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Australian Competition & Consumer Commission

Consumer Views and Use of Web Browsers and Search Engines – Final Report

September 2021

Consumer views and use of web browsers and search engines

Final Report

Prepared for the Australian Competition & Consumer Commission
Digital Platform Services Inquiry
Third Interim Report

September 2021

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1   Executive Summary

This report was prepared for the Australian Competition and Consumer Commission (**ACCC**) and contains findings from an online survey of 2,647 Australians[1] conducted by Roy Morgan in May 2021.

The purpose of the research was to inform matters relevant to the third interim report of the ACCC's Digital Platform Services Inquiry (**DPSI**). In particular, the third DPSI interim report focuses on market dynamics and consumer choice screens in search engine services and web browsers and the impact of pre-installation and default settings on consumer choice and competition in the supply of these services.

Smartphones and computers typically come with at least one web browser pre-installed, and a search engine pre-set by a browser as the default, allowing consumers to access the internet and search for information when they first use their device.

Consumers are often able to change their browser and search engine by changing the settings on their device, or downloading alternative browsers and/or search engine apps. Where consumers have not changed their browser or search engine, the pre-installed browser or pre-set search engine remains the default.

Accordingly, the research was conducted to:

i)   understand the impact of pre-installation and default settings on consumer choice and competition, particularly in relation to search engine services and web browsers,

ii)   assess the impact on consumers of the design of defaults and other arrangements, and

iii)   understand the nature and extent of Australian consumers' digital literacy (i.e. consumers' understanding of how platforms such as web browsers and search engines operate, knowledge of how to access these services and change the default service, and awareness of potential service providers) and attitudes towards privacy and data collection by platforms.

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[1] Respondents to the survey were Australian adults aged 18 years or older who owned, or were the main user of BOTH a mobile phone and a personal computer (either a laptop or desktop computer). Respondents also had to be able to access the internet from both devices. If they were the main user, but not the owner, of a device they had to have control over which browsers and search engines they used on the device. For more information, see the 'Introduction' to the report.

1.1 How consumers access the internet

To provide context to the survey findings, consumers were asked about the smartphone and personal computer they use as their main device, and how they search for information on the internet. The smartphones reported to be most commonly used by consumers as their main device were iPhones (51%). Apple Safari is the pre-installed browser and Google Search is the pre-set search service on iPhones. Smartphones running on the Android operating system were the next most used smartphones, with around a third of consumers (29%) using a Samsung phone and one in five (18%) using an Android phone by a device manufacturer other than Samsung (**Other Android**). For most of these devices, Google Chrome is the pre-installed browser and Google Search is the pre-set search service on the device.

For computers, the most commonly used brands reported by consumers were Apple (22%), followed by Hewlett Packard (19%), Dell (12%) and Lenovo (10%). Compared to smartphones, where Apple's iOS operating system was the most common operating system, 75% of consumers used computers running Windows. Apple computers have the same pre-installed browser and pre-set search service as iPhones, while the computers using the Windows operating system tend to have Microsoft Edge set as the pre-installed browser and Microsoft Bing as the pre-set search service.

The majority of consumers access the internet daily on their smartphones (76%) and computers (61%), with 90% accessing the internet daily on at least one of these devices. The vast majority of those aged 18-34 access the internet daily (87%) on their smartphone. Those aged 65 years or older were more likely to access the internet daily on their computer, compared to their smartphones (65% compared to 49%). Almost all consumers (96%) reported being confident in their ability to find things on the internet.

The methods most commonly mentioned by consumers to search the internet were through a web browser, by using the address bar to type in a search query (54% for smartphones, 66% for computers) and by going directly to a search engine website and typing a query into a search box (36% for both smartphones and computers). Only one in three (31%) consumers used more than one method to search the internet on their smartphone, and one in five (22%) consumers on their computer, suggesting that most consumers only use one method to access search engine services.

A significant proportion of consumers prefer to use web browsers to search for information on the internet on smartphones and computers. On smartphones, 44% of consumers stated that their preferred method was to type a search query into the address bar of a web browser and 25% preferred to enter a search query in a search box of a website. On computers, for consumers that selected a single method for accessing information on the internet, 61% of these consumers only searched for information on the internet by typing directly into the address bar of their browser, and a further 26% searched for information by typing a query into the search box of search engine set as the home page of their browser.

1.2 Consumer awareness of browser and search engine brands

Most consumers were confident that there was a wide choice of other browsers (80%) and search engines (77%) than the browser and search engine provided on their devices if they were ever unhappy with the way they search the internet. On average, consumers were aware of 5.3 of the browsers listed in the survey and 3.5 of the search engines listed in the survey, although awareness levels beyond the most-commonly used products in each category tended to very low.

Google Search and Google's browser, Chrome, had the highest levels of awareness among search engines and browsers, respectively. The search engines with the highest levels of awareness included Google Search (96%), Yahoo! (67%) and Bing (57%), while awareness of privacy-focused search engine DuckDuckGo was 30% and Ecosia, a search engine focused on environmental sustainability, was 7%.

For browsers, Chrome had the highest level of awareness (95%), followed by Microsoft Internet Explorer (85%), Mozilla Firefox (81%), Safari (80%) and Microsoft Edge (69%). Other browsers, or browsers not associated with established brands, such as Brave (9%), had lower levels of awareness.

1.3 Browsers and search engines used by consumers

Most consumers use only one, or a small number of, browsers or search engines (see Table 1 below). For smartphones, non-Samsung Android users (71%) were more likely than Samsung and iPhone users (both 55%) to use only a single browser on their smartphone.

Table 1 Number of browsers/search engines used

Product Category	Average number of products used	Proportion using single product only	Proportion using two products
Browser - Phone	1.7	58%	27%
Browser - Computer	2.1	42%	28%
Search Engine - Phone	1.2	79%	13%
Search Engine - Computer	1.3	76%	16%

Source: E2/J1. Which web browsers do you currently use on your smartphone/computer?
F3/K2. Which search engines do you currently use on your smartphone/computer for any purpose?
Base: All respondents (n=2,647)

Two in three (65%) consumers used Chrome on their smartphone, and just under half (45%) used Safari, with all other browsers having a substantially lower share of use. Owners of Samsung (81%) and Other Android smartphones (86%) were more likely than iPhone users (47%) to use Chrome – noting that this indicates that nearly half of all iPhone users chose to download and install Chrome.

On computers, four in five consumers (81%) used Chrome on their computer (including 73% of Apple computer users), substantially ahead of the nearest competitors Edge and Firefox (both 33%), Internet Explorer (28%) and Safari (22%).

1.4 Browsers and search engines used most often by consumers

In terms of products used most often on the two devices, a Google product dominated three of the four categories (computer browsers, smartphone search engines and computer search engines), and was a clear leader in the final category (smartphone browsers – see Figure 1 below).

Figure 1 Google versus nearest competitor (most-used product)

Two in three (67%) iPhone users mainly used Safari. Owners of Samsung (67%) and Other Android smartphones (79%) were more likely than iPhone users (25%) to mainly use Chrome. Chrome was the most used browser on computers across all operating systems, with even those on MacOS (Apple's operating system for its Mac computers) more likely to mainly use Chrome (45%) than Safari (40%), despite Safari being pre-installed on Mac computers.

For two in three (65%) of those whose main smartphone browser was Safari, this was the only browser on their smartphone, compared with 59% of those whose main browser was Chrome, 58% for those who mainly used Samsung Internet and 43% for those who mainly used Firefox. On computers, for 45% of those whose main computer browser was Safari, this was the only browser they had on their computer. This was comparable with those whose main browser was Chrome (44%), but higher than for those whose main browser was Firefox or Edge (both 37%) or Internet Explorer (38%).

1.5 Reasons for using primary browser and search engine

Sizeable proportions – approximately 40% to 60% – said the main reason for using their primary (or only) browser/search engine was that it was their preferred product (see Figure 2).

Most of the remainder said the main reason was that the product was already on their device and they had no reason to use another product. It is not clear how this should be interpreted – it may indicate that consumers are not concerned, or have not turned their mind to the need to proactively choose their browser or search engine, or it may indicate an informed choice to remain with the product already on the device.

Very few mentioned a clear 'barrier' (e.g. unaware of other options, no other option available[2]) as the main reason for using their main browser or search engine.

Figure 2 Reason for using main browser/search engine
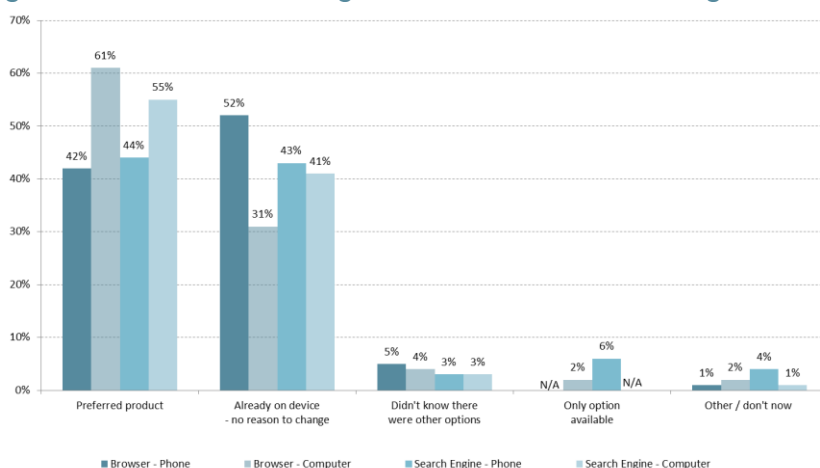
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[2] This option was only prompted in relation to the reason for using the main browser on computer and main search engine on phone. As a result, we do not have this information with respect to main browser on phone and main search engine on computer.

Those mainly using Chrome on their smartphone were more likely than those using other browsers to say that 'familiarity' (13%), 'ease of use' (13%) or 'access to saved information' (7%) was the reason it was their preferred product. However, those mainly using Firefox were more likely than those using the other browsers to say the reason for their preference was that they used the same browser on other devices (15%). Though the sample size was small (n=36), those mainly using the DuckDuckGo browser were more likely than those using the other browsers to say the reason for their preference was 'privacy features' (64%) or 'data collection practices' (20%). 'Privacy features' was also a key reason for preferring Firefox (21%).

Those who mainly used Google Search were more likely than those using the other search engines to say the reason it was their preferred product was 'familiarity' (14% for smartphones, 15% for computers), 'ease of use' (9% for smartphones and 11% for computers). 'Relevance of results to search queries' was the reason for only 7% for smartphones and 8% for computers. Those who mainly used DuckDuckGo as their search engine were substantially more likely than those using other search engines to say the reason it was their preferred product was its 'privacy features' (38% for smartphones and 47% for computers) or 'data collection practices' (29% for smartphones and 30% for computers).

1.6 Use of pre-installed browsers and search engines

Consumers were more likely to only use the pre-installed browser on their smartphone than on their computer. More than half (55%) of consumers only used pre-installed browser/s on their current smartphone. In contrast, a third (30%) only used the pre-installed browser/s on their computer and two-thirds of consumers (64%) had downloaded at least one browser to their current computer (See Figure 3).

Figure 3 Source of browsers used on device

The main browser used on smartphones had been pre-installed in 70% of cases. However, for computers, the main browser used was pre-installed in 44% of cases. On smartphones, iPhone users were more likely to mainly use the browser pre-installed on their phone (75%) compared to Samsung (63%) and Other Android users (66%).

The degree to which the main browser used by consumers had been pre-installed varied by browser brand (see Table 2). While Chrome was clearly most likely to be the main browser used on a computer (5 times as likely as the next competitor) and the most likely to be the main browser on a smartphone (48%, ahead of Safari on 34%), it was less likely than the other main browsers to have been pre-installed (61% on smartphones, 37% on computers). That is, many consumers take proactive measures to use Chrome (i.e. they download and install it onto their device).

Table 2 Pre-installation of main browser used on device

Browser	Proportion pre-installed on …..	
	Smartphone	Computer
Google Chrome	61%	37%
Apple Safari	96%	94%
Samsung Internet	93%	
Microsoft Internet Explorer		85%
Microsoft Edge		72%

Source: E3/J2. Which of these {browsers used on device, from E2/J1} did you download and which were already available on your phone/computer?
E7/J6. Which of these web browsers {from E2/J1} do you use most often on your smartphone/computer?
Base: Respondents whose main browser used was Chrome (smartphone, n= 1,238; computer, n=1,538), Safari (smartphone, n=930; computer, n=297), Samsung Internet (n=136), Internet Explorer (n=135), Edge (n=292)

Overall, very high proportions of consumers mainly use the search engine that is the default of their main browser, and particularly so on smartphones (see Figure 4). In practice, given that Google Search is the pre-set default on all of the major browsers, this resulted in Google Search being the default search engine used by the majority of consumers. Only 9% of consumers used a search engine that was not the default of their main browser on smartphones, and 20% on computers.

Figure 4 Main search engine is default of main browser
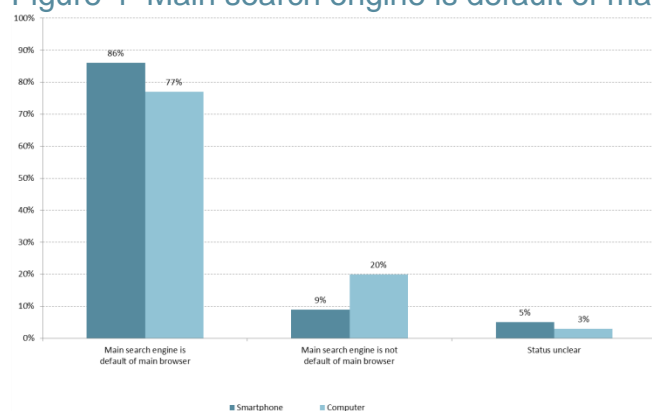
Source: F4/K3. Which of these search engines {from F3/K2} do you use most often on your smartphone/computer?
E7/J6. Which of these web browsers {from E2/J1} do you use most often on your smartphone/computer?
Base: All respondents (n=2,647)

1.7   Changing the default browser or pre-set search engine

In order to use a browser other than the one pre-installed on a device, consumers must first search for, download and install these browsers. Newly downloaded browsers often ask users if they would like to make that browser the default browser; users can choose to do so at that time, or at a later point in time using the settings available on a device.

Similarly, consumers can change their pre-set search engine on their browser by changing the settings on that browser. Smartphone users may also have the option of downloading search engine apps, which are apps specifically designed to allow the user to easily and quickly search for information through the app (i.e. without navigating to a browser). They may also download an alternative browser, which may or may not use a different pre-set default search service than their existing browser.

1.7.1   Downloads of web browsers and search engines

Four in five consumers (81%) claimed to know how to download and install a browser to their smartphone.   An even higher proportion (87%) claimed to know how to download and install a browser to their computer.

The vast majority of those who had downloaded a browser had found this process to be easy or very easy (91% for smartphones; 89% for computers), and only a minority had required any assistance (25% for smartphones and 8% for computers).   Those in the youngest and oldest age groups were more likely to have required assistance to download a browser.

Two in five consumers (38%) had downloaded/installed at least one browser on their smartphone, and two in three (64%) had done so on their computer.

One in three consumers (34%) had downloaded a search engine app to their smartphone in the last two years, with 83% of these consumers downloading Google Search.   The next-most commonly downloaded search engine apps were DuckDuckGo (15%) and Bing (10%).

1.7.1.1   Reasons for downloading a search engine app

Different search engine apps tended to have been downloaded for different reasons.   The most common reason for downloading Google Search or Bing was that it was easier to use than a search engine web browser (62% and 32% respectively, of those who downloaded the app). Those who had downloaded DuckDuckGo or Incognito were most likely to say this was due to the app's 'privacy features' (72% and 65% respectively).

1.7.1.2 Reasons for not downloading a browser/search engine app

Among consumers that had not downloaded a browser to their current smartphone, by far the most common reason was that they were satisfied with the pre-installed browser (74%). Fourteen percent nominated one or more barriers to downloading a browser, including that they didn't want to lose access to information stored on their current browser (10%), they didn't know they could download another browser (8%) or they didn't know how to download another browser (7%).

Among those who were aware of, but had not downloaded, a search engine app in the last two years, the vast majority said this was because they were satisfied with the search engine apps already on their smartphone (56%) and/or they were satisfied with alternative ways to search on their device (44%). Only a very small proportion nominated a barrier in the form of not knowing how to download apps (3%) or being scared off by warning messages after starting the process (1%).

1.7.2 Consumer knowledge about changing default settings

Three in four consumers (78%) stated that they knew that it was possible to change the default search engine set by their browser. This was lower among older age groups.

A clear majority of consumers said they knew how to change the defaults on their devices, with this majority somewhat stronger in relation to computers (see Figure 5). The groups most likely to not have this knowledge were similar for both smartphones and computers, and included older age groups and those who spoke only English at home.

On smartphones, iPhone users were also more likely to not know how to change the default browser relative to users of other operating systems (28%, compared with 19% among Android users).

Figure 5 Know how to change default browser or search engine
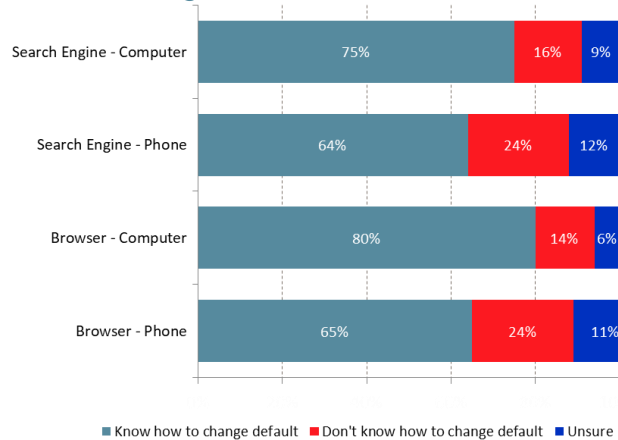
Legend: ■ Know how to change default ■ Don't know how to change default ■ Unsure

Category	Know how to change default	Don't know how to change default	Unsure
Search Engine - Computer	75%	16%	9%
Search Engine - Phone	64%	24%	12%
Browser - Computer	80%	14%	6%
Browser - Phone	65%	24%	11%

However, considerably fewer consumers had changed their default browser or search engine relative to those that stated they knew how to do so (see Table 3). Only around one in three had ever actually changed the default browser or search engine on their smartphone (36% and 31% respectively). Just under half (47%) had changed the default search engine on their computer and just over half (59%) had changed the default browser on their computer. A significant minority had never changed the defaults on their device, despite stating that they knew how to do so.

For both smartphones and computers, those in older age groups and those who only spoke English at home were less likely to have changed their default browser or search engine. On smartphones, iPhone users were also less likely to know how to change their default browser relative to users of other operating systems, but there was no difference by device type in relation to the actual changing of the default search engine.

Table 3 Ever changed default browser/search engine

Product Category	Ever changed default	Never changed default but know how to do so
Browser - Phone	36%	30%
Browser - Computer	59%	23%
Search Engine - Phone	31%	33%
Search Engine - Computer	47%	28%

Source: E15/J13. Have you or someone else ever changed the browser on your smartphone/computer?
F12/K10. Have you or someone else ever changed the default search engine on the main browser you use on your smartphone/computer?
Base: All respondents (n=2,647)

1.7.3 Consumer switching of default browser or search engine

Those who had personally changed a browser or search engine on their device were asked how many times they had done so in the last two years. Two in three of these consumers had changed the default browser (63%) or search engine (55%) on their smartphone at least once during this period, and very similar proportions had done so on their computer (default browser, 63%; default search engine, 54%). Based to all consumers, 21% had changed the default browser on their smartphone in the last two years, compared with 30% on computers, while 18% had changed the default search engine on their smartphone in that period, compared with 23% on computers.

Those with computers less than two years old were more likely than those with older computers to have changed their default browser (71% and 47% respectively) or their default search engine (65% and 49% respectively) within the last two years. There was no notable difference in this regard for smartphones.

Among those who had changed the default browser or search engine on their device in the last 2 years, more than four in five found this process to be easy or very easy (see Table 4). Notwithstanding, just under half of these consumers required some form of assistance the last time they did this.

