sample design aimed at achieving a representative sample of approximately 2,000 people, aged 16 and up, across New Zealand. Previous waves of the survey were undertaken using CATI telephone interviewing carried out by Phoenix Research. However, in 2013 a new sampling design was implemented where part of the sample was achieved through online survey methods using an online panel provided by BuzzChannel (in addition to the telephone interviews). The purpose of this mixed methodology approach was to balance out the sample more effectively and also to include people without landlines, an increasingly large proportion of New Zealand households.

The sample design involved the following strata:

1. Recontact of those in the 2011 (and earlier) samples who had indicated that they were prepared to consider answering a further wave of the WIP study. Of these, those who had provided an email address in a previous sample were invited to complete the survey online; the remainder were contacted using CATI telephone interviewing.
2. A fresh CATI telephone sample drawn to provide adequate coverage (in conjunction with the recontact and online components) of the New Zealand population:
 - a. Fresh simple random sample of phone numbers.
 - b. Three further simple random targeted booster samples of phone numbers within mesh blocks known to have:
 - i. >30% Māori people;
 - ii. >30% Pasifika people;
 - iii. >30% Asian people.
3. An online panel sample drawn to provide adequate coverage (in conjunction with the recontact and fresh telephone components) of the New Zealand population.
4. An online sample of people without landlines, also members of the same panel.

The sampling frames for the CATI telephone fresh simple random sample and the three targeted booster samples were calculated by using 2006 census data on the number of households with access to a telephone (using a database of phone numbers purchased from Yellow Ltd.). This sampling strategy incorporates over-sampling of Māori, Pasifika and Asian people (often under-represented populations) to ensure adequate numbers of respondents in these cells.

Representative coverage of geographic areas and gender was ensured by the setting of quota based on census data.

Exclusions: non-users of the internet without landlines; non-English speakers; those refusing.

Achieved sample and weighting

The achieved unweighted sample across all four years is 6048, while the weighted sample used in this report (which excludes 12–15 year olds) includes 5855 responses. These responses include a cohort of individuals who have completed the survey in more than one round. Amongst this cohort, 198 individuals completed the survey in all four rounds; 291 completed three out of four survey waves; and a further 671 individuals completed two rounds of the survey. In total, 4201 unique individuals have participated in WIPNZ surveys.

The data from the four waves of the survey were combined, including only those questions which are comparable over time, taking into account changes in the questionnaire wording over the years. In cases where wording has changed, but comparison was deemed valid, the changes in wording are clearly marked in notes under the relevant graphs or in the question wording shown alongside. The resulting combined dataset was weighted taking into account the survey design, incorporating probabilities of selection for each

cell in the sample design, and correcting for departures from Statistics New Zealand estimated proportions on several important parameters: age (grouped); gender; and ethnicity. Each of the years' data was weighted according to the Statistics New Zealand estimates for that year. The primary stage of the weighting was for interlocked age by gender cells, so that the weighted data would closely match census proportions for age. Weighting techniques used on data in WIPNZ reports prior to 2013 did not prioritise age in this way, and tended to be biased towards older respondents.

In addition, the reweighting of data from earlier waves included a slight boosting of weights for individuals accessing the internet through a mobile device, using these individuals as a proxy for the non-landline population excluded in those landline based samples. This boosting was incrementally stronger in each wave (with no boosting for 2007), in line with the increasing proportion of non-landline households. Nb. These adjustments assume high ICT-usage for households that *do* have telecommunications devices but *do not* have a landline. The less than 2% of New Zealand households who have no telecommunications at all are a genuine and unfortunate exclusion from the sample, across all four waves. Having thus reweighted the data for the first three years, figures reported here vary slightly as compared to original reports for each of the first three waves.

For weighting purposes, ethnicity was coded in such a way as to match census data, which allows for multiple ethnicities to be reported by an individual. The ethnicity variable used for the cross-tabulations reported in Chapter 4 of the report, however, is based on the ethnicity with which respondents 'most strongly identify'.

Confidence intervals

The precision of estimated weighted proportions varies greatly according to the sample size for a given result. In this report, 95% Wald confidence intervals were calculated and are displayed as error bars on many of the graphs. As an indication, when presenting results for all respondents for 2013 data (n=2,006), 95% confidence intervals varied from approximately $\pm 1.8\%$ on percentages under 20% or over 80%, to around $\pm 2.3\%$ on percentages in the 20%–80% range. For the internet users subset (n=1,847), 95% confidence intervals varied from approximately $\pm 2.0\%$ on percentages under 20% or over 80%, to around $\pm 2.5\%$ on percentages in the 20%–80% range. In sections where cross-tabulation of results by demographics leads to smaller numbers of respondents in each reported cell, the confidence intervals increase. When reporting 2013 results in terms of three age categories, for example, the confidence intervals are around $\pm 3.5\%$ for under-40s (n=845) and for the 40–64 group (n=826), and around $\pm 5\%$ for the 65+ (n=335) group.