Table 4 Difficulty experienced/assistance required when changing default

Product Category	Among those who had changed default in last 2 years…….	
	Proportion that found it easy/very easy	Proportion that required assistance
Browser - Phone	84%	45%
Browser - Computer	83%	41%
Seaerch Engine - Phone	83%	48%
Search Engine - Computer	84%	41%

Source: E18/F15/J16/K13. How easy or difficult was it to change the default browser/search engine on your smartphone/computer the last time you did this?
E19/F16/J17/K14. Did you use any of the following forms of assistance the last time you changed the default browser/search engine on your smartphone/computer?
Base: Respondents who had changed the default service on their device in the last 2 years: smartphone browser (n=506), smartphone search engine (n=437), computer browser (n=730), computer search engine (n=583)

On both smartphones and computers, for both browsers and search engines, those aged 18-24 were comparatively more likely to have required assistance to change their defaults, as were those who did not solely speak English at home. On smartphones, those on Samsung devices were substantially less likely to have required assistance to change their default browser or search engine than were those using Other Android phones or iPhones. On computers, for both browsers and search engines, those using Windows were substantially less likely than those using MacOS or Linux to have required assistance the last time they changed their defaults.

Among those who had required assistance the last time they changed their default browser or search engine (in the last two years), the most common form of assistance sought was an internet search (smartphone browser, 64%; computer browser 43%; smartphone search engine, 51%; computer search engine, 57%).

1.8 Consumers' understanding, attitudes and knowledge in relation to browsers and search engines

Respondents were asked about their understanding of how platforms such as web browsers and search engines operate; their knowledge of how to change services and awareness of other services; and attitudes towards privacy and data collection by platforms (collectively, 'digital literacy').

In response to questions asking consumers about their knowledge of searching for information on the Internet, the relationships between browsers and search engines and how to change defaults, consumers reported high levels of confidence. For example:
- 96% were confident in their ability to find things on the internet
- 90% stated they knew that entering a search query into the address bar of a browser resulted in the browser using a search engine to provide answers
- 78% stated they knew that they were able to change the default search engine set by their browser
- As stated above, substantial proportions stated they knew how to change their default browsers/search engines.

However, when asked about the business models of search engines and browsers, and how search engines ranked results, consumers showed substantially lower levels of digital literacy than what they had reported. In particular:

- Only half (51%) of all consumers nominated one of the two correct responses in relation to how browsers that are provided free of charge to consumers make money (digital advertising, 41%; search engines paying to be default on browser, 11%). The most common incorrect answer was the sale of consumer data (27%), and a sizeable minority (14%) were unable to answer the question.

- Fewer than half (45%) correctly identified digital advertising as being the way that search engines that are provided free of charge to consumers make money. Again, the most common misconception was that this occurred through the sale of consumer data (28%) with a sizeable minority (13%) unable to answer the question.

- Even fewer (38%) correctly identified that search engines rank results based on both relevance and the amount paid by third parties to display results. The most common incorrect answers were that ranking was based solely on amounts paid by third parties (19%), based on the order the search engine's algorithm decides is the most relevant (18%) or based on the information it had collected about the user (12%).

There was also a clear disconnect between attitudes and actions in relation to the collection of data and personal information by browsers and search engines:

- Most consumers expressed concern in relation to the collection of data and personal information:
    - 70% were concerned about the collection of data and personal information by browsers/search engines.
    - 89% believed browsers/search engines should allow them to opt out of data collection.
    - 90% believed browsers/search engines should only collect the information required to provide the product/service.
- However, this reported concern was often not reflected in the choices made about which browsers and, in particular, which search engines were actually used. Among those who reported being concerned about privacy/data collection:
    - More than half (56%) were mainly using a smartphone browser that was not associated with privacy, and three in four (74%) were mainly using such a browser on their computer.
    - Nine in ten of the search engines mainly being used on smartphone (89%) and/or computer (90%) were not associated with privacy.

Further, to the extent that consumers appeared somewhat more likely to mainly use a browser (as opposed to a search engine) associated with privacy, this was strongly influenced by the relatively high rate of use of Safari, which is pre-installed on Apple phones and computers. This suggested this additional 'privacy focus' in relation to browsers was a factor of preference for Apple products, rather than a specific decision to seek out a privacy-focused browser.

2   Introduction

2.1   Background to the survey

In February 2020, the Australian Government directed the ACCC to conduct an inquiry into markets for the supply of digital platform services – the Digital Platform Services Inquiry. The ACCC must provide reports to the Treasurer every six months (beginning September 2020), until the inquiry concludes in March 2025.

The third report, to be submitted to the Treasurer by 30 September 2021, focuses on market dynamics and consumer choice screens in search services and web browsers. It will also provide advice on recommendation 3 of the ACCC's Digital Platforms Inquiry Final Report:

> *'Google should provide Australian users of Android devices with the same options being rolled out to existing Android users in Europe; that is, the ability to choose their default search engine and default internet browser from a number of options.'*

Roy Morgan was engaged to inform matters relevant to the DPSI by conducting a national survey of at least 2,300 Australians, investigating consumers' use and views of web browsers and search engines.

2.2   Research objectives

The survey was designed to:

i.)   understand the impact of pre-installation and default settings on consumer choice and competition, particularly in relation to search engine services and web browsers,

ii.)   assess the impact on consumers of the design of defaults and other arrangements, and

iii.)   understand the nature and extent of Australian consumers' digital literacy (i.e. consumers' understanding of how platforms such as web browsers and search engines operate, knowledge of how to access these services and change the default service, and awareness of potential service providers) and attitudes towards privacy and data collection by platforms.

2.3   Methodology

The survey was conducted as a self-completion online survey. The questionnaire covered five key subject areas:

 I. Consumer understanding of web browsers and search engines
 II. Use of web browsers on smartphones
 III. Use of search engines on smartphones
 IV. Use of web browsers on personal computers
 V. Use of search engines on personal computers.

A copy of the questionnaire can be found at Section 4.3.

2.4   The sample

Respondents to the survey were Australian adults aged 18 years or older who owned, or were the main user of BOTH a mobile phone and a personal computer (either a laptop or desktop computer). Respondents also had to be able to access the internet from both devices. If they were the main user, but not the owner, of a device they had to have control over which browsers and search engines they used on the device.

The sample was designed to obtain 2,300 interviews. In order to ensure that there were sufficient respondents across a range of age and gender groups to provide a statistically reliable understanding of consumers' use of search engines and browsers, a stratified quota sample frame was applied, as shown in Section 4.2. Overall, a total of 2,647 questionnaires were completed. Further information on the demographic profile of the sample is at Section 4.2.

2.5   Reading and interpreting the results

The survey results presented in this report are rounded to the nearest whole number.

Consequently, it should be noted that:

- percentages may not add up to 100% in some figures due to this rounding of decimals,
- in other cases numbers in the text, that are cumulated totals, may differ from the total of individual numbers shown in a figure because of rounding of decimals, and
- similarly, the largest single rounded numbers in pie charts may be adjusted to add to a total of 100%. In such cases the number reported in the text may differ from the number in the pie chart because of this adjustment.

In a number of questions there was a response option of "don't know" or "no" that may not be reflected in the content of tables and figures. Where this occurred the percentages may not added up to 100%, but this will be noted in the relevant footnotes.

3 Main Findings

This section of the report summarises the main findings from the survey. It is structured as follows:

- Section 3.1 looks at the types of devices used by consumers. In particular, the brands of smartphones and computers used, the types of operating systems used on these devices, and the age of these devices.

- Section 3.2 looks at consumers' use and attitudes towards the internet. In particular, how and how often they search for information on the internet, the importance of accessing the internet, confidence in using the internet, what factors are important for search services, as well as attitudes towards privacy when online.

- Section 3.3 considers consumers' use and attitudes towards browsers. It looks at awareness of browser brands, understanding of browser business models, usage of browsers and reasons for choosing a browser, and switching behaviour.

- Section 3.4 considers consumers' use and attitudes towards search engines. In particular, it looks at awareness of search engine brands, understanding of search engine business models, usage of search engines and reasons for choosing a search engine, and switching behaviour.

3.1 Devices used

3.1.1 Degree of control of device

Respondents in the survey were required to indicate that they had full or partial control over the browsers and search engines they used to be eligible for inclusion in the survey. The survey indicated that the vast majority of consumers had full control over the browsers and search engines used on their smartphone and computer, with only 3% stating they had limited control in relation to their smartphone and 6% with limited control of their computer.

3.1.2 Attributes of smartphone used

Half (51%) of the consumers used an iPhone. Around a third (29%) used a Samsung phone (which uses the Android operating system) and one in five (18%) used an Android phone by a device manufacturer other than Samsung (Other Android).[3] More than half (56%) of the smartphones were less than two years old.

Most consumers (70%) had set up their smartphone without assistance, with a further 11% doing so in conjunction with another person. One in ten (9%) said the smartphone had been set up before they received it, and another 10% said another person had done it for them.

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[3] 'Android phones' refer to both Samsung phones and Other Android phones.

3.1.3 Attributes of computer used

The most-commonly used computer brands were Apple (22%), Hewlett Packard (19%), Dell (12%) and Lenovo (10%). Two-thirds of computers (66%) were more than two years old. Three in four (75%) used the Windows operating system, with most of the remainder (20%) using MacOS.

3.2 Use of & attitudes toward internet

3.2.1 How consumers search for information

Three in four consumers (76%) used the internet daily on their smartphone, and three in five (61%) did so on their computer. Overall, 90% of consumers searched for information on the internet at least once a day on either their smartphone or computer. The propensity to use the internet daily decreased with consumer's age for smartphones, but increased with age for computers.

Nearly all of those aged 18-34 access the internet on their smartphone either daily (87%) or at least once a week (11%). In contrast, almost one in five consumers aged 65+ either never use the internet (7%) or do so less often than once a month (11%) on their smartphone.

Figure 6 Frequency of searching internet by age
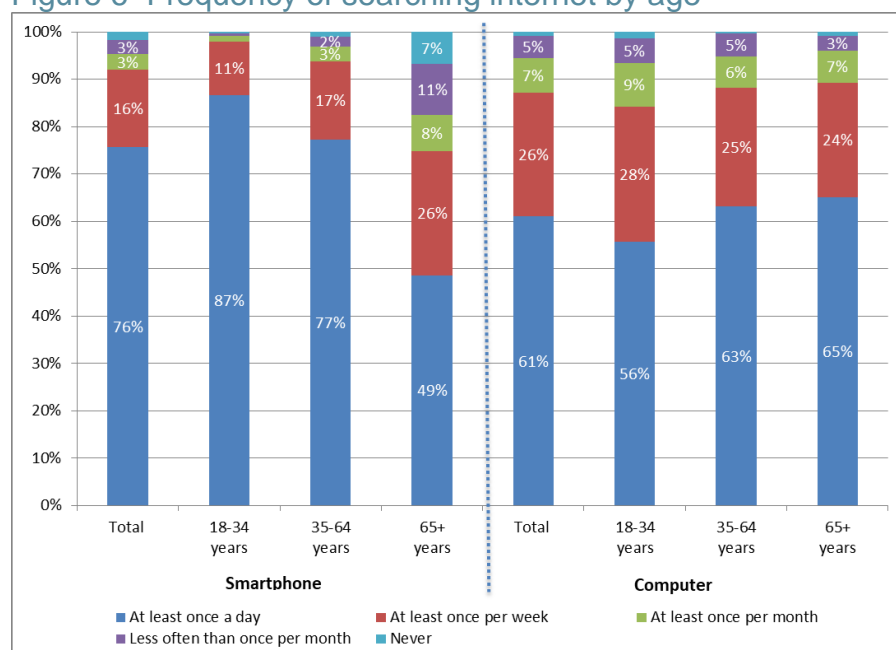
The methods of searching the internet that consumers most commonly reported using on their smartphone were through a web browser, via the address bar to type in a search query (54%) as well as going to a search engine's website and typing a query in the search box (36%). One in three (31%) nominated more than one method.

The most common methods for searching on computers were also through a web browser, via typing directly into the address bar of a browser (66%) and typing a query into the search box of a search engine set as the home page on their browser (36%). One in five (22%) nominated more than one method.

Figure 7   Method/s used to search internet
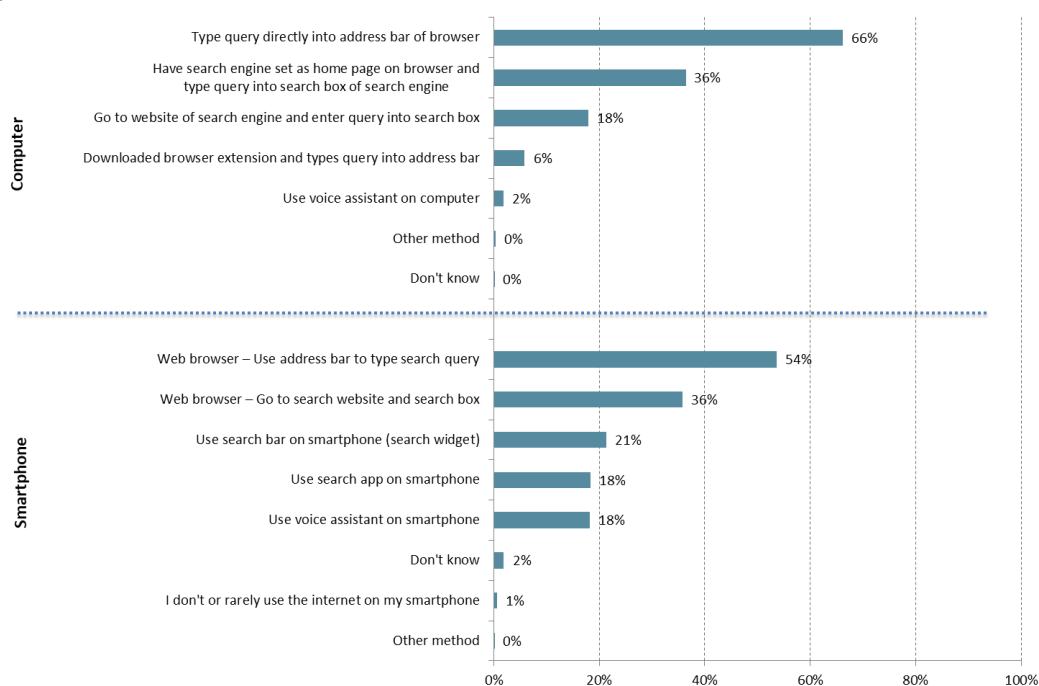
The likelihood of using only a single method to search the internet increased with age, for both smartphone and computer. This did not vary substantially depending on the smartphone device type or computer operating system.

Figure 8 Method/s used to search internet by age
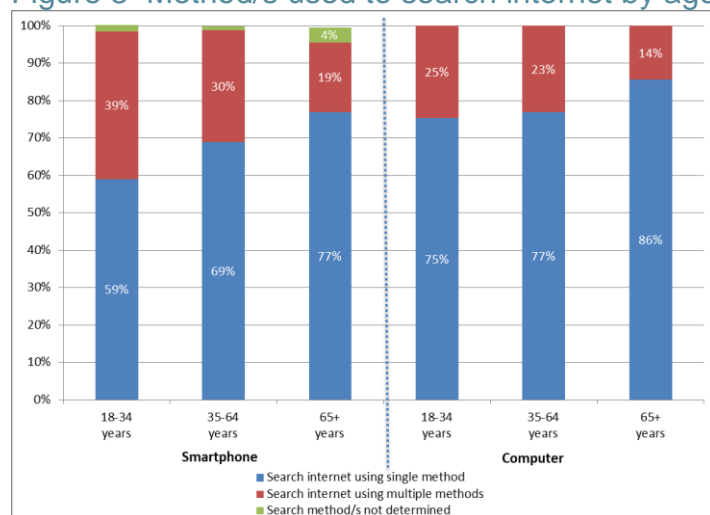
3.2.2 Preferred method of searching internet

On a smartphone, the most commonly preferred ways of searching the internet were typing a search query into the browser address bar (44%) or using a browser to go to the website of the search engine (25%).

Figure 9 Preferred method of searching internet on smartphone

Android users were more likely than those using an iPhone to mainly use a search widget[4] on their phone (18% and 8% respectively). In contrast, iPhone users were more likely than Android users to mainly use a search app on the smartphone (13% and 9% respectively) or to type the search query into the address bar of their browser (46% and 41% respectively).

Figure 10 Preferred method of searching internet by smartphone device type
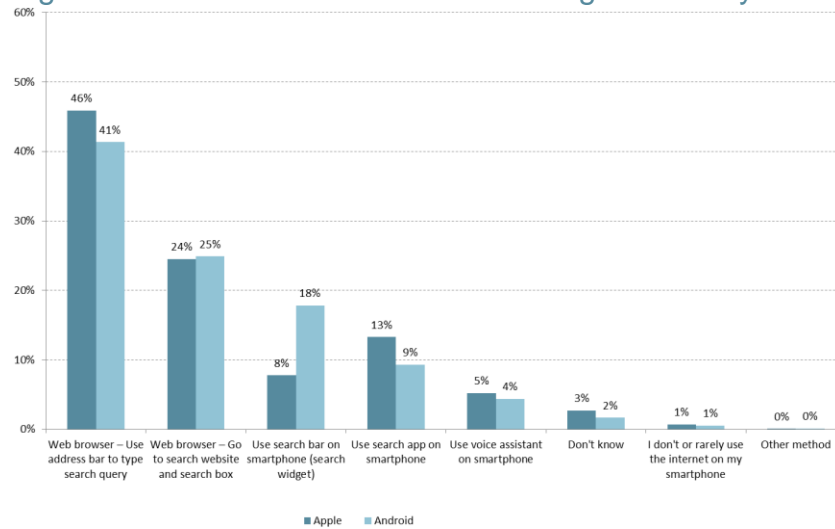
Source: F1b. What is your preferred method for searching the internet on your smartphone?
Base: Apple (n=1,396), Android (1,198)

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[4] Search widgets (a search bar appearing on the device home screen) are commonly pre-installed on Android phones but not iPhones (though they can be added by a user), whereas both phone types tend to have a search app pre-installed.

Respondents were not asked their preferred method of searching the internet on their computer. However, this can be approximated for computers by using the answer to the question, "How do you access information on the internet on your computer?" and selecting only those respondents who identified a single method. This approach identifies that, among this group of consumers, 61% only search for information on the internet by typing directly into the address bar of their browser, and a further 26% by typing a query into the search box of search engine set as the home page of their browser.

Figure 11 Only method of searching internet on computer
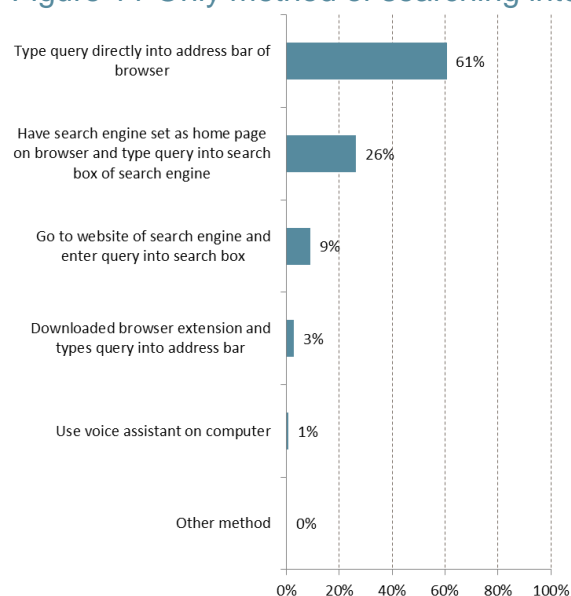
3.2.3 Attitudes toward accessing information on the internet

Almost all consumers (96%) had confidence in their ability to find things on the internet, and most (78%) said that not being able to search the internet would affect them in a very negative way. There was high confidence about the breadth of choice available among providers of browsers (80%) and search engines (77%).

A substantial minority had not thought much about how they access/search the internet (41%). This was higher among:
- the youngest and oldest age groups (18-24 years, 57%; 80+ years, 46%)
- those who only spoke a language other than English (**LOTE**) at home (50%, compared with 44% for those who spoke both English and another language at home and 39% for those who only spoke English)
- iPhone users (44%, compared with 39% for Samsung users and 36% for Other Android users).

One in three (34%) had not thought much about what browsers or search engines they use to access/search the internet. Again, this was more likely among:

- the youngest and oldest age groups (18-24 years, 52%; 80+ years, 45%)
- those who only spoke a LOTE at home (42%, compared with 34% for those who spoke both English and another language at home and 32% for those who only spoke English)
- iPhone users (38%, compared with 28% for Samsung users and 31% for Other Android users).

Figure 12 Total agree/disagree with statements about accessing information

On smartphones, the search engine attributes most likely to have been seen as either important or very important were ease of use (94%), relevance of results to search queries (93%) and speed (91%). Attributes least likely to be rated as important or very important were personalised/relevant ads (30%), results personalised to search history (53%), ads that are easy to identify (56%) and results personalised to the user's interests (57%).

Figure 13 Importance of smartphone search engine attributes
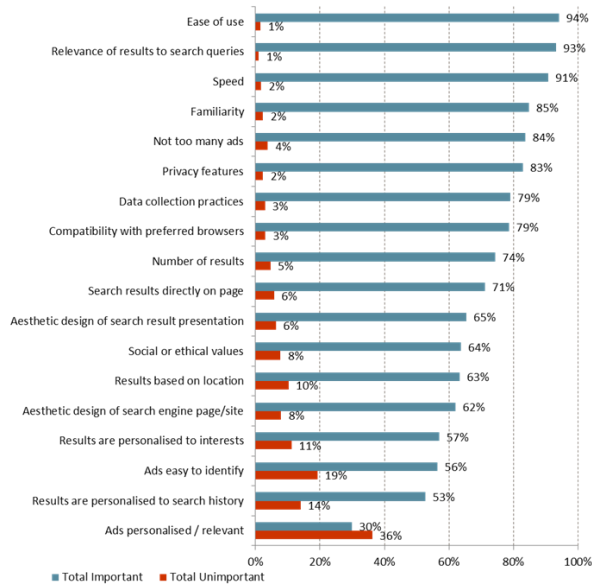
3.2.4 Attitudes toward privacy/data collection on internet

There was a fairly high level of concern among consumers about the collection of data and personal information by browsers and search engines (70%). This was substantially lower among the youngest and oldest age groups (18-24 years, 59%; 80+ years 63%), with those aged 50-64 years (75%) the most likely to be concerned.

There was very strong support for the proposition that search engines and browsers should permit users to opt out of data collection (89%) and/or only collect the information required to provide the product/service (90%). In both cases, support was stronger among older age groups than younger age groups.

Figure 14 Total agree/disagree with statements about accessing information
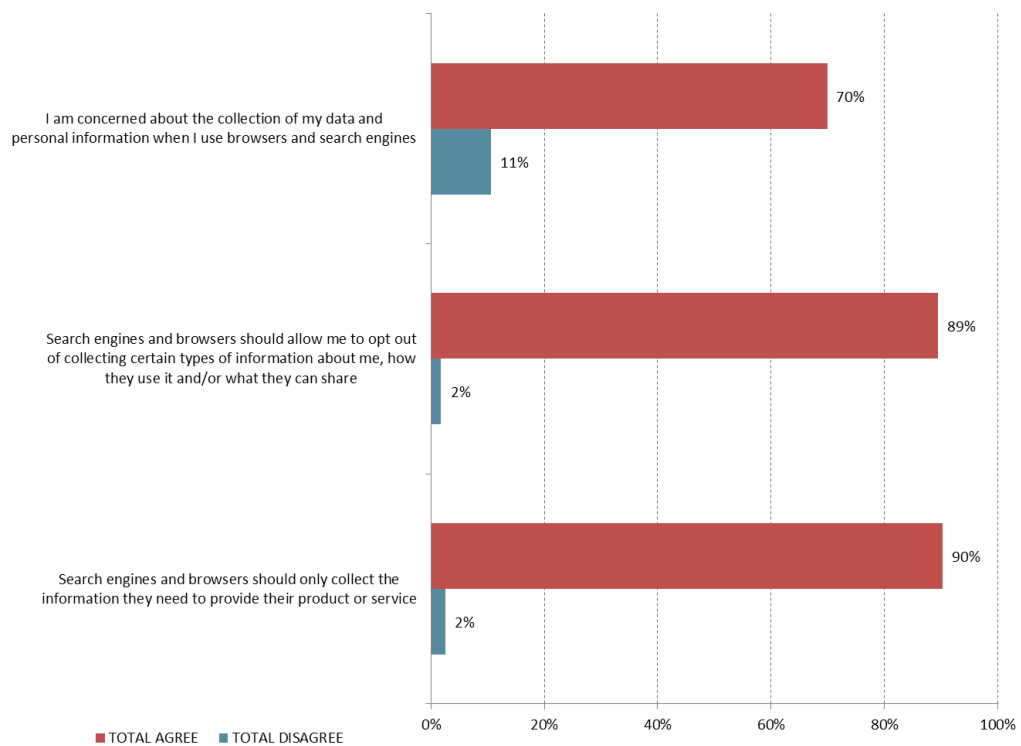
Source: C1. How much do you agree or disagree with the following statements?
Base: All respondents **n**= 2,647
Note: Chart excludes those who neither agreed nor disagreed. Percentages will not sum to 100%

3.3 Knowledge & use of browsers

3.3.1 Consumer understanding & knowledge of browsers

3.3.1.1 Number of browsers aware of

When provided with the list of browsers in Figure 15, 70% of consumers were aware of between four and seven of these browsers. On average, consumers had heard of 5.3 browsers, with this rate lower among:
- the youngest and oldest age groups (18-24 years, 5.0; 65-79 years, 4.7; 80+ years, 4.2)
- those who only spoke a LOTE in the home (5.0, compared with 5.4 for those who spoke both English and a LOTE and 5.3 for those who only spoke English at home)
- iPhone users (4.9, compared with 5.8 for Samsung users and 5.6 for Other Android users).

Awareness was highest in relation to Chrome (95%), Internet Explorer (85%), Firefox (81%), Safari (80%) and – to a lesser extent – Edge (69%). Around half of the listed browsers had awareness levels below 10%.

Figure 15 Awareness of browsers
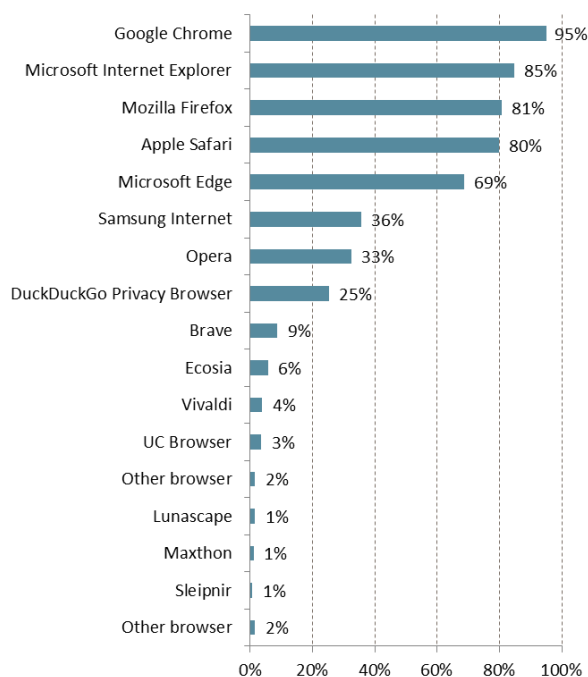
Source: E1. Before today, which web browsers had you heard of?
Base: All respondents n= 2,647
Note: Multiple responses permitted. Percentages will not sum to 100%

Those aware of more well-known browsers tended to be aware of fewer browsers than those who were aware of less well-known browsers. For example, those aware of Chrome could nominate, on average, 4.5 other browsers, but those aware of Maxthon nominated an average of 8.1 other browsers.

3.3.1.2   Understanding of browser business models

Overall, half of consumers (51%) nominated a correct response in relation to how browsers that are provided free of charge to consumers make money (the two correct responses being digital advertising, 41% and search engines paying to be default on browser, 11%), with the proportion of correct responses fairly consistent across sub-groups.

The most common incorrect answer was the sale of consumer data (27%), and a sizeable minority (14%) were unable to answer the question.

Figure 16 How free browsers make money
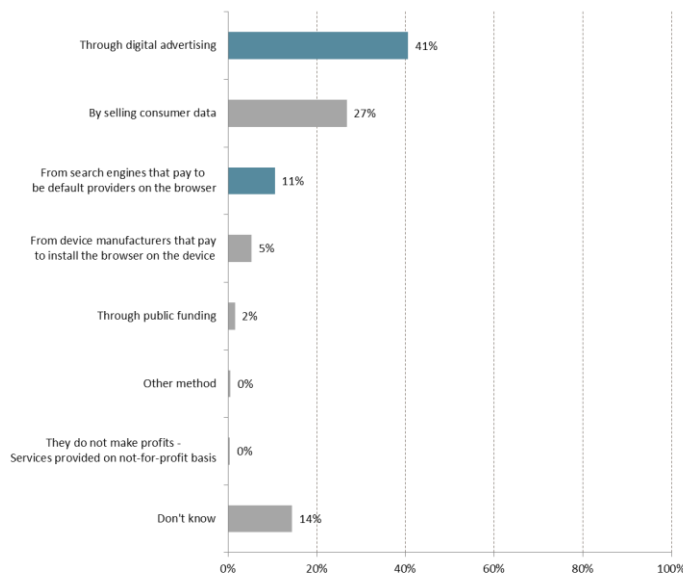
3.3.1.3   Understanding of browser/search engine integration

Overall, 90% of consumers stated that they knew that entering a search query into the address bar of a browser resulted in the browser using a search engine to provide answers. Those in older age groups were less likely to have this knowledge (65-79 years, 84%; 80+ years, 71%).

3.3.1.4   Smartphone browser attributes

Overall, the browser attributes most likely to have been seen as either important or very important on a smartphone were 'speed' and 'ease of use' (both 92%), followed by 'compatibility with websites visited' (85%), 'privacy features' (84%) and 'familiarity' or 'compatibility with software' (both 83%).

Specific attributes least likely to be rated in this way were 'aesthetic design' (60%), using the same browser on another device (63%) and the 'social or ethical values' the consumer associated with the browser (64%).

Figure 17 Importance of smartphone browser attributes
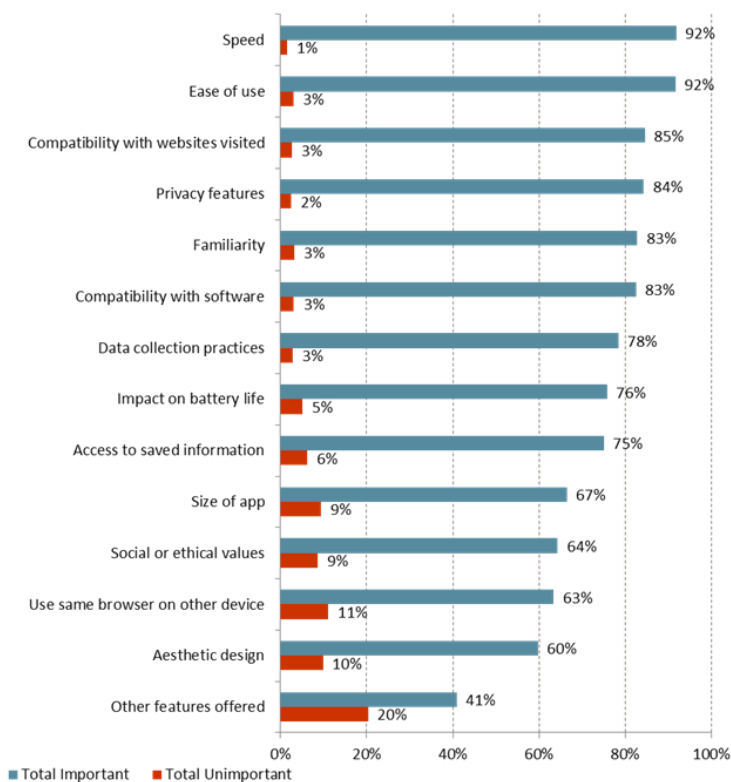
Note: The survey did not ask a corresponding question in relation attributes of computer browsers.

3.3.2 Consumer usage of browsers

3.3.2.1   Use of multiple browsers

Overall, consumers used an average of 1.7 browsers on their smartphone and 2.1 browsers on their computer. Consumers were more likely to only use a single browser on their smartphone (58%) than to do so on their computer (42%). Consumers were substantially more likely to use three or more browsers on their computer than to do so on their smartphone.

Figure 18 Number of browsers used
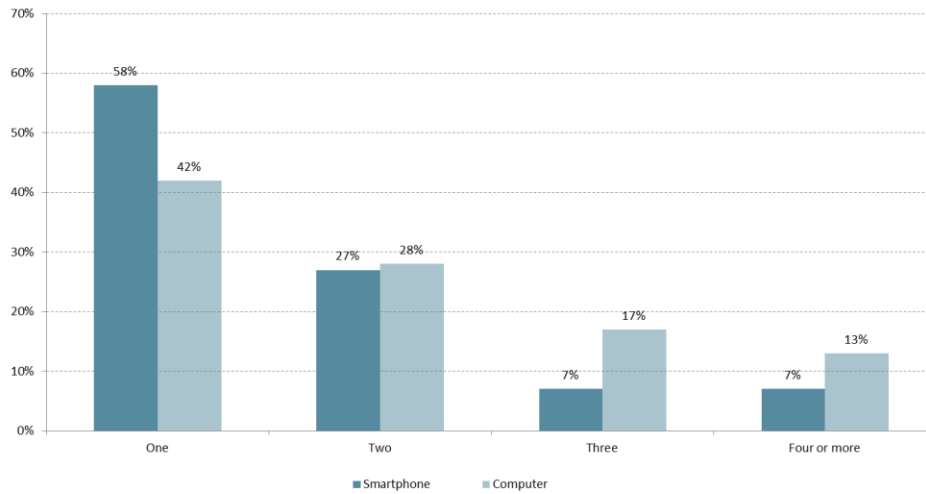
Android users (61%) were more likely than iPhone users (55%) to use only a single browser on their smartphone. Windows and MacOS users were equally likely (both 42%) to use a single browser on their computer.

Those aged 50+ years were more likely than younger consumers to only use one browser on their smartphone. For computers, those aged 18-24 or 65-79 years were most likely to use only a single browser.

3.3.2.2   All browsers used

Two in three (65%) consumers used Chrome on their smartphone, and just under half (45%) used Safari, with all other browsers having a substantially lower share of use. On computers, four in five consumers (81%) reported using Chrome, substantially ahead of the nearest competitors Edge and Firefox (both 33%), Internet Explorer (28%) and Safari (22%).

Figure 19 Browsers used on device
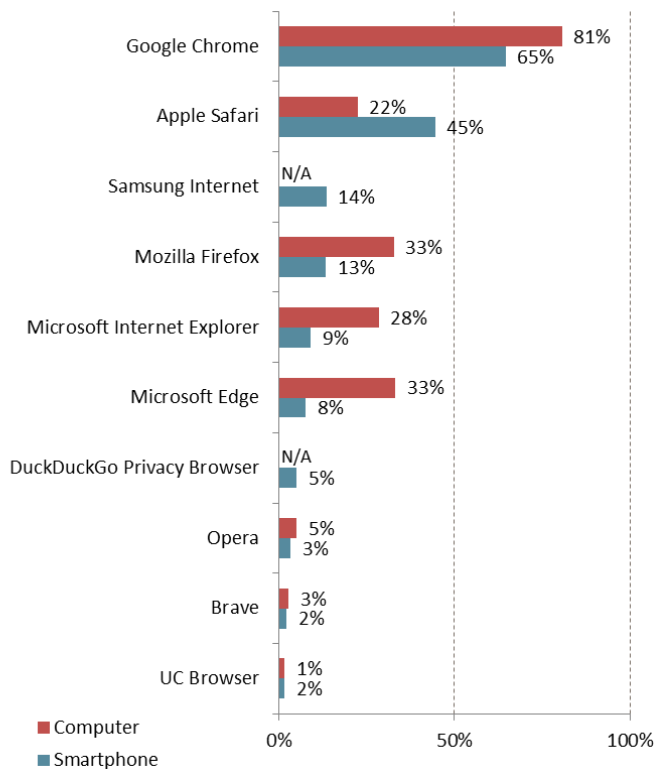
Browsers used on smartphone – variation by device type

Owners of Samsung (81%) and Other Android smartphones (86%) were more likely than iPhone users (47%) to use Chrome. Samsung and Other Android devices usually have Chrome pre-installed, but the 47% of iPhone users that use Chrome would have had to download and install it.

Not surprisingly, iPhone and Samsung owners were more likely than others to use the Safari and Samsung Internet browsers respectively (which are pre-installed on these respective devices). 83% of iPhone users said they used Safari and 41% of Samsung owners said they used Samsung Internet.

Among all Android users, 83% used Chrome, 26% used Samsung Internet, 16% used Firefox, 9% used Microsoft Edge, 8% used Internet Explorer and 7% used DuckDuckGo on their main smartphone. After Safari and Chrome (83% and 47% respectively), the browsers most often used by those with an iPhone were Firefox (11%), Internet Explorer (10%) and Edge (6%).

Figure 20 Browsers used on smartphone by device type
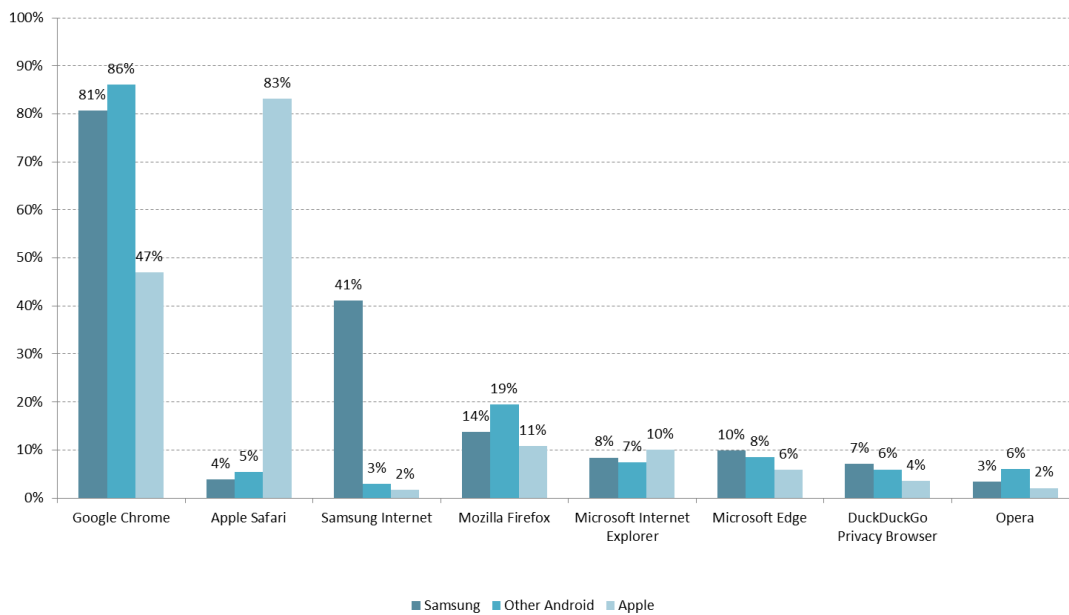
Browsers used on computer – variation by operating system

Chrome was the most used browser on computers, regardless of operating system, with even MacOS users more likely to use Chrome (71%) than Safari (68%), which is pre-installed. Similarly, Chrome was the most used browser on Windows computers (83%), despite Edge (used on 41% of Windows computers) usually being pre-installed on these computers.

Figure 21 Browsers used on computer by operating system
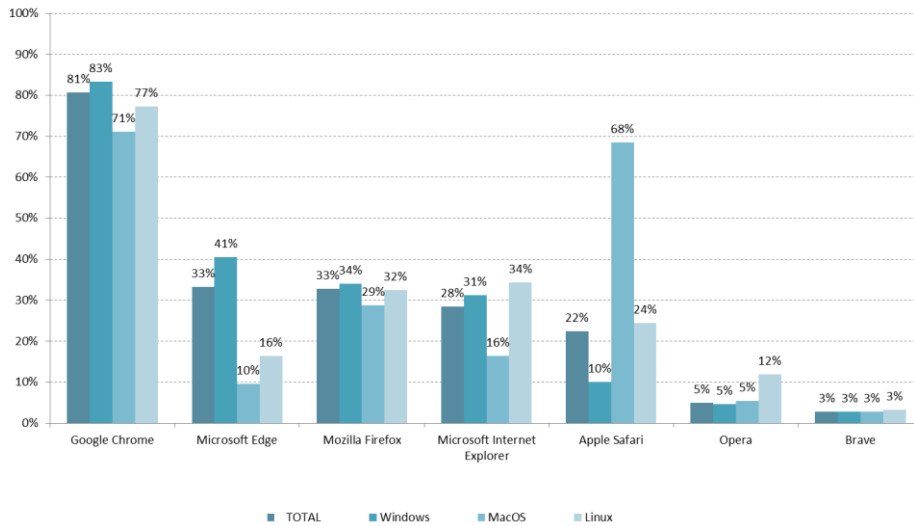
3.3.2.3 Browser used most often

On smartphones, Chrome (48%) and Safari (34%) were far more likely than other browsers to be the browser used most often, with no other browser having above a five percent share. On computers, three in five consumers (61%) nominated Chrome as the browser they used most often, with the nearest competitors being Firefox (11%), Edge and Safari (both 10%).