Weighted sample sizes

Weighted sample size according to user status, by year

User status	2007	2009	2011	2013
User	1,189	1,033	1,071	1,847
Never-user	185	102	88	108
Ex-user	81	63	37	51
Total	1,455	1,198	1,196	2,006

Appendix B: New Zealand Internet Research in the Social Sciences

Since the WIPNZ team last reported on the New Zealand literature on the use and effects of internet (Smith et al., 2008), a range of studies have been carried out. Various writers and academics have commented on internet issues, often in relation to a particular New Zealand context:

- Newman (2008) and Heyday (2010) have provided a definitive history on the development of the internet in New Zealand;
- Goode (2010) examined cultural citizenship in relation to the internet;
- Brickell (2012) provides a general perspective on the internet in relation to sexuality;
- Scherer & Sam (2010) examined the role of alternative media in a political debate over the development of stadiums for sporting events;
- Some have studied specific websites: Thom et al. (2011) on online portrayals of suicide;
- Greenbrook-Held & Morrison (2011) used 2006 census data to examine household internet connectivity, showing patterns similar to those outlined in the WIPNZ surveys;
- Internet users' access to health information has been examined (Gauld, 2011; Gauld & Williams, 2009);
- Dabner (2012) studied social media, including its role in the Christchurch earthquakes;
- Groups with a particular reliance on the internet have been studied: for example, migrants (Holmes & Janson, 2008) and international students in New Zealand (Collins, 2009);
- Shaw (2009) reviews issues related to internet voting;
- Marsh et al. (2010) investigated cyber-bullying, while Theunissen (2009) looked at students' use of internet more generally.

Academic attention has not been confined to individuals and households: Zorn, Grant and Henderson (2013), for example, studied the strengthening of Resource Mobilization Chains through increasing the social media competencies of community and voluntary organizations in New Zealand.

Studies across a wide range of disciplines refer to internet issues as its effects diffuse through more and more areas of society. Magazines and newspapers abound with stories on the effects of the internet, though these are often in the form of opinion pieces rather than reporting on in-depth analysis.

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Appendix C: WIPNZ Reports and Publications

Below is a list of the key reports for each round of WIPNZ data collection, including the relevant international WIP reports. Links to PDF files can be found at wipnz.aut.ac.nz.

Pilot Survey:

Bell, A., Crothers, C., Gibson, A., Goodwin, I., Sherman, K., & Smith, P. (2007). *Pilot Project 2007 Full Report*. Auckland, New Zealand: Institute of Culture, Discourse and Communication, Auckland University of Technology.

2007 Survey:

Bell, A., Crothers, C., Goodwin, I., Kripalani, K., Sherman, K., & Smith, P. (2008). *The Internet in New Zealand 2007. Final Report*. Auckland, New Zealand: Institute of Culture, Discourse and Communication, Auckland University of Technology.

USC Annenberg School Center for the Digital Future. (2008). *The World Internet Project International Report (first edition)*.

2009 Survey:

Smith, P., Smith, N., Sherman, K., Goodwin, I., Crothers, C., Billot, J., & Bell, A. (2010). *The Internet in New Zealand 2009*. Auckland, New Zealand: Institute of Culture, Discourse and Communication, Auckland University of Technology.

Bell, A., Billot, J., Crothers, C., Gibson, A., Goodwin, I., Sherman, K., Smith, N., & Smith, P. (2010). *The Internet in New Zealand 2007–2009*. Auckland, New Zealand: Institute of Culture, Discourse and Communication, Auckland University of Technology.

USC Annenberg School Center for the Digital Future. (2012). *The World Internet Project International Report (third edition)*.

2011 Survey:

Smith, P., Gibson, A., Crothers, C., Billot, J., & Bell, A. (2011). *The Internet in New Zealand 2011*. Auckland, New Zealand: Institute of Culture, Discourse and Communication, Auckland University of Technology.

Gibson, A., Crothers, C., Smith, P., Aguirre, A., & Bell, A. (2012). *Online Engagement with Government: Insights from the World Internet Project NZ*. Auckland, New Zealand: Institute of Culture, Discourse and Communication, Auckland University of Technology.

USC Annenberg School Center for the Digital Future. (2012). *The World Internet Project International Report (fourth edition)*.

2013 Survey:

Gibson, A., Miller, M., Smith, P., Bell, A., & Crothers, C. (2013). *The Internet in New Zealand 2013*. Auckland, New Zealand: Institute of Culture, Discourse and Communication, Auckland University of Technology.

Crothers, C., Gibson, A., Smith, P., Bell, A., Miller, M. (2014). *Internet trends in New Zealand 2007–2013*. Auckland, New Zealand: Institute of Culture, Discourse & Communication, Auckland University of Technology.

USC Annenberg School Center for the Digital Future. (Forthcoming). *The World Internet Project International Report (sixth edition)*.

Other Publications

Smith, P., Smith, N., Sherman, K., Kripalani, K., Goodwin, I., Bell, A., & Crothers, C. (2008). The Internet: Social and demographic impacts in Aotearoa. *New Zealand Observatorio (OBS)*, 2(3), 307–330.

Crothers, C., & Billot, J. (2010). The New Zealand World Internet Project: marrying a global survey with local funding. *New Zealand Sociology*, 25(2), 150–158.

Billot, J., & Crothers, C. (2011). *Internet and Society Panel Project: The impact of participation and use of social networking sites on well-being and life satisfaction*. Auckland, New Zealand: Institute of Culture, Discourse & Communication, Auckland University of Technology.