The age group most likely to primarily use Chrome on their smartphone were those aged 50-64 years (53%), whereas those aged 25-34 years were most likely (67%) to use Chrome on their computer. In contrast, 18-24 year olds were the most likely age group to primarily use Safari (47%) on smartphones (reflecting the fact that 70% of those aged 18-24 used an iPhone).

Figure 22 Browser used most often on device
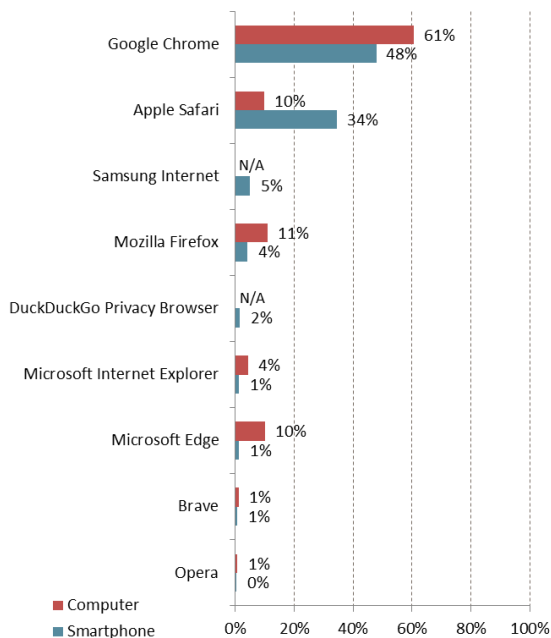
Source: E7/J6. Which web browsers do you use most often on your smartphone/computer?
Base: All respondents n= 2,647
Note: Only displaying browsers with at least 1% share on smartphone or computer. Percentages will not add to 100%.

A greater share of consumers tended to have only one browser on their smartphone, as compared to their computer, where use of more than one browser was reportedly more common. For two in three (65%) of those whose main smartphone browser was Safari, this was the only browser they had on their smartphone, compared with 59% of those whose main browser was Chrome, 58% of those who mainly used Samsung Internet and 43% of those who mainly used Firefox. Of those consumers whose main computer browser was Safari, 45% only had Safari (and no other browsers) on their computer. This was comparable with those whose main browser was Chrome (44%), but higher than for those who main browser was Firefox or Edge (both 37%) or Internet Explorer (38%).

Browser used most often on smartphone – variation by device type

Owners of Samsung (67%) and Other Android smartphones (79%) were more likely than iPhone users (25%) to mainly use Chrome. Not surprisingly, iPhone and Samsung owners were substantially more likely than others to mainly use Safari and Samsung Internet respectively. Sixty-seven percent of iPhone users said they mainly used Safari and 16% of Samsung owners said they mainly used Samsung Internet.

Among all Android users, 72% mainly used Chrome, 10% mainly used Samsung Internet, 6% mainly used Firefox, and 2% mainly used one of DuckDuckGo, Edge or Internet Explorer. After Safari and Chrome (67% and 25% respectively), the browser most often used by those with an iPhone was Firefox (2%), with no other browser mainly used by more than 1% of these consumers.

Figure 23 Browser used most often on smartphone by device type

Browser used most often on computer – variation by operating system

Google Chrome was the most used browser on computers across all operating systems, with even those on MacOS more likely to mainly use Chrome (45%) than Safari (40%); though Chrome was more likely to be the most used browser on non-Apple computers (65%).

Figure 24 Browser used most often on computer by operating system
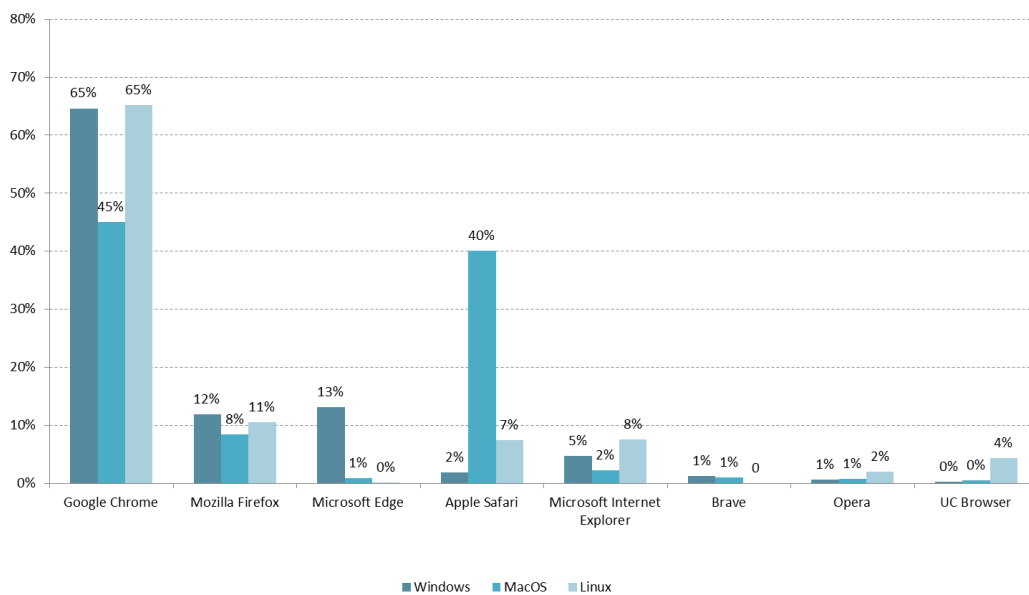
Main reason for using primary browser

Reasons for using their primary browser tended to vary depending on the device. On smartphones, just over half of all consumers (52%) said the main reason they use their primary (or only) browser was that it was already on their smartphone and they had no reason to use another browser. This was more common among the youngest and oldest age groups (60% for 18-24 years, 58% for 80+ years) and iPhone users (61%, compared with 41% among Samsung users and 46% among Other Android users).

On computers, only 31% of consumers gave this reason for the browser they used most on their computer. This was more common among the youngest and oldest age groups (18-24 years, 37%; 65-79 years, 41%; 80+ years, 52%) and among those who only spoke a LOTE at home (37%, compared with 31% of those who only spoke English at home, and 27% of those who spoke both English and another language).

The most common reason consumers gave for using their primary browser on their computer was because it was their preferred browser (61%). This was most common among those aged 25-34 years or 50 to 64 years (both 68%) and least common among those who only spoke a LOTE at home (52%, compared with 63% of those who only spoke English at home, and 62% of those who spoke both English and another language). This was the second most common reason given in relation to smartphones (42%). On smartphones, this reason was more common among those aged 35-64 years (44%); those who spoke both English and another language at home (49%, compared with 42% among those who only spoke English and 37% among those who only spoke a LOTE), and Samsung users (54%, compared with 47% for Other Android users and 33% of iPhone users).

Only a small proportion of consumers said the main reason for using their primary (or only) browser was because it was already on their device and they didn't know there were other options (5% for smartphones and 4% for computers). This was more likely to be the case for those aged 80+ years (8%) on smartphones, and 18-24 years (10%) on computers. On computers, a further 2% of consumers said they used their main browser because it was already on their computer and they were not allowed to use other options.

Figure 25 Main reason used primary browser
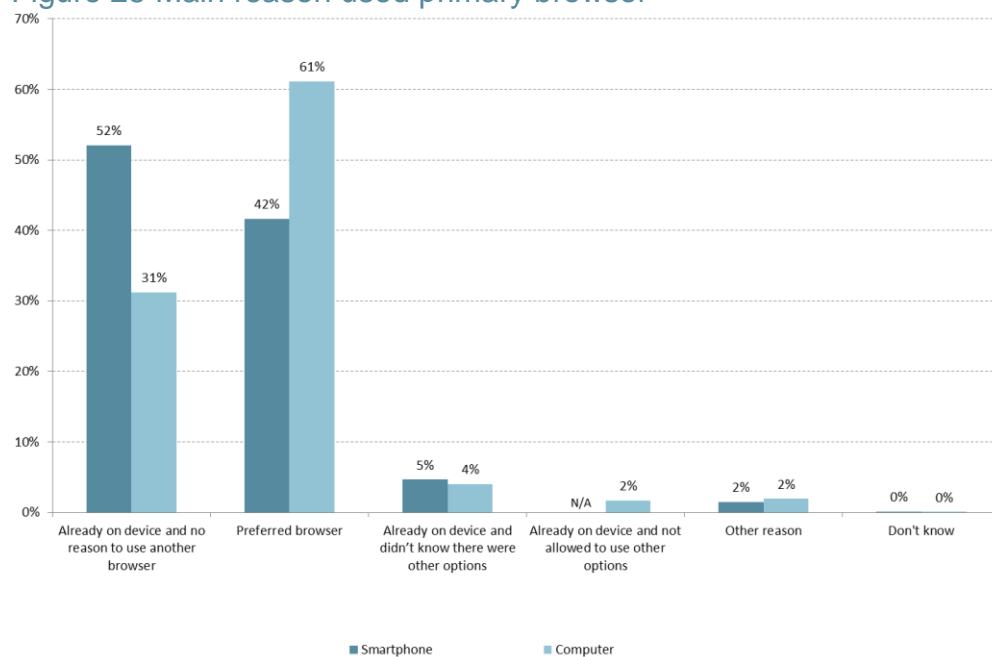
Reasons vary depending on the main browser used

On computers, the main reason for consumers' browser preference varied across browsers. Those who mainly used Firefox on their computer were more likely than users of other browsers to say the main reason they did so was that it was their preferred browser (85%, compared with 68% for Chrome, 41% for Edge, 31% for Safari and 22% for Internet Explorer). Those who mainly used Internet Explorer (65%) or Safari (62%) were more likely than those using the other major browsers on computers to say the main reason was that it was already on their computer and there was no reason to use another browser.

Though the incidence was relatively low, those using Internet Explorer (10%) or Edge (7%) were more likely to say they did not know there were other options available to them. There was no notable difference between the major computer browsers in relation to the main reason for preference being that the consumer was not allowed to use other options.

Figure 26 Main reason used primary computer browser – by major browsers
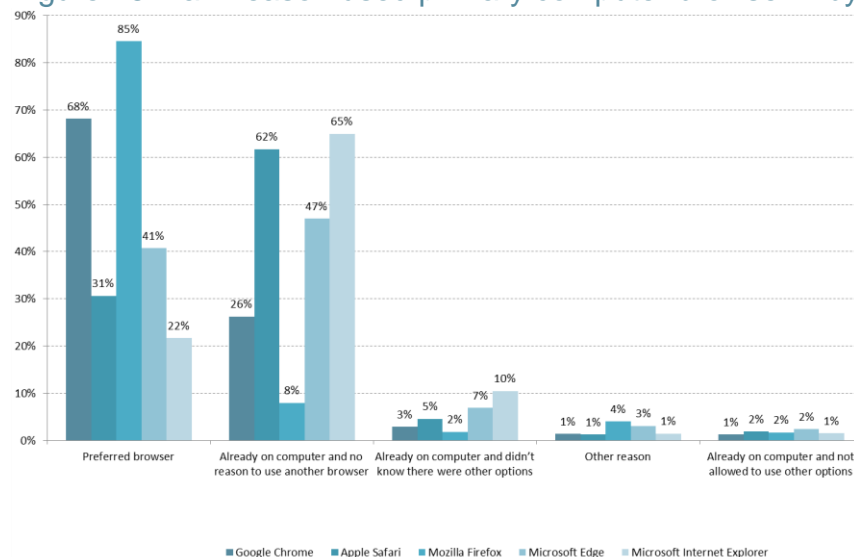
On smartphones, the dominance of Chrome and Safari as the main browsers used meant that there was limited utility in comparing with other browsers the reasons why they were the primary browser used. Other than Chrome and Safari, only Firefox and Samsung Internet had sample sizes large enough for analysis.

- Those who mainly used Firefox on their smartphone were more likely to say the main reason for mainly using this browser was that it was their preferred browser (85%, compared with 57% for Chrome, 17% for Safari and 11% for Samsung Internet).
- Those who mainly used Samsung Internet (82%) or Safari (78%) were more likely than those who mainly used Chrome (38%) or Firefox (5%) to say the main reason for mainly using this browser was that it was already on their smartphone and there was no reason to use another browser.
- There was no notable difference between these four browsers in relation to the likelihood that the main reason for primarily using a particular browser was that the consumer didn't know there were other options.

Figure 27 Main reason used primary smartphone browser – by major browsers
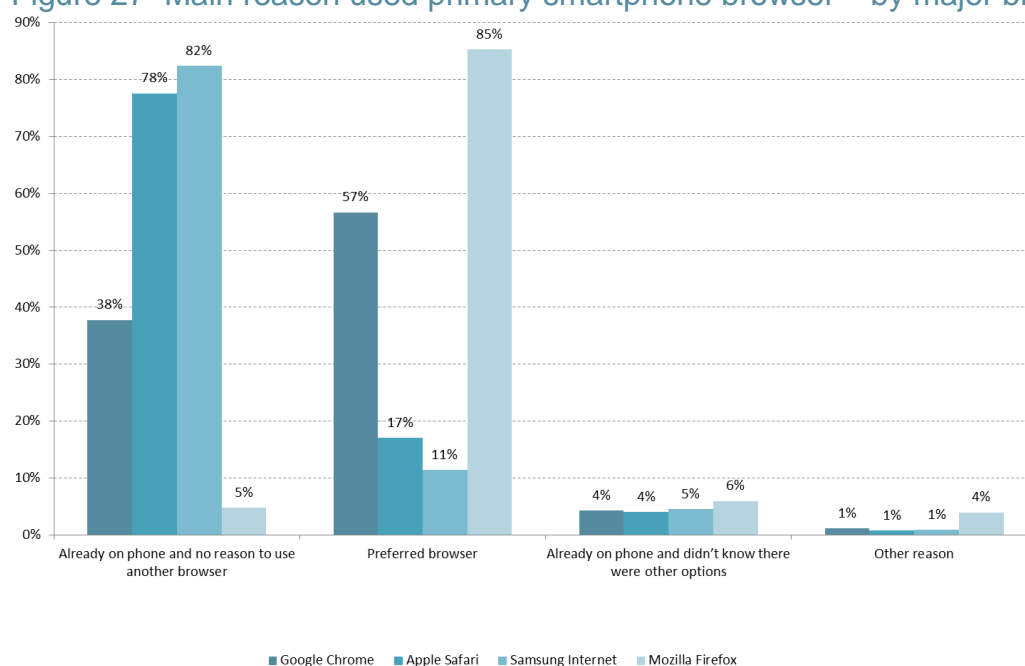
Reasons why a browser is preferred

The main individual factors contributing to consumers stating they used their main browser because it was their preferred browser were similar across both smartphones and computers. The top factors contributing to the 42% and 61% of consumers that preferred their main smartphone and computer browser respectively were common across both device types, and included:

- 'familiarity' (smartphones, 8%; computers, 14%)
- 'ease of use' (smartphones, 8%; computers, 11%)
- 'same as used on other devices' (smartphones, 6%; computers, 6%)
- 'access to saved information' (smartphones, 4%; computers, 6%). On smartphones, 'privacy features' were also equal fourth (4%).

Some variations were apparent based on the browser in question. In particular, and focussing on the major browsers:

- On both smartphones and computers, those mainly using Chrome were more likely than those using the other main browsers to say the reason for their preference was 'familiarity' (smartphones, 13%; computers, 17%) or 'ease of use' (smartphones, 13%; computers, 13%). On smartphones, these consumers were also more likely to give 'access to saved information' as a reason (7%), while on computers, these consumers were also more likely to say 'speed' (6%) or 'compatibility with visited websites' (6%).
- Those mainly using Firefox on their smartphone were more likely than those using the other main browsers on their smartphone to say the reason for their preference was that they used the same browser on other devices (15%). Those mainly using Firefox on their computer were more likely than those using the other main browsers to say the reason for their main browser was their preferred browser was based on 'privacy features' (10%, compared with 3% for the entire sample) or data collection practices (6%, compared with 2%).
- Though the sample size was small (n=36), those mainly using DuckDuckGo on their smartphone were more likely than those using the other main browsers on their smartphone to say the reason for their preference was 'privacy features' (64%) or 'data collection practices' (20%). 'Privacy features' was also a key reason for preferring Firefox on smartphone (21%).
- On computers, those mainly using Microsoft Edge were more likely than those using the other main browsers to say the reason for their preference was 'compatibility with software used (10%).

Table 5 Main reason for being preferred smartphone browser by browser type

Reason	TOTAL	Browser used most often on smartphone				
		Google Chrome	Apple Safari	Samsung Internet	Mozilla Firefox	DuckDuckGo Privacy Browser
n=	*2647*	*1238*	*930*	*136*	*101*	*36*
Familiarity	8%	13%	4%	2%	9%	-
Ease of use	8%	13%	3%	0%	3%	4%
Same as used on other devices	6%	10%	2%	1%	15%	3%
Privacy features	4%	2%	2%	-	21%	64%
Access to my saved information	4%	7%	0%	2%	2%	-
Speed	2%	4%	1%	2%	2%	1%
Compatibility with software I need to use	2%	1%	2%	-	3%	-
Compatibility with websites I like to visit	2%	2%	1%	0%	2%	1%
Data collection practices	1%	0%	0%	-	7%	20%
Their social or ethical values	1%	0%	0%	-	6%	4%
Aesthetic design	1%	1%	0%	1%	1%	-
Impact on battery life	0%	0%	1%	1%	-	-
Size of the app	0%	0%	-	-	-	-
Other features offered	2%	2%	0%	3%	14%	-
Other reason for being preferred browser	1%	1%	1%	-	0%	-
Total Main Reason Used Browser Most Often Was Related to Preference	***42%***	***57%***	***17%***	***11%***	***85%***	***97%***
Already on phone and no reason to use another browser	52%	38%	78%	82%	5%	-
Already on phone and didn't know there were other options	5%	4%	4%	5%	6%	-
Other reason	1%	1%	1%	1%	4%	3%
Don't know	0%	0%	-	1%	-	-
TOTAL	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Source: E8a. Why do you use {main browser from E7} the most on your smartphone?
Base: Respondents using browser most often on smartphone: Chrome (n=1,238), Safari (n=930), Samsung Internet (n=136), Firefox (n=101), DuckDuckGo (n=36)

Table 6 Main reason for being preferred computer browser by browser type

Reason	TOTAL	Browser used most often on computer				
		Google Chrome	Mozilla Firefox	Apple Safari	Microsoft Edge	Microsoft Internet Explorer
n=	2647	1538	286	297	292	135
Familiarity	14%	17%	15%	5%	7%	6%
Ease of use	11%	13%	11%	4%	9%	6%
Same as used on other devices	6%	7%	5%	6%	-	0%
Access to my saved information	6%	7%	6%	3%	5%	1%
Speed	5%	6%	2%	3%	3%	2%
Compatibility with websites I like to visit	5%	6%	4%	2%	2%	2%
Compatibility with software I need to use	4%	3%	4%	3%	10%	1%
Privacy features	3%	1%	10%	1%	1%	2%
Aesthetic design	2%	2%	2%	0%	1%	-
Other reason	2%	1%	4%	1%	3%	1%
Data collection practices	2%	1%	6%	3%	1%	-
Their social or ethical values	1%	0%	7%	0%	-	0%
Other features offered	4%	4%	10%	1%	3%	-
Other reason for being preferred browser	1%	1%	3%	1%	0%	-
Total Main Reason Used Browser Most Often Was Related to Preference	*61%*	*68%*	*85%*	*31%*	*41%*	*22%*
Already on computer and no reason to use another browser	31%	26%	8%	62%	47%	65%
Already on computer and didn't know there were other options	4%	3%	2%	4%	7%	10%
Other reason	2%	2%	4%	1%	3%	1%
Already on computer and not allowed to use other options	2%	1%	1%	2%	2%	2%
Don't know	0%	0%	-	-	-	-
TOTAL	100%	100%	100%	100%	100%	100%

Source: J7a. Why do you use {main browser from J6} the most on your computer?
Base: Respondents using browser most often on computer: Chrome (n=1,538), Firefox (n=286), Safari (n=297), Edge (n=292), Internet Explorer (n=135)

Was the main browser used pre-installed or downloaded?

On smartphones, the main browser used had been pre-installed in at least 70% of cases, with 24% saying it had been downloaded and 6% unable to say. iPhone users were more likely to mainly use a pre-installed browser (75%, compared with 63% for Samsung users and 66% for Other Android users).

Six in ten consumers (61%) who mainly used Chrome on their smartphone said this had already been installed on their device, with 33% having downloaded and installed this browser. Nearly all of those who mainly used Safari (96%) or Samsung Internet (93%) said this browser was already installed on their smartphone. While Chrome was most likely to be the main browser used on a smartphone (48%, ahead of Safari on 34%), it was substantially less likely than both Safari and Samsung Internet to have been pre-installed (61%, compared with 96% and 93% respectively).

Figure 28 How primary smartphone browser installed by device type
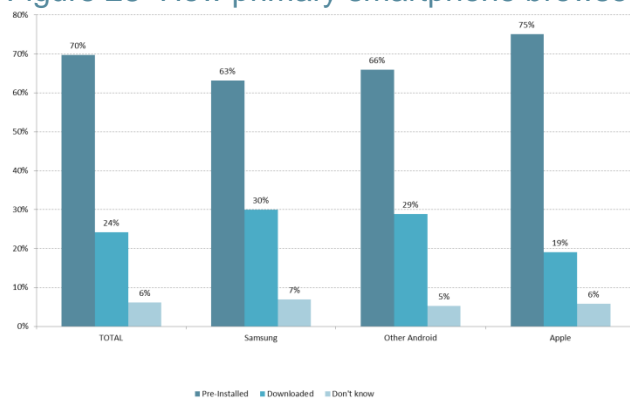
Relative to smartphones, consumers were less likely to use a pre-installed browser as their main browser on the computer. The main browser used on the computer was pre-installed for 44% of consumers, with 51% saying it had been downloaded and 5% unable to say. Categories of consumers more likely to mainly use a browser that had been pre-installed on their computer included those in older age groups (65-79 years, 55%; 80+ years, 63%) and Apple computer users (56%, compared with 42% for other computer users).

Relative to smartphones, consumers who mainly used Chrome on their computer were considerably less likely to say it was pre-installed (37%), with a majority (59%) saying they had downloaded and installed it. Again, while Chrome was clearly most likely to be the main browser used on a computer (61%, more than 5 times as likely as the next competitor), it was substantially less likely than Safari, Explorer or Edge to have been pre-installed (94%, 85% and 72% respectively).

Figure 29 How primary computer browser installed
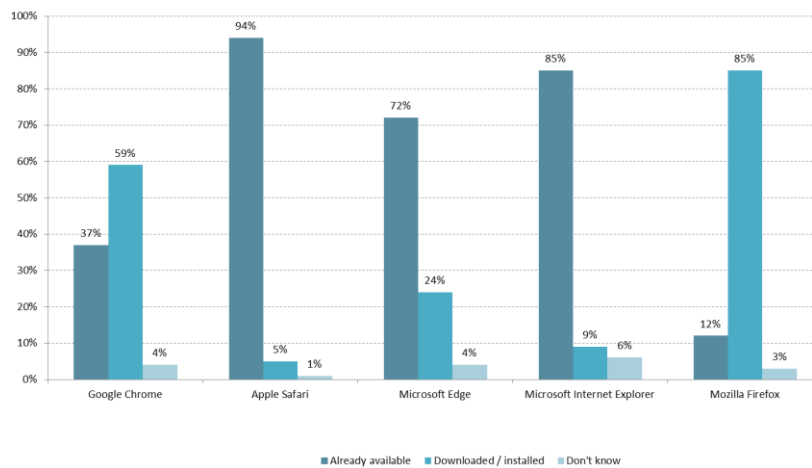
Attitudes toward privacy/data collection contrasted with primary browser used

There was low correlation between stated attitudes toward privacy/data collection and the browsers used. More than half of those who agreed or strongly agreed with the three statements associated with privacy or data collection (see Table 7 below) were mainly using a browser on their smartphone that was not associated with privacy.[5] This proportion rose to three in four in relation to the main browser used on their computer.

Table 7 Attitudes toward privacy/data collection by primary browser used

	Attitudinal Statement (Total Agree)		
	I am concerned about the collection of my data and personal information when I use browsers and search engines (n=1,785)	Search engines and browsers should allow me to opt out of collecting certain types of information about me, how they use it and/or what they can share (n=2,346)	Search engines and browsers should only collect the information they need to provide their product or service (n=2,385)
Main phone browser associated with privacy	42%	42%	42%
Main phone browser not associated with privacy	56%	57%	56%
Main computer browser associated with privacy	25%	23%	23%
Main computer browser not associated with privacy	74%	76%	75%

Source: C1. How much do you agree or disagree with the following statements?
Base: Total agree or strongly agree with relevant statement
Note: Percentages will not sum to 100%, as some respondent were unable to nominate their main browser, or nominated a product whose privacy status was unknown

Further, to the extent that consumers mainly use a smartphone browser associated with privacy, this was strongly influenced by the high use of the pre-installed Safari browser among iPhone users (i.e. 67% of the 51% of smartphone users who use an iPhone mainly used Safari). This was also evident (though to a lesser extent) among those mainly using Safari on Apple computers. This suggests that the somewhat stronger focus on privacy among browsers, compared with search engines (as outlined in section 3.4.2.3), is possibly due to a preference for Apple products rather than a specific decision to seek out a privacy-focused browser.

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[5] "Phone browsers associated with privacy" was based on browsers that marketed privacy as their main offering, or as a key feature and was defined as Firefox, Safari, Opera, Brave, Vivaldi and DuckDuckGo, with all other listed browsers defined as not being associated with privacy. This list, excluding DuckDuckGo, was also used to relation to computer browsers associated with privacy.

3.3.3 Extent of consumer switching

3.3.3.1 Downloading of alternative browsers

Where a consumer changes the default browser on their smartphone or computer to one that is not pre-installed, doing so will involve downloading and installing an additional browser as a preliminary step. However, consumers may also download additional browsers to those pre-installed without setting them as the default.

Consumers were generally confident about downloading and installing an additional browser on their smartphone and computer. Four in five consumers (81%) claimed to know how to download and install a browser to their smartphone and an even higher proportion (87%) claimed to know how to download and install a browser to their computer. Older age groups were relatively less likely to have this knowledge for both smartphones (50-64 years, 76%; 65-79 years, 62%; 80+ years, 49%) and computers (50-64 years, 84%; 65-79 years, 73%; 80+ years, 56%). On smartphones, iPhone users were also relatively less likely to have this knowledge (78%, compared with 82% of Samsung users and 89% of Other Android users).

Among those who nominated the browser/s used, two in five (38%) had downloaded at least one browser to their current smartphone and two in three (64%) had done so with their current computer.

Just over half (55%) <u>only</u> used pre-installed browsers on their smartphone, and one in three (30%) <u>only</u> used pre-installed browsers on their computer. Those aged 65+ years were comparatively more likely (61%) to only use pre-installed browsers on their smartphone. With regard to computers, it was both the youngest and older aged groups that were more likely to do so (18-24 years, 36%; 65-79 years, 42%; 80+ years, 50%).

Figure 30 How browsers were installed on current device

Two in five (40%) of those who used Chrome on their smartphone said they had downloaded/installed it, as did three in five (59%) of those who used Chrome on their computer.

Figure 31 How browsers were installed on smartphone [6]

Browser	Already Available	Downloaded / Installed	Don't Know
Google Chrome	54%	40%	6%
Apple Safari	94%	4%	2%
Samsung Internet	92%	4%	4%
Microsoft Edge	30%	48%	22%
Microsoft Internet Explorer	53%	20%	27%
Mozilla Firefox	22%	63%	15%
DuckDuckGo Privacy Browser	11%	84%	5%
Opera	24%	50%	26%
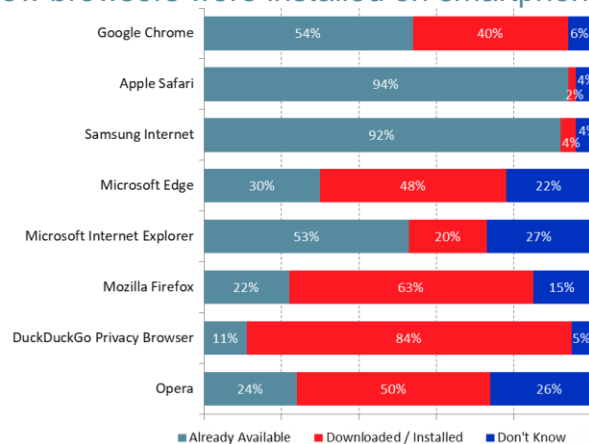
Source: E3. Which of these (browsers used from E2) did you install and which were already available on your smartphone?
Base: Chrome (n=1,673), Firefox (n=318), Safari (n=1,201), Edge (n=205), Opera (n=78), Internet Explorer (n=249), DuckDuckGo (n=110), Samsung Internet (n=343)
Note: Only displaying browsers with at least 3% share

Figure 32 How browsers were installed on computer [7]

Browser	Already Available	Downloaded/ Installed	Don't Know
Google Chrome	37%	59%	4%
Apple Safari	78%	11%	11%
Microsoft Edge	73%	21%	6%
Microsoft Internet Explorer	79%	10%	11%
Mozilla Firefox	15%	75%	10%
Opera	14%	61%	25%
Brave	12%	78%	10%
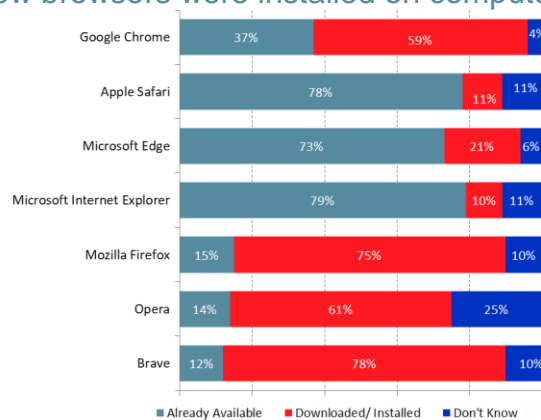
Source: J2. Which of these (browsers used from J1) did you install and which were already available on your computer?
Base: Chrome (n=2,096), Firefox (n=808), Safari (n=634), Edge (n=864), Opera (n=120), Internet Explorer (n=764), Brave (n=66)

There was no notable difference by device type in terms of propensity to have downloaded a browser to the phone (Samsung, 38%, Other Android 37%, iPhone 39%). Linux users (54%) were

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[6] DuckDuckGo and Opera are not pre-installed on smartphones. However, 11% and 24% respectively of those who used these browsers on their phone said that it had been pre-installed, indicating a degree of confusion among those surveyed.

[7] Opera and Brave are not pre-installed on computers. However, 14% and 12% respectively of those who used these browsers on their computer said that it had been pre-installed, indicating a degree of confusion among those surveyed.

less likely than Windows or MacOS users (both 65%) to have downloaded a browser to their computer.

Among those who had downloaded/installed a browser to their device, the vast majority (smartphones, 91%; computers, 89%) said that this had been easy or very easy, and only a tiny proportion (smartphones, 1%; computers, 2%) said that it had been difficult or very difficult. The only category of consumer substantially more likely to report experiencing any difficulty downloading/installing a browser were those aged 80+ years (smartphones, 7%; computers, 8%).

One in four (25%) of those who had downloaded/installed a browser on their smartphone, and one in ten (8%) of those who had downloaded/installed a browser on their computer, had obtained some form of assistance. For smartphones, this was more common among those in the youngest or older age groups (18-24 years, 31%; 65-79 years, 34%; 80+ years, 51%). For computers, this was more common among those in older age groups (65-79 years, 14%; 80+years, 20%) and those who only spoke a LOTE at home (16%, compared with 6% who only spoke English at home and 10% who spoke both English and another language).

There were similarities between smartphone and computer in terms of the form of assistance sought, with family/friends the most common form of assistance (smartphones 52%; computers 65% among those who had sought assistance), followed by internet search (smartphones 45%; computers 25%), the inbuilt help guide on the device (smartphones 22%; computers 6%), and the device manual (smartphones 16%; computers 11%). Those installing a browser on a smartphone were about twice as likely to seek assistance from more than one source compared with those installing on a computer (30% and 17% respectively).

Figure 33 Assistance used when downloading/installing browser
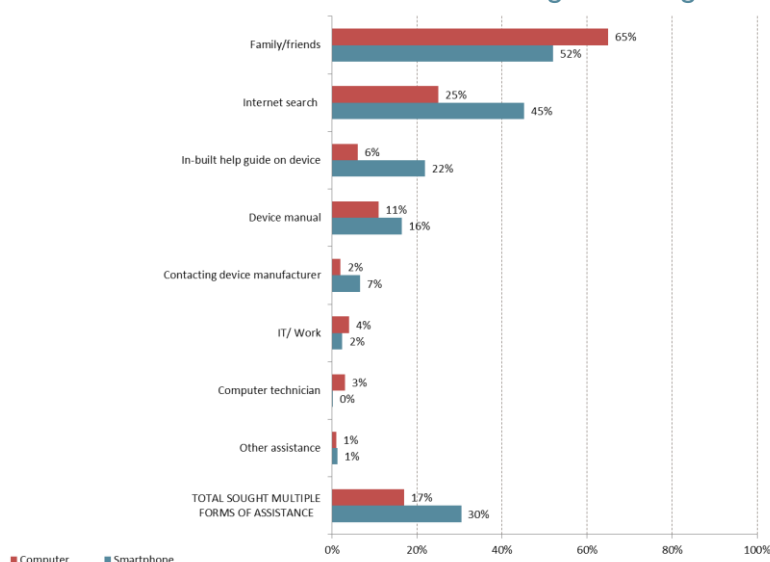
On smartphones, among those who had not downloaded a browser to their current smartphone, by far the most common reason (74%) was that they were satisfied with the pre-installed browser/s. The next most common reason overall was that the browsers used was not important (15%), with this comparatively more likely to be the case for those aged 18-24 years (21%).

Only around one in seven (14%) provided a reason that related to some form of 'barrier' to downloading/installing a browser[8], with this being comparatively more likely among those in older age groups (65-79 years, 18%; 80+ years,26%).

Figure 34 Reason had not dowloaded a browser to smartphone
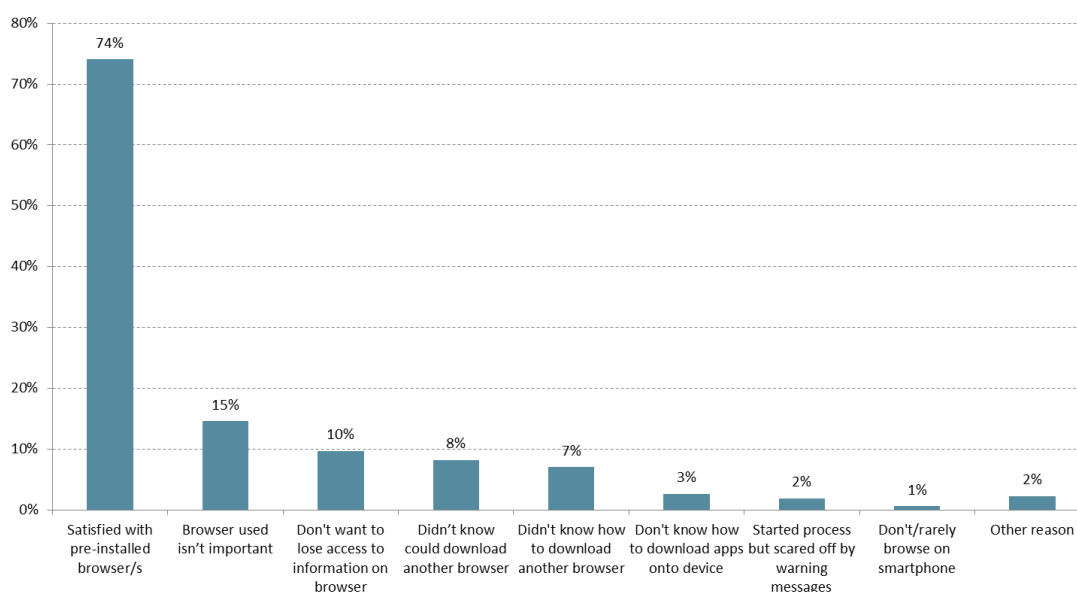
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[8] One or more of the following reasons:
- Don't want to lose access to some information I have on my browser',
- Didn't know could download another browser
- Didn't know how to download another browser
- Don't know how to download apps onto my device
- Started the process but was scared off by warning messages

3.3.3.2 Changing the default browser

Once consumers have downloaded an alternate browser onto their smartphone or computer, they can change the default browser from the browser that comes with their device. A default browser is the browser that opens up when a consumer clicks on a link on a website or application. This section describes the results of the consumer survey regarding:

- the extent to which consumers know how to change the default browser
- the proportion of consumers that have changed the default browser
- the frequency with which they have changed the default browser
- their experience in changing the default browser, including ease or difficulty of switching.

Consumer knowledge of how to change default browser

Overall, 65% of consumers reported knowing how to change the default browser on their smartphone, and 80% reported knowing how to do so on their computer. One in four (24%) said they did not know how to change the default browser on their smartphone while one in seven (14%) did not know how to change the default browser on their computer. The groups most likely to not have this knowledge were similar for both smartphones and computers, and included:

- older age groups (for smartphones, 65-79 years, 42% and 80+ years, 55%; for computers, 65-79 years, 31% and 80+ years, 46%)
- those who spoke only English at home (for smartphones, 26% compared with 18% among those who only spoke a LOTE at home, and 15% among those who spoke both English and another language; for computers, 16%, compared with 11% among those who only spoke a language other than English at home, and 6% among those who spoke both English and another language).

On smartphones, iPhone users were also less likely to know how to change the default browser relative to users of other device types (28%, compared with 19% among Android users).

Figure 35 Know how to change default browser
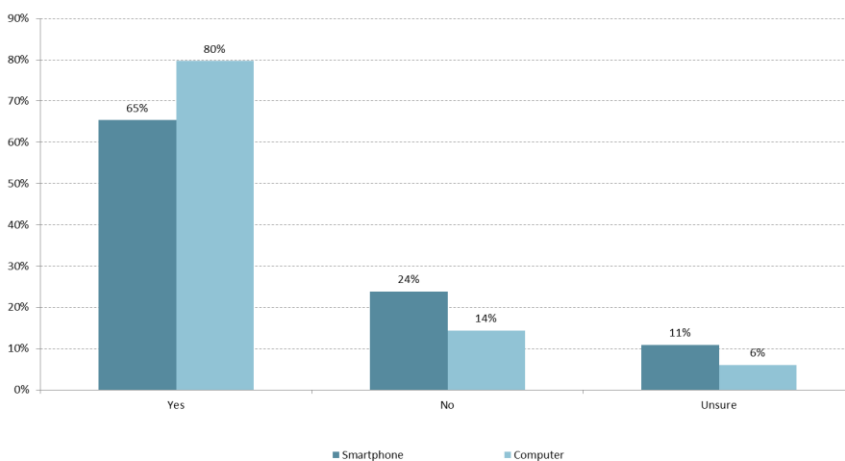
Proportion of consumers that have changed the default browser

Considerably fewer consumers had changed the default browser on their smartphone or computer relative to knowing how to do so. Around one in three (36%) had ever changed the default browser on their smartphone, including 34% who had changed it personally. Three in five (59%) had ever changed the default browser on their computer, including 54% who had changed it personally. On both smartphones and computers, the categories least likely to have changed their default browser were:

- older age groups (for smartphones, 50-64 years, 31%, 65-79 years, 20% and 80+ years, 16%; for computers 65-79, 40% and 80+ years, 32%), and
- those who spoke only English at home (for smartphones, 33% compared with 44% among those who only spoke a LOTE at home, and 52% among those who spoke both English and another language; for computers; 56%, compared with 65% among those who only spoke a LOTE at home, and 69% among those who spoke both English and another language).

On smartphones, iPhone users were also less likely to have changed their default browser than users of other operating systems (33%, compared with 40% for those using Samsung or Other Android phones).

Among consumers who reported knowing how to change their default browser, almost one in three consumers (30%) had never done so on their smartphone and approximately one in four (23%) had never done so on their computer.

Frequency of changing default browsers

Those who had personally changed a browser on their device were asked how many times they had done so in the last two years. Two in three (63%) of these consumers had changed the default browser on their smartphone during this period, and a somewhat smaller proportion (55%) had done so on their computer. Based to all consumers, 18% had changed the default search engine on their smartphone in the last two years, compared with 23% on computers.

Default browsers tended not to have been changed often during the last two years. Even among those who had at some point changed a default browser on the relevant device, only 8% had changed the default browser on their smartphone three or more times during this period, and only 7% had done so on their computer. When considering all consumers, these figures reduced to 3% and 4% respectively.

Those with computers aged less than two years old were much more likely to have changed their default browser in the last 2 years (71%, compared with 47% for those with computers aged 2+ years). There was no notable difference in this respect for smartphones (less than 2 years, 65%; 2+ years, 60%).

Figure 36 How often changed default browser in last 2 years
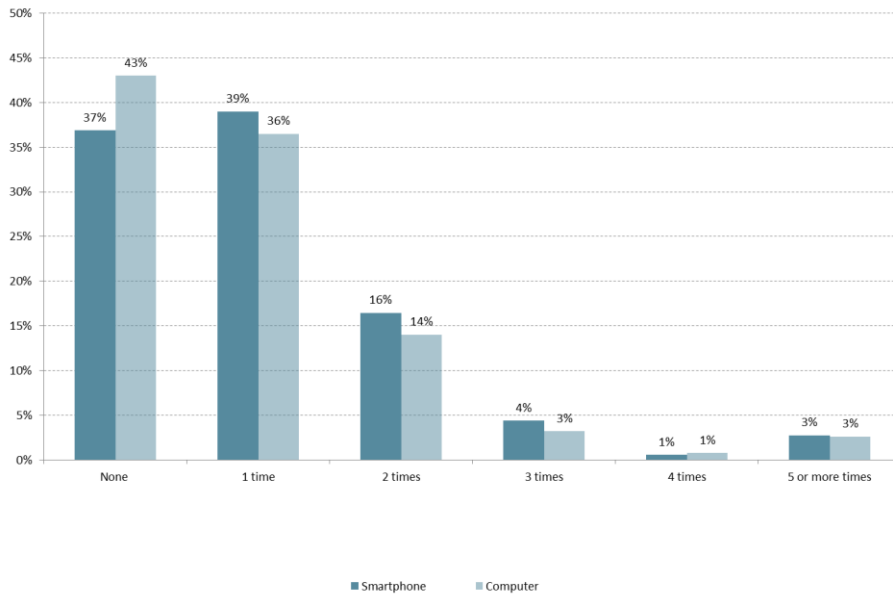
Consumers' difficulty changing the default browser, including assistance required

Among those who had changed the default browser on their device in the last 2 years, most said that this had been either easy or very easy to do the last time they had done so (smartphones 84%, computers 83%). Only a very small proportion (smartphones 4%, computers 5%) reported any difficulty the last time they changed their default browser, with no substantial differences between sub-groups.

Figure 37 How easy/difficult to change default browser

Among those who had changed the default browser on their device in the last 2 years, fewer than half required some form of assistance the last time they did this (smartphones 45%, computers 41%).

On both smartphones and computers, the youngest age group (smartphones, 62%; computers, 53%) was comparatively more likely to require assistance changing the default browser. On computers only, a number of other groups were also more likely to require assistance changing the default browser including those in the oldest age group (80+ years, 56%); those who did not solely speak English at home (LOTE only, 53%; LOTE and English, 52% compared with 36% of those who only spoke English at home); and those using Apple computers (47%, compared with 39% of non-Apple computer users).

On smartphones, those on Samsung devices (29%) were substantially less likely than those using Other Android phones (51%) or iPhones (53%) to have required assistance to change their default browser. On computers, those using Windows (36%) were less likely to have required assistance than those using MacOS computers (47%).

The most common forms of assistance sought to change the default browser were an internet search (smartphones, 64%; computers 43%, among those who sought assistance), and, for computers only, following prompts in the browser or on the computer (43%).

Figure 38 Assistance sought last time changed default browser
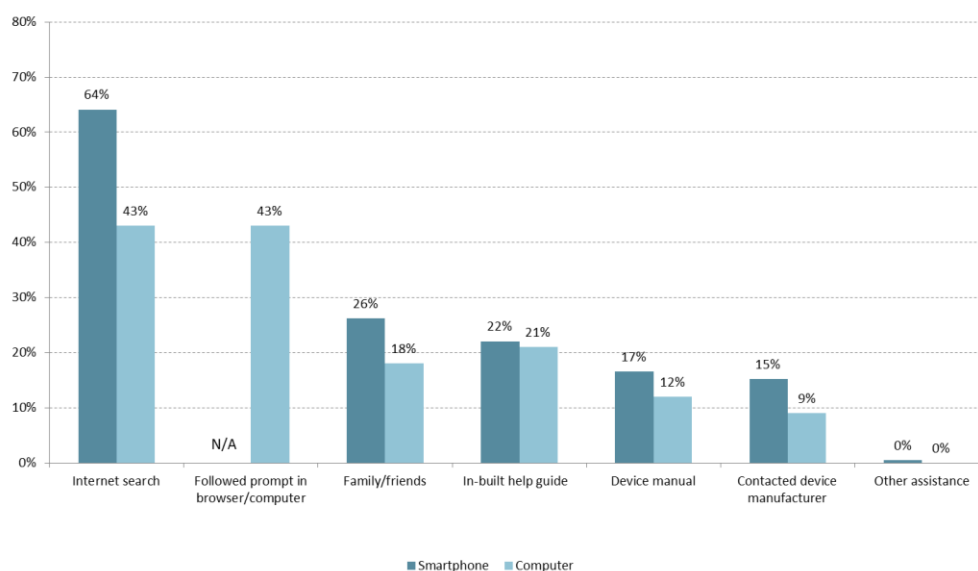
3.4 Knowledge & use of search engines

3.4.1 Consumer understanding & knowledge of search engines

3.4.1.1   Number of search engines aware of

When provided with the list of search engines in Figure 39, half (51%) of consumers were aware of two to four search engines, with an average of 3.5 search engines. This is a substantially lower rate of awareness than existed in relation to browsers, where the average was 5.3 browsers. The rate of awareness of different search engines was comparatively lower among those aged 80+ years (2.6) and those who only spoke a language other than English in the home (3.0).

Awareness was dominated by Google Search (96%), followed some way back by Yahoo! (67%) and Bing (57%), with no other search engine being known to a majority of consumers.

Figure 39 Awareness of search engines
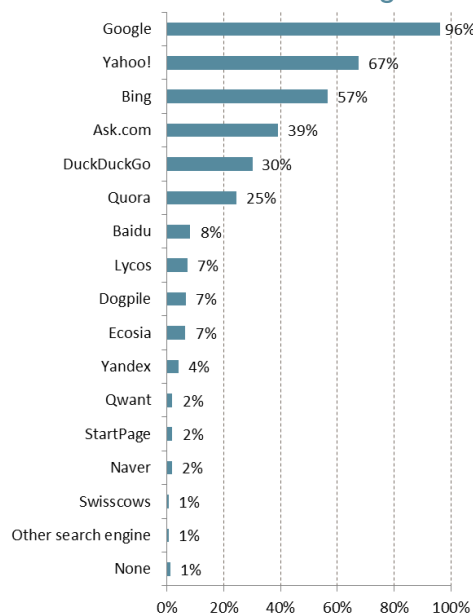
Source: F2. Before today, which search engines had you heard of?
Base: All respondents **n**= 2,647
Note: Multiple response permitted. Percentages will not sum to 100%

As was the case with web browsers, those who were aware of better-known search engines tended to be aware of fewer search engines than those who were aware of search engines that were less well-known. For example those aware of Chrome could nominate, on average, 2.6 other search engines, but those aware of Swisscows nominated 8.2 other search engines on average.

3.4.1.2   Understanding of the search engine business model

Just under half (46%) of all consumers correctly identified digital advertising as being the way that search engines, which are typically provided free of charge to consumers, make money. The most common misconception was that this occurred through the sale of consumer data (28%) with a sizeable minority (13%) unable to answer the question. Those in the youngest and oldest age groups were less likely to provide the correct answer (18-24 years, 34%; 80+ years, 39%), as were those of Aboriginal or Torres Strait Islander (**ATSI**) background (33%).

Figure 40 How search engines make money
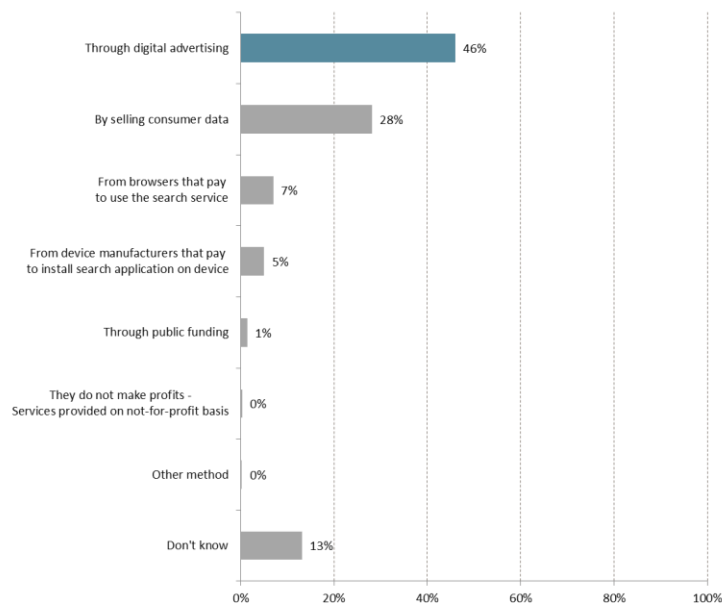
Source: C3. Search engines tend to be provided free of charge to consumers. What is the main way that companies providing a free search engine make money?"
Base: All respondents **n**= 2,647

A somewhat lower proportion (38%) of consumers correctly identified that search engines rank results based on both relevance and the amount paid by third parties to display results. The most common incorrect answers were that ranking was based solely on amounts paid by third parties (19%), based on the order the algorithm decides is the most relevant (18%) or based on the information collected about the user (12%). Again, those in the youngest and older age groups were less likely to know the correct answer (18-24 years, 29%; 65-79 years, 32%, 80+ years, 20%).

Figure 41 How search engines rank results
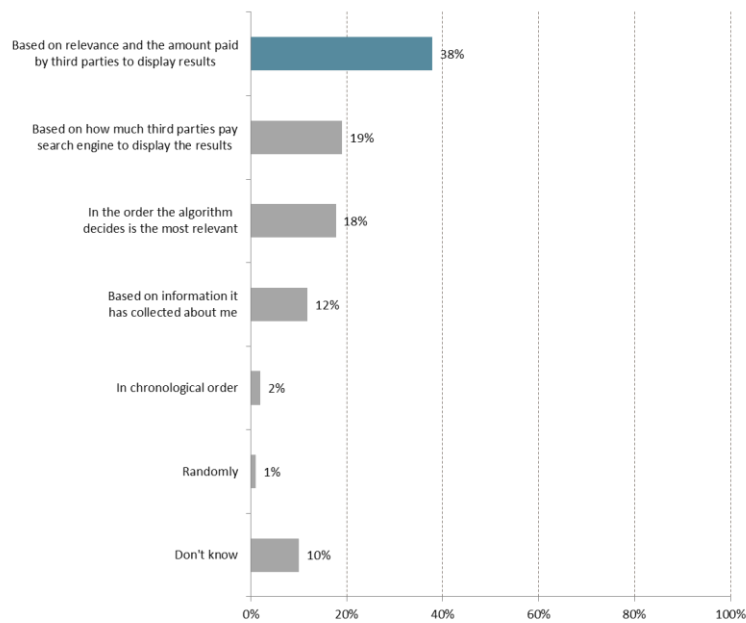
3.4.2 Consumer usage of search engines

3.4.2.1 Use of multiple search engines

Overall, consumers used an average of 1.2 search engines on their smartphone and 1.3 search engines on their computer.

Just over three quarters used only a single search engine on their smartphone (79%) or their computer (76%). Around one in seven used two search engines on their smartphone (13%) or computer (16%) and very few used three or more search engines (smartphone, 4%, computer, 6%).

3.4.2.2 All search engines used

Google dominated the search engines used on both smartphones (90%) and computers (92%), with only three other search engines having a share above 2% on either smartphones or computers. Bing had a comparatively higher share on computers (11%) compared with smartphones (5%). All other search engines had fairly comparable shares on both smartphones and computers.

Figure 42 Search engines used on device
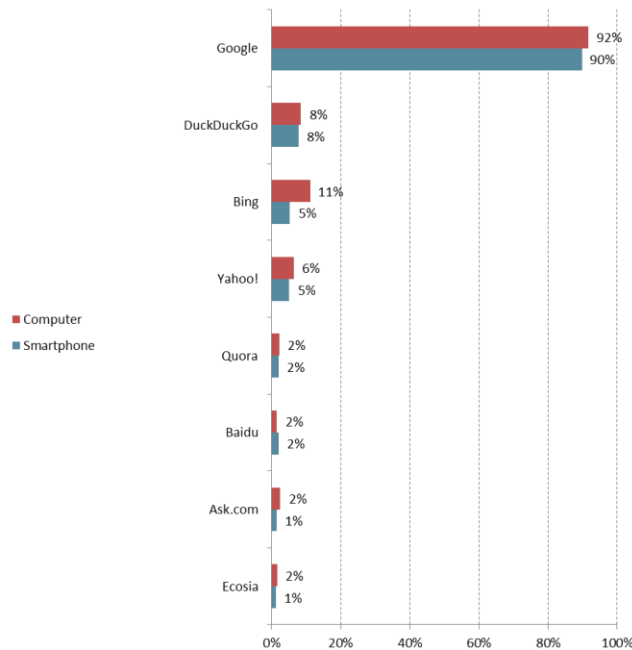
3.4.2.3   Search engine used most often

Overall, Google Search was by far the search engine used most often on both smartphones (87%) and computers (86%). No other search engine had an overall share above 4% on either device type.

For 85% of those whose main search engine on their smartphone was Google, and 83% of those whose main search engine on their computer was Google, this was the <u>only</u> search engine on their device.

Figure 43 Search engine used most often on device
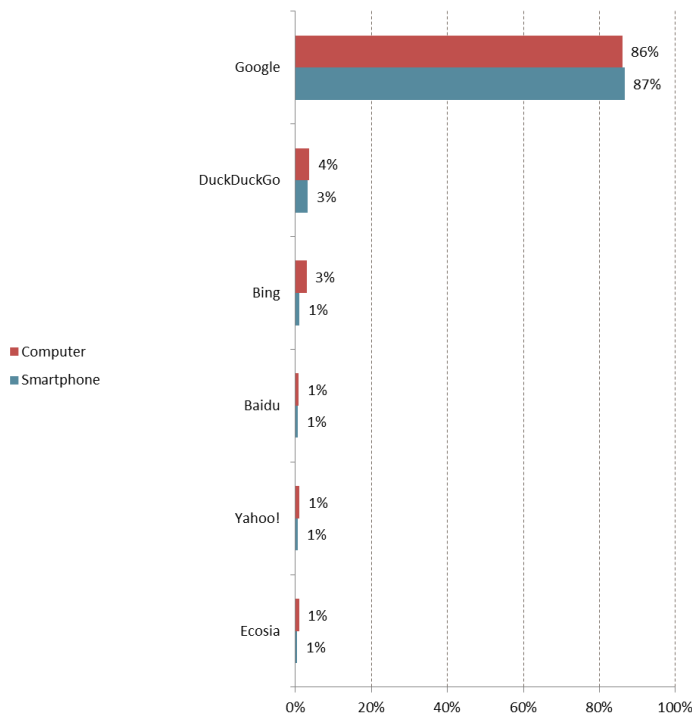
Source: F4/K3. Which of these search engines do you use most often on your smartphone/computer?
Base: All respondents **n**= 2,647
Note: Only displaying search engines with at least 1% share on smartphone or computer. Multiple response permitted. Percentages will not sum to 100%

Main reason for using primary search engine

Equivalent proportions of consumers said the main reason they use their primary (or only) search engine on their smartphone was that it was already on their smartphone and they had no reason to change (43%) or that it was their preferred search engine (44%). In contrast, on computers, just over half (55%) said the main reason they use their primary (or only) search engine on their computer was that it was their preferred search engine. Most of the remainder (41%) said the main reason was because it was what their browser uses and there was no reason to change.

Consumers more likely to say it was their preferred search engine included:
- For smartphones, those aged 35-49 years (50%).
- For computers, those aged 35-49 years (60%), and those who spoke only English (57%) or both English and another language (56%) at home (compared with those who only speak a language other than English at home (43%).

Consumers relatively more likely to say they had no reason to change included:
- For smartphones, those aged 65 years or older (54%) and non-Samsung Android users (50%, compared with 45% of Samsung users and 39% of iPhone users).
- For computers, those in the youngest and oldest age groups (18-24 years, 50%; 65-79 years, 49%; 80+ years, 60%), and those who only spoke a language other than English at home (51%, compared with 40% who only spoke English at home and 35% among those who spoke both English and another language).

Regarding smartphones, fewer than one in ten said the reason was either that it was the only option provided by their preferred browser (6%) or that they did not know there were other options available (3%). Categories relatively more likely to say it was their only option included those aged 18-24 (15%) and, to lesser extent, iPhone users (7%, compared with 4% among Android users). Only 3% said the main reason for using their primary (or only) computer search engine was that they didn't know there were other options, though this was more likely to be the case for those aged 18-24 years (7%) or those who spoke both English and another language at home (8%).

Figure 44 Main reason used main search engine on device
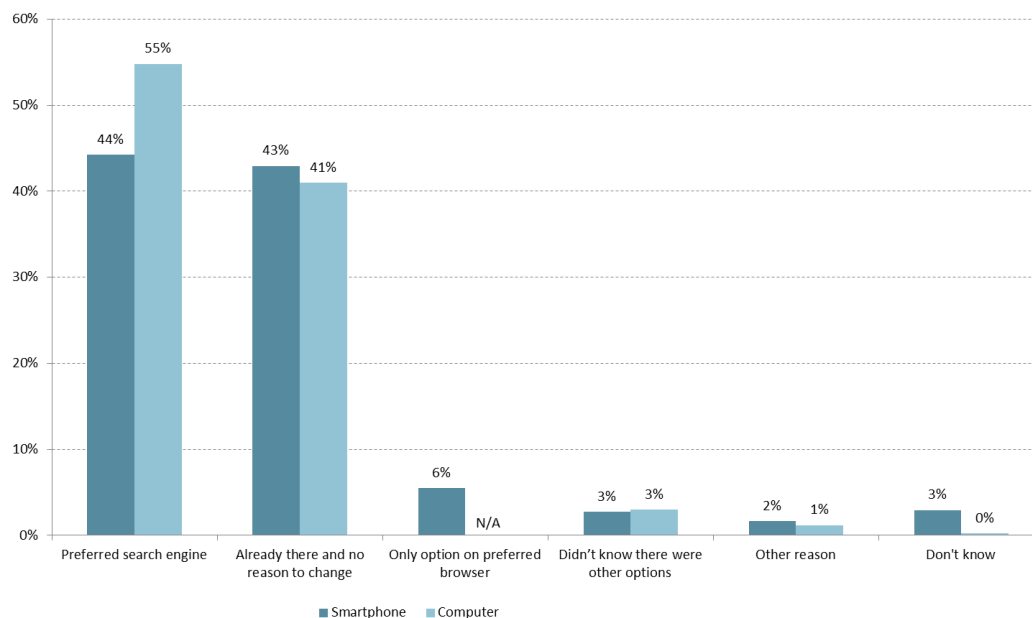
Reasons vary depending on the main search engine used

The dominance of Google Search as the main search engine on both smartphones and computers limits the usefulness of comparison with other search engines in terms of the main reason for using their main search engine, with only DuckDuckGo (on smartphones and computers) and Bing (on computers) having a sample sizes large enough for analysis.

- Those who mainly used DuckDuckGo were more likely to say the main reason was that it was their preferred search engine (on smartphones: 86%, compared with 46% for Google Search; on computers: 90%, compared with 56% for Google Search and 31% for Bing).
- On computers, those who mainly used Bing (63%) were more likely than those who mainly used Google Search (41%) or DuckDuckGo (6%) to say the main reason was that it was already on their computer and there was no reason to change.
- There was no notable difference between these search engines in relation to the main reason being either that it was the only option on their preferred browser or that the consumer didn't know there were other options.

Figure 45 Main reason used main smartphone search engine – by major search engines
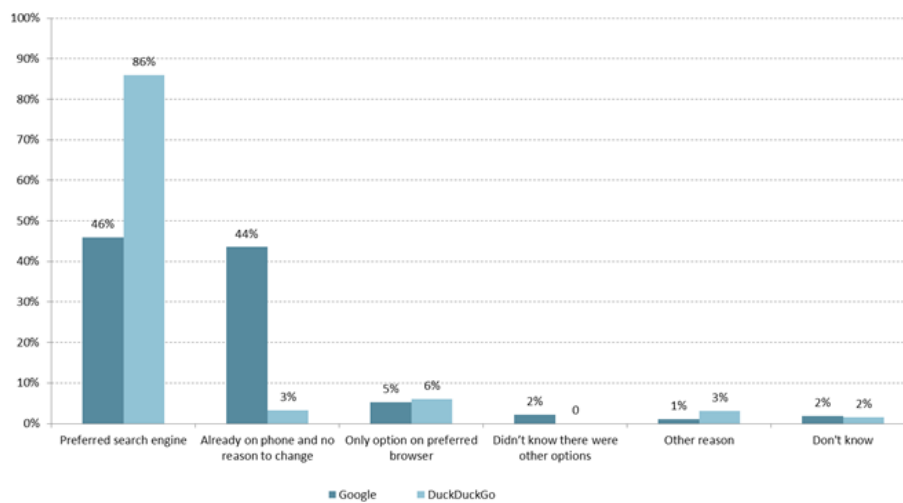
Figure 46 Main reason used main computer search engine – by major search engines
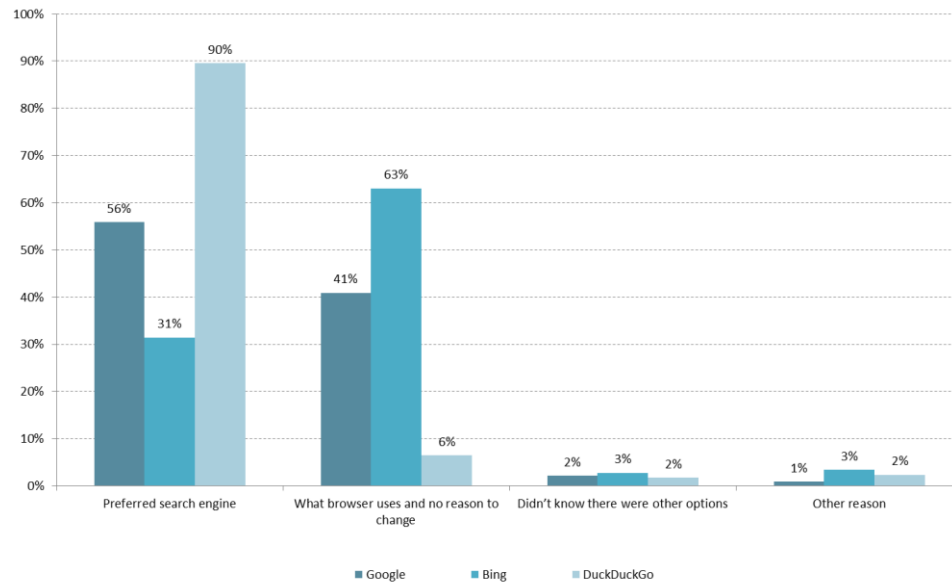
Reasons why a search engine is preferred

The main individual factors contributing to overall 44% on smartphones and 55% on computers saying the main reason for using their primary search engine was that it was their preferred search engine were:
- 'familiarity' (12% for smartphones, 14% for computers)
- 'ease of use' (8%, for smartphones, 10% for computers)
- 'relevance of results to search queries' (6% for smartphones, 7% for computers).

Some variations were apparent based on the search engine in question (noting above the limitations regarding sample size):
- Those mainly using Google Search were more likely than those using the other main search engines to say the reason this was their preferred search engine was 'familiarity' (14% on smartphones, 15% on computers), 'ease of use' (9% on smartphones, 11% on computers), or 'relevance of results to search queries (7% on smartphones, 8% on computers).
- Those mainly using DuckDuckGo were substantially more likely to say the main reason was 'privacy features' (38% on smartphones, compared to 0.1% for Google Search, and 47% on computers), or data collection practices (29% on smartphones, compared to 0.2% for Google Search, and 30% on computers).

Table 8 Main reason for being preferred smartphone search engine by major search engines

Reason	Search engine used most on smartphone		
	TOTAL	Google	DuckDuckGo
n	2647	2264	74
Familiarity	12%	14%	2%
Ease of use	8%	9%	2%
Relevance of results to search queries	6%	7%	2%
Search results directly on page	3%	4%	-
Speed	3%	3%	2%
Number of results	2%	2%	1%
Privacy features	2%	0%	38%
Data collection practices	1%	0%	29%
Results personalised to interests	1%	1%	-
Results based on location	1%	1%	-
Results personalised to search history	1%	1%	0%
Aesthetic design of search result presentation	1%	1%	-
Social or ethical values	1%	0%	2%
Lack of ads	0%	0%	3%
Aesthetic design of search engine page	0%	1%	-
Relevant/personalised ads	0%	1%	-
Other reason for being preferred search engine	1%	1%	6%
Total Main Reason Used Search Engine Most Often Was Related to Preference	**44%**	**46%**	**86%**
Already on phone and no reason to change	43%	44%	3%
Only option on preferred browser	6%	5%	6%
Don't know	3%	2%	2%
Didn't know there were other options	3%	2%	-
Other reason	2%	1%	3%
TOTAL	100%	100%	100%

Source: F5a. Why do you use {search engine from F4} the most on your smartphone?
Base: All respondents (n=2,647), Google (n=2,264), DuckDuckGo (n=74)

Table 9 Main reason for being preferred computer search engine by major search engines

Reason	Search engine used most often on computer			
	TOTAL	Google	Bing	DuckDuckGo
n	*2647*	*2246*	*84*	*90*
Familiarity	14%	15%	7%	-
Ease of use	10%	11%	4%	3%
Relevance of results to search queries	7%	8%	-	2%
Speed	4%	4%	3%	3%
Same as used on other devices	4%	4%	-	1%
Access to my saved information	3%	3%	1%	1%
Privacy features	3%	1%	-	47%
Number of results	2%	3%	-	-
Data collection practices	2%	1%	4%	30%
Other features offered	2%	2%	5%	-
Aesthetic design of search engine page	1%	1%	2%	-
Social or ethical values	1%	0%	-	-
Aesthetic design of search result presentation	1%	1%	-	2%
Other features offered (e.g. lack of ads)	1%	1%	-	2%
Other reason for being preferred search engine	1%	1%	5%	-
Total Main Reason Used Search Engine Most Often Was Related to Preference	*55%*	*56%*	*31%*	*90%*
What browser uses and no reason to change	41%	41%	63%	6%
Didn't know there were other options	3%	2%	3%	2%
Other reason	1%	1%	3%	2%
Don't know	0%	0%	-	-
TOTAL	**100%**	**100%**	**100%**	**100%**

Was the most used search engine the default search engine on the most used browser?

Overall (and driven by the dominance of Google Search), for 86% of consumers, the main search engine on their smartphone was the default search engine of their main smartphone browser. Only 9% mainly used a search engine that was not the default of their main browser, with this relationship unable to be established for 5% of consumers. There was no notable difference in this respect when analysed by smartphone device type.

Similarly, and again driven by the dominance of Google Search, for 77% of consumers, the main search engine on their computer was the default search engine of their main computer browser. 20% mainly used a search engine that was not the default of their main browser, and this relationship was unable to be established for 3% of consumers. Categories of consumers more likely to be mainly using a search engine that was <u>not</u> the default of their main computer browser included those aged 80+ years (26%) and non-Apple computer users (21%, compared with 15% of Apple computer users).

Attitudes toward privacy/data collection contrasted with primary search engine used

There was almost no correlation between stated attitudes toward privacy/data collection and the search engines that were used.

Around nine in ten of those who agreed or strongly agreed with the three statements regarding privacy or data collection (see Table 10 below) were mainly using a search engine on their smartphone and/or computer that was not associated with privacy,[9] driven by the dominance of Google in the search engine category.

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[9] "Search engines associated with privacy" was based on search engines that market privacy as their main offering or as a key feature and was defined as including DuckDuckGo, Ecosia, StartPage and Qwant, with all other listed search engines being defined as not being associated with privacy.

Table 10 Attitudes toward privacy/data collection by primary search engine used

	Attitudinal Statement (Total Agree)		
	I am concerned about the collection of my data and personal information when I use browsers and search engines (n=1,785)	Search engines and browsers should allow me to opt out of collecting certain types of information about me, how they use it and/or what they can share (n=2,346)	Search engines and browsers should only collect the information they need to provide their product or service (n=2,385)
Main phone search engine associated with privacy	5%	4%	4%
Main phone search engine not associated with privacy	89%	89%	89%
Main computer search engine associated with privacy	6%	5%	5%
Main computer search engine not associated with privacy	90%	92%	91%

Source: C1. How much do you agree or disagree with the following statements?
Base: Total agree or strongly agree with relevant statement
Note: Percentages will not sum to 100%, as some respondent were unable to nominate their main browser/search engine or nominated a product whose privacy status was unknown

3.4.3 Extent of consumer switching

3.4.3.1   Changing default search engine

A default search engine is the search engine that is automatically used by the consumer's browser. Unless the user has actively selected a different search engine, the default search engine will be the one pre-selected by the developer of the browser. This section describes the results of the consumer survey regarding:

- the extent to which consumers know how to change the default search engine
- the proportion of consumers that have changed the default search engine
- the frequency with which consumers have changed the default search engine
- their experience in changing the default search engine, including ease or difficulty of switching.

Consumer knowledge of ability to change search engine

Overall, three in four consumers (78%) knew that they were able to change the default search engine set by their browser. This level of understanding was lower among older age groups (65-79 years, 62%; 80+ years, 47%), and iPhone users (75%, compared with 79% for Samsung users and 84% for Other Android users).

Figure 47 Knew able to change default search engine

Consumer knowledge of how to change search engine

Overall, 64% of consumers reported knowing how to change the default search engine on their smartphone, and 75% reported knowing how to do so on their computer. One in four (24%) said they did not know how to change the default search engine on their smartphone, while one in seven (16%) did not know how to change the default search engine on their computer. The groups most likely to report not having this knowledge were similar for both smartphones and computers, and included:

- older age groups (for smartphones, 50-64 years, 29%, 65-79 years, 41% and 80+ years, 59%; for computers, 65-79 years, 34% and 80+ years, 48%)
- those who spoke only English at home (for smartphones, 26% compared with 18% among those who only spoke a LOTE at home, and 16% among those who spoke both English and another language; for computers, 18%, compared with 13% among those who only spoke a LOTE at home, and 8% among those who spoke both English and another language).

On smartphones, iPhone users were also less likely to know how to change the default search engine relative to users of other operating systems (28%, compared with 19% among Android users). These trends are similar to that seen for the corresponding questions for browsers.

Figure 48 Knew how to change default search engine
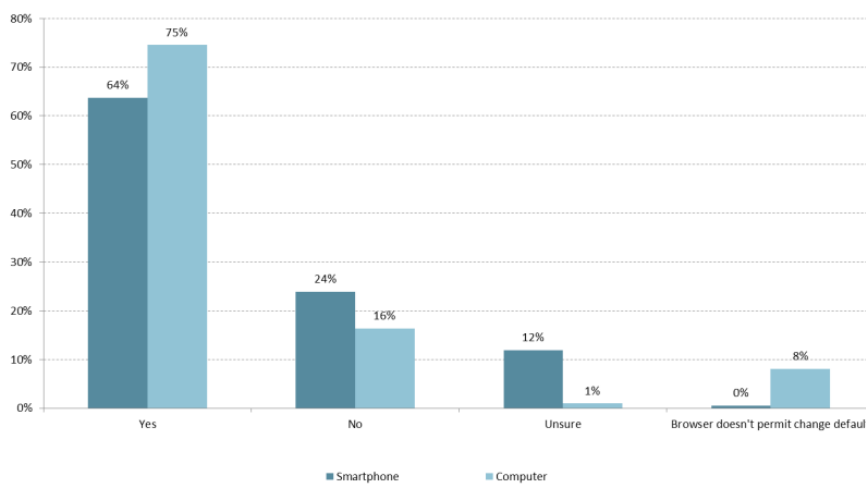
Proportion of consumers that have changed the default search engine

Considerably fewer consumers had changed the default search engine on their smartphone or computer than the number who reported knowing how to do so. Around one in three (31%) had ever changed the default search engine on their smartphone, including 29% who had changed it personally. Just under half (47%) had ever changed the default search engine on their computer, including 43% who had changed it personally. On both smartphones and computers, the categories least likely to have changed their default search engine were:

- older age groups (for smartphones, 50-64 years, 27%, 65-79 years, 18% and 80+ years, 13%; for computers 65-79, 33% and 80+ years, 24%), and
- those who spoke only English at home (for smartphones, 28% compared with 36% among those who only spoke a LOTE at home, and 46% among those who spoke both English and another language; for computers; 43%, compared with 54% among those who only spoke a LOTE at home, and 61% among those who spoke both English and another language).

Among consumers who reported knowing how to change their default search engine, one in three consumers (33%) had never done so on their smartphone, and approximately one in four (28%) had never done so on their computer.

Frequency of changing default search engines

Those who had personally changed a search engine on their device were asked how many times they had done so in the last two years. Two in three (63%) of these consumers had changed the default search engine on their smartphone during this period, and just over half (54%) had done so on their computer. That is, one in three (37%) of these consumers had not changed the default search engine on their phone during this period, and just under half (46%) had done so on their computer. Based to all consumers, 18% had changed the default search engine on their smartphone in the last two years, compared with 23% on computers.

Default search engines tended not to have been changed often during the last two years. Even among those who had at some point changed a default search engine on the relevant device, only 8% had changed the default search engine on their smartphone three or more times during this period, and only 6% had done so on their computer. Based to all consumers, these figures reduced to 2% and 3% respectively.

Those with computers aged less than two years old were more likely to have changed their default search engine in the last 2 years (65%, compared with 49% for those with computers 2+ years old). There was no notable difference in this respect for smartphones (less than 2 years, 64%; 2+ years, 60%).

Figure 49 How often changed default search engine in last 2 years
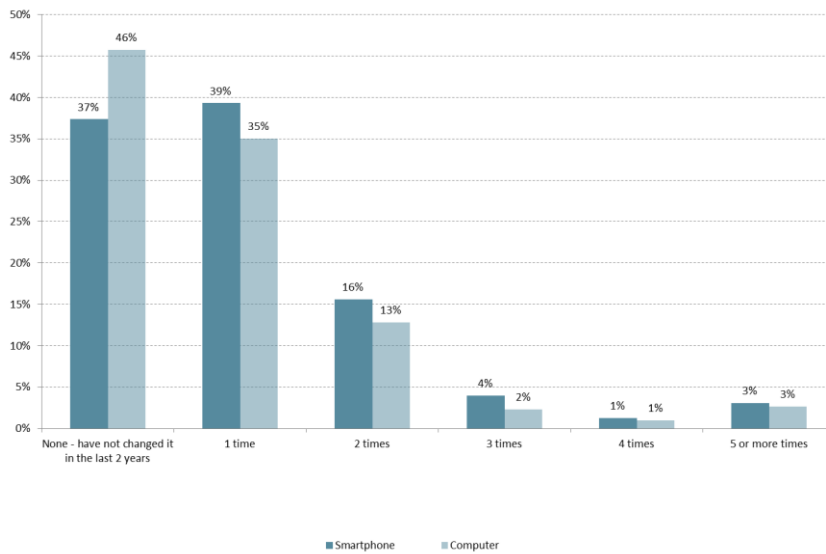
Consumers' difficulty changing the default search engine, including assistance required

Among those who had changed the default search engine on their device in the last 2 years, most said that this had been either easy or very easy to do the last time they had done so (smartphones 83%, computers 84%). Only a very small proportion (smartphones 5%, computers 2%) reported any difficulty the last time they changed their default search engine, with no substantial differences evident among the sub-groups.

Figure 50 How easy/difficult to change default search engine
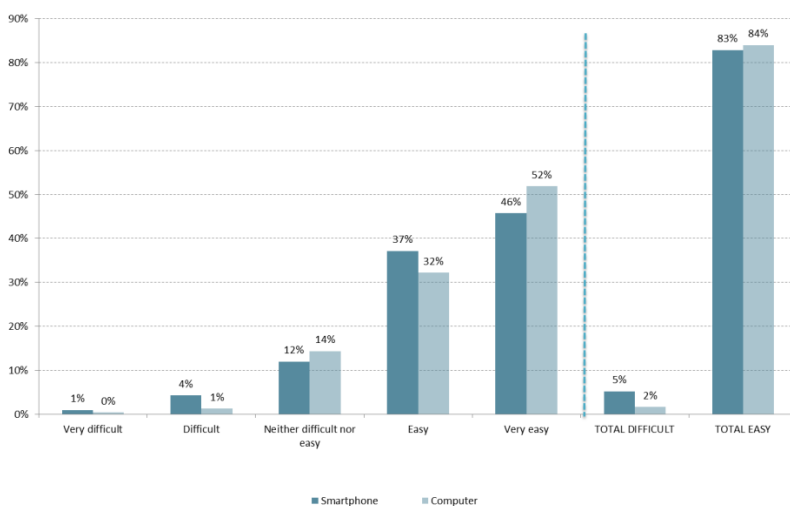
Among those who had changed the default search engine on their device in the last 2 years, fewer than half required assistance the last time they did this (smartphones 48%, computers 41%).

On both smartphones and computers, those aged 18-24 years were comparatively <u>more</u> likely to have required assistance to change the default search engine (smartphone, 68%; computer, 60%) and those who only spoke English at home were comparatively <u>less</u> likely to require assistance. For smartphones, 41% of those who only spoke English at home required assistance, compared with 69% among those who only spoke a LOTE at home, and 54% among those who spoke both English and another language; for computers, 33% of those who only spoke English at home required assistance, compared with 59% among those who only spoke a LOTE at home, and 62% among those who spoke both English and another language. On both smartphones and computers, those of ATSI background were more likely than other consumers to have required assistance to change their default search engine (smartphones, 92%; computers, 82%).

On smartphones, those on Samsung devices (35%) were less likely than those on using Other Android phone or iPhones (both 54%) to have required assistance to change their default search engine. On computers, those using Windows (35%) were less likely to have required assistance than those using MacOS (51%).

The most common forms of assistance sought to change the default search engine were an internet search (smartphones, 51%; computers 57%, among those who sought assistance), family/friends (smartphones, 30%; computers, 22%) and the in-built help guide on the device (smartphones, 25%; computers, 26%).

Figure 51 Assistance sought last time changed default search engine
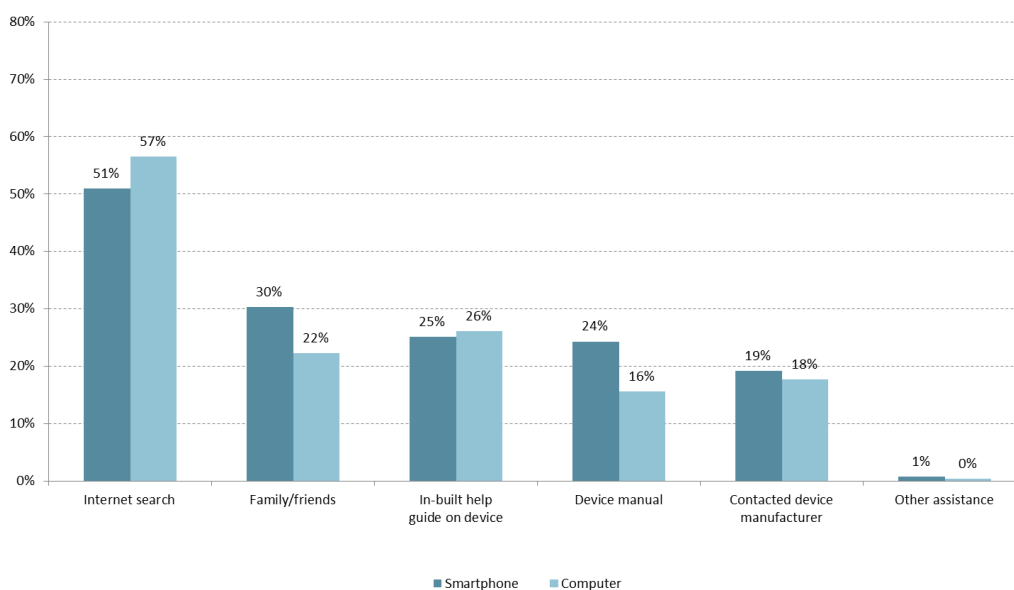
3.4.3.2   Downloading a search engine app

Proportion of consumers that have downloaded search engine apps

A search engine app is an app specifically designed for a consumer to search for information and content on the Internet. Search engine apps are only available on smartphones, and can be downloaded from the app store available on a smartphone.

Overall, one in three consumers (34%) had downloaded a search engine app to their smartphone in the last two years, including 30% who had done so without any assistance. Those <u>less</u> likely to have downloaded a search engine app in the last two years included:
- those in older age groups (50-60 years, 27%; 65-79 years, 22%; 80+ years, 23%)
- those who only spoke English at home (30%, compared with 45% for those who only spoke another language at home and 53% for those who spoke both English and another language)
- Samsung users (30%, compared with 35% of Other Android users and 38% of iPhone users).

Two in five consumers (41%) were aware of search engine apps but had not downloaded one in the last two years, and one in five (17%) had not previously heard of search engine apps.

Search engine apps downloaded by consumers

Among those who had downloaded at least one search engine app to their smartphone in the last two years, most (83%) had downloaded Google Search, with the next-most commonly downloaded search engines being DuckDuckGo (15%), Bing (10%) and Incognito (7%).

Figure 52 Search engine apps downloaded
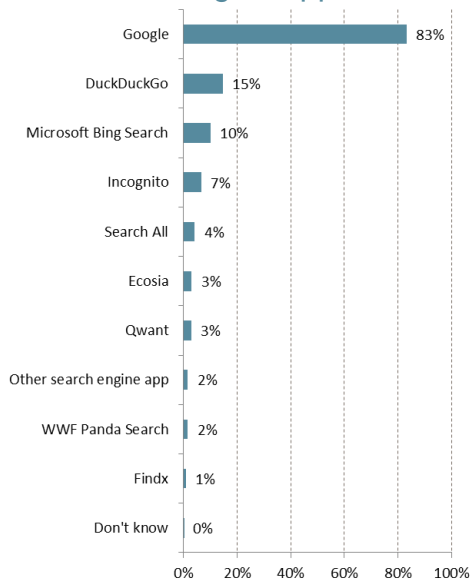
Among those who had downloaded a search engine app in the last two years:
- iPhone users (88%) were more likely than Android users (78%) to have downloaded Google Search, as were those aged 35-49 years (89%).
- DuckDuckGo was more likely to have been downloaded by Android users (21%, compared with 10% among iPhone users) and those who spoke both English and another language at home (23%, compared with 12% who only spoke a language other than English and 13% who only spoke English at home).
- Bing was more likely to have been downloaded by Android users (15%, compared with 6% for iPhone users).

Figure 53 Search engine apps downloaded by device type
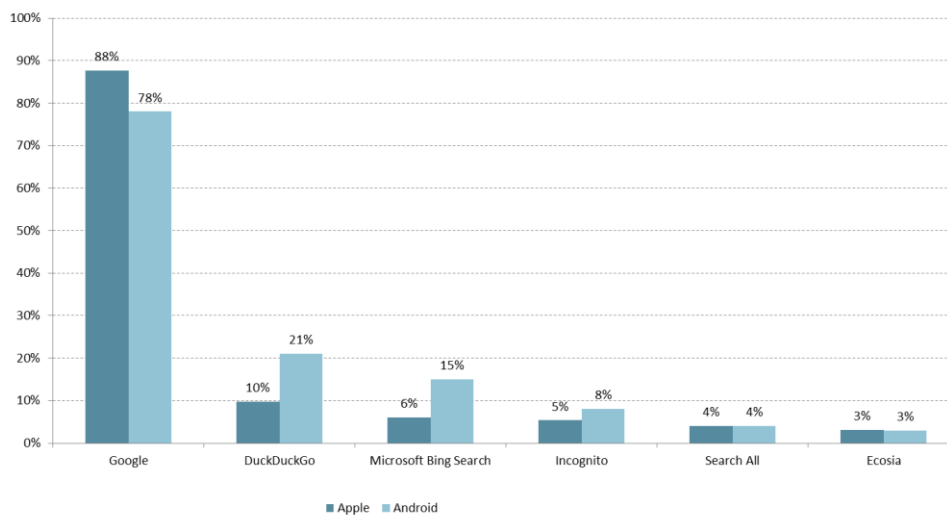
Consumers' reasons for downloading a search engine app

Among those who had downloaded Google Search on their smartphone, the reasons most commonly mentioned were that it was easier to use than a search engine web browser (62%), the speed of the app (23%) and/or the integration of the app to their smartphone (20%).

Those who had downloaded DuckDuckGo were most likely the say this was due to its 'privacy features' (mentioned by 72% of those who had downloaded the app), 'data collection practices' (52%) and/or 'social or ethical values' (40%).

Bing was most likely to have been downloaded due to its ease of use compared with a search engine web browser (mentioned by 32% of those who had downloaded the app), the aesthetic design of the app (22%), other features offered but not listed in the survey question (21%) or its data collection practices (20%).

Table 11 Reason/s downloaded a search app

Reason/s dowloaded	Major Search Engine Apps			
	Google	Incognito	Microsoft Bing Search	DuckDuckGo
n	752	56	90	119
Easier to use than search engine web browser	62%	25%	32%	20%
Privacy features	13%	65%	18%	72%
Data collection practices	12%	22%	20%	52%
Social or ethical values	10%	17%	10%	40%
Aesthetic design of app better than search engines on web browser	14%	7%	22%	6%
Speed of the app, compared with search engine on web browser	23%	7%	16%	11%
Other features offered	10%	12%	21%	5%
Integration app to device	20%	5%	13%	5%
Received prompt from device	3%	1%	13%	1%
Familiarity	2%	-	0%	-
Curiosity/ wanted to try it	1%	1%	12%	-
Comparison purposes/ check alternative results	0%	-	2%	2%
Rewards/ points/ gives me credit	-	-	4%	-
Other reason	3%	1%	2%	2%

Source: F22. Why did you download (search engine app from F21) to your smartphone?
Base: Downloaded search engine app to smartphone in last 2 years: Google (n=752), Incognito (n=56), MS Bing Search (n=90), DuckDuckGo (n=119)
Note: Multiple response permitted. Percentages will not sum to 100%
Only displaying search engine apps with minimum sample size of 50

Consumers' reasons for not downloading a search engine app

As described above, 17% of all consumers were not aware of search engine apps. Those who were aware of, but had not downloaded, a search engine app in the last two years (41% of all consumers) were asked why this was the case.

Overall, the vast majority of these consumers said this was because they were satisfied with the search engine apps already on their smartphone (56%) and/or they were satisfied with alternative ways to search on their device (44%).

Only a very small proportion nominated a 'barrier' in the form of lack of knowledge of how to download apps (3%, rising to 8% for those aged 65-79 and 12% among those aged 80+ years) or being scared off by warning messages after starting the process (1%).

Figure 54 Reason/s not downloaded search engine app

4 Appendices

4.1 Glossary

Android	Refers to a smartphone that uses the Android operating system and includes Samsung smartphones.
ATSI	Respondent of Aboriginal and/or Torres Strait Islander origin (established at question M3)
Consumer	The owner or main user of both a smartphone (that is a phone where you can download apps) and a laptop / desktop (personal) computer (excluding workplace computers) that they: i. have control over which browsers and/or search engines they use ii. can access the internet from both the phone and the computer, and iii. are aged 18 years or older.
Default browser	The browser that opens up when you click on a link in an email or an app or elsewhere outside of the browser.
Default search engine	The search engine that is automatically used by the browser. Unless the user has actively selected a different search engine, the default search engine will be the one pre-selected by the developer of the browser.
LOTE	Respondent speaks language other than English at home (established at question M2)
Main search engine	The search engine used most often or the preferred search engine when two or more are used equally.
Main web browser	The web browser used most often or the preferred web browser when two or more are used equally.
Operating system	The main software that runs your computer. It manages the computer's memory and processes, as well as its hardware and software.
Other Android	Refers to an Android smartphone by a device manufacturer other than Samsung.
Search engine	Allows you to search for content and information on the internet by entering a question or keywords through a website, app, widget or address bar of a browser or a voice assistant such as Siri, Google Assistant and Amazon Alexa.
Web browser	Software that allows you to access the internet on smartphones and computers.

4.2 Demographic Profile of Sample

Respondents to the survey were Australian adults aged 18 years or older who owned, or were the main user of BOTH a mobile phone and a personal computer (either a laptop or desktop computer). Respondents also had to be able to access the internet from both devices. If they were the main user, but not the owner, of a device they had to have control over which browsers and search engines they used on the device.

The sample was designed to obtain 2,300 interviews. In order to ensure that there were sufficient respondents across a range of age and gender groups to provide a statistically reliable understanding of consumers' use of search engines and browsers, a stratified quota sample frame was applied, as shown in the table below. Overall a total of 2,647 questionnaires were completed resulting in some over quartering in some age groups, as shown below.

AGE	GENDER	QUOTA	ACHIEVED	OVER QUOTA
18-24	Male	192	194	2
18-24	Female	191	318	127
25-34	Male	191	193	2
25-34	Female	192	246	54
35-49	Male	192	197	5
35-49	Female	192	197	5
50-64	Male	192	199	7
50-64	Female	192	195	3
65-79	Male	192	276	84
65-79	Female	191	198	7
80+	Male	191	237	46
80+	Female	192	197	5
TOTAL		2,300	2,647	347

GENDER	QUOTA	ACHIEVED	OVER QUOTA
Male	1,150	1,296	146
Female	1,150	1,351	201
TOTAL	2,300	2,647	347

AGE	QUOTA	ACHIEVED	OVER QUOTA
18-24	383	512	129
25-34	383	439	56
35-49	384	394	10
50-64	384	394	10
65-79	383	474	91
80+	383	434	51
TOTAL	2,300	2,647	347

A detailed demographic profile of these respondents can be found below.

As the quota specification did not reflect the natural age distribution of the population, this was corrected by applying Roy Morgan population weights to enable results to be extrapolated to the general population. The survey is directed at the population of consumers aged 18 or older who have use of both a smartphone and a personal computer, with internet access and the authority to change the browser and search engine; this sample population used is not representative of the general Australian population. As the sample targets are not representative of the general population, ABS population estimates are not relevant to use for weighting, and there is no available population estimate for this group.

The Roy Morgan Single Source Survey is conducted on a weekly basis with approximately 50,000 interviews completed annually. The survey is based on a nationally representative sample with survey estimates weighted to reflect the current population distribution of the population aged 14 years or older in terms of age, gender and location. This survey collects extensive detail on ownership and use of smartphones and personal computers and accordingly, this information has been used to weight the survey results to the total Australian population. The target weights that were applied to the raw data are shown in the table below.

AGE	MALE	FEMALE	TOTAL
18-24	846,906	878,690	1,725,596
25-34	1,388,727	1,520,733	2,909,460
35-49	1,882,638	1,997,971	3,880,609
50-64	1,536,194	1,635,641	3,171834
65-79	950,601	1,048,748	1,999,349
80+	144,756	146,213	290,970
TOTAL	7,122,120	7,622,377	14,744,497

Demographics	Unweighted Count	Weighted Count ('000)	V%
GENDER			
Male	1292	6724	48.1%
Female	1345	7195	51.5%
Other	10	59	0.4%
AGE			
18-24	512	1726	12.3%
25-34	439	2909	20.8%
35-49	394	3881	27.8%
50-64	394	3172	22.7%
65-79	474	1999	14.3%
80+	434	291	2.1%
TOTAL 18-34	951	4635	33.2%
TOTAL 35-64	788	7053	50.5%
TOTAL 65+	908	2290	16.4%
REGION			
Sydney	504	2875	20.6%
NSW ex Syd	325	1642	11.7%
Melbourne	593	3133	22.4%
VIC ex Mel	174	801	5.7%
Brisbane	283	1637	11.7%
QLD ex Bris	264	1368	9.8%
Adelaide	183	915	6.5%
SA ex Adel	37	181	1.3%
Perth	168	830	5.9%
WA ex Perth	30	152	1.1%
TAS	76	380	2.7%
NT	10	64	0.5%
TOTAL NSW	829	4517	32.3%
TOTAL VIC	767	3934	28.1%
TOTAL QLD	547	3005	21.5%
TOTAL SA	220	1096	7.8%
TOTAL WA	198	982	7.0%
TOTAL CAPITAL CITY	1834	9949	71.2%
TOTAL EX CAP CITY	813	4029	28.8%
HIGHEST EDUCATION			
Some Primary School	6	34	0.2%
Finished Primary School	36	134	1.0%
Finished School Certificate / Passed 4th Form / Passed Intermediate / Year 10 / Junior or Achievement certificate	184	797	5.7%
Finished 5th Form / Year 11 / Passed Leaving or Sub-senior certificate	86	313	2.2%
Finished Matriculation, Higher School Certificate (H.S.C.), V.C.E., Year 12, or Senior Certificate	316	1481	10.6%
Finished Technical School / Commercial College / TAFE (including trade certificate) / other certificate or apprenticeship	348	1808	12.9%
Diploma from College of Advanced Education or TAFE (Not Degree), Tertiary or Management Training (including Diploma other than University Degree)	392	2017	14.4%
Degree from University or College of Advanced Education	817	4614	33.0%
Higher Degree or Higher Diploma (e.g. Ph.D, Masters)	434	2669	19.1%
Prefer not to say	28	111	0.8%
TOTAL NO DEGREE	1368	6584	47.1%
TOTAL DEGREE	1251	7283	52.1%

Roy Morgan

Demographics (Continued)	Unweighted Count	Weighted Count ('000)	V%
SPEAK L.O.T.E. AT HOME			
Yes I only speak a language other than English at home	316	1801	12.9%
Yes I speak both English and another language at home	257	1541	11.0%
No English only	2066	10577	75.7%
Prefer not to say	8	58	0.4%
ATSI STATUS			
Yes Aboriginal origin only	103	623	4.5%
Yes Torres Strait Islander origin only	9	41	0.3%
Yes both Aboriginal and Torres Strait Islander origin	12	48	0.3%
No	2493	13081	93.6%
Prefer not to say	30	184	1.3%
TOTAL ATSI	124	713	5.1%
ANNUAL PERSONAL INCOME - DETAILED			
Less than $6000	90	431	3.1%
$6,000 - $9,999	22	89	0.6%
$10,000 - $14,999	61	311	2.2%
$15,000 - $19,999	92	381	2.7%
$20,000 - $24,999	136	529	3.8%
$25,000 - $29,999	136	547	3.9%
$30,000 - $34,999	117	487	3.5%
$35,000 - $39,999	107	452	3.2%
$40,000 - $44,999	136	602	4.3%
$45,000 - $49,999	122	577	4.1%
$50,000 - $59,999	210	1070	7.7%
$60,000 - $69,999	163	861	6.2%
$70,000 - $79,999	151	883	6.3%
$80,000 - $89,999	124	699	5.0%
$90,000 - $99,999	123	767	5.5%
$100,000 - $109,999	133	908	6.5%
$110,000 - $119,999	66	464	3.3%
$120,000 - $129,999	81	538	3.9%
$130,000 - $149,999	60	445	3.2%
$150,000 - $199,999	69	528	3.8%
$200,000 - $249,999	35	252	1.8%
$250,000 - $299,999	13	88	0.6%
$300,000 Or More	22	144	1.0%
Can't Say	58	237	1.7%
Prefer not to answer	320	1688	12.1%
ANNUAL PERSONAL INCOME - SUMMARY			
Under $50,000	1097	4705	33.7%
$50,000 Or More	1327	8112	58.0%
Can't Say	31	141	1.0%
Prefer not to answer	192	1020	7.3%

Demographics (Continued)	Unweighted Count	Weighted Count ('000)	V%
ANNUAL HOUSEHOLD INCOME			
Less than $6000	40	173	1.2%
$6,000 - $9,999	10	55	0.4%
$10,000 - $14,999	29	130	0.9%
$15,000 - $19,999	40	178	1.3%
$20,000 - $24,999	87	336	2.4%
$25,000 - $29,999	92	317	2.3%
$30,000 - $34,999	76	309	2.2%
$35,000 - $39,999	100	355	2.5%
$40,000 - $44,999	95	405	2.9%
$45,000 - $49,999	101	423	3.0%
$50,000 - $59,999	166	751	5.4%
$60,000 - $69,999	138	652	4.7%
$70,000 - $79,999	124	634	4.5%
$80,000 - $89,999	113	576	4.1%
$90,000 - $99,999	131	710	5.1%
$100,000 - $109,999	138	846	6.1%
$110,000 - $119,999	73	442	3.2%
$120,000 - $129,999	86	530	3.8%
$130,000 - $149,999	138	913	6.5%
$150,000 - $199,999	197	1430	10.2%
$200,000 - $249,999	107	762	5.5%
$250,000 - $299,999	60	428	3.1%
$300,000 Or More	56	340	2.4%
Can't Say	120	548	3.9%
Prefer not to answer	330	1736	12.4%

4.3 Questionnaire

SCREENING & QUOTA BUILDING

[Single] [Ask all]
A1. Please select your gender.
>   1. Male
>   2. Female
>   3. Other

[Single] [Ask all]
A2. Please choose your age from the following ranges:
>   1. 14-17
>   2. 18-24
>   3. 25-34
>   4. 35-49
>   5. 50-64
>   6. 65-79
>   7. 80+
>   99. Prefer not to say

IF A2=1 OR 99 TERMINATE

[Single] [Ask all]
A3a. Please specify your postcode:

IF A3a=INVALID, ASK A3b. IF A3a= INTERNATIONAL POSTCODE, TERMINATE
>   [Open] [ask if A3a=invalid]
>   A3b. In which town or suburb do you live?

>   _____

[Multiple] [Ask all]
A4. Do you own, or are you the main user of any of the following devices? *Select all that apply. Do not include workplace computers.*
>   1. A smartphone (that is a phone where you can download apps)
>   3. A laptop / desktop (personal) computer
>   4. None of the above [single response]

IF A4 INCLUDES 1 AND 3 CONTINUE, ELSE TERMINATE

[Single per item] [Ask all] [Carousel] [Only show Code 2 (tablet) if selected at A4]

A5. Can you access the internet from …?

ITEMS

1. Your smartphone

3. Your laptop / desktop (personal) computer

RESPONSE OPTIONS

1. Yes

2. No

3. Don't Know

IF A5=2 (NO) OR 3 (DON'T KNOW) FOR ITEMS 1 (SMARTPHONE) OR 3 (PERSONAL COMPUTER), TERMINATE

[Single per item] [Ask all] [Carousel] [Only show Code 2 (tablet) if selected at A4]

A6. If you are the main user of a device, but not the owner (e.g. it is a work owned laptop), do you have control over which browsers and/or search engines you use?

ITEMS

1. Your smartphone

3. Your laptop / desktop (personal) computer

RESPONSE OPTIONS

1. N/A – I own this item

2. Yes – I have full control and choice over the browsers and/or search engines I use

3. Yes – I have limited choice over the browsers and/or search engines I use

4. No – I have no choice over the browsers and/or search engines I use

5. Don't Know

IF A6=4 (NO) OR 5 (DON'T KNOW) FOR EITHER ITEMS 1 OR 3, TERMINATE

[Dummy variable based on response to A4 to size market]

DUMQUAL

1. Owns mobile and desktop [A4=1 AND 3]

2. Owns mobile only [A4=1 AND NOT 3]

3. Owns desktop only [A4=3 AND NOT 1]

4. Owns neither [A4=NOT 1 AND NOT 3]

IF DUMQUAL=2 OR 3 OR 4 TERMINATE

IF RESPONDENT DOES NOT QUALIFY BEYOND SCREENING, SKIP TO SCREENOUT MESSAGE

IF RESPONDENT FALLS INTO A FULL QUOTA, SKIP TO QUOTA FULL MESSAGE

IF RESPONDENT QUALIFIES, CONTINUE

QUESTIONNAIRE BODY

This survey will ask you some questions about how you use web browsers and search engines.

A **web browser** allows you to access the internet on smartphones and computers.

A smartphone or computer will usually have a browser installed on it when you buy it but you can install additional browsers.

Some examples of web browsers are

Google Chrome,

Apple Safari,

Mozilla Firefox,

Microsoft Edge,

Microsoft Internet Explorer,

Opera, and

Brave.

TO NEXT SCREEN

A **search engine**, through a website, app, widget or address bar of a browser, allows you to search for content and information on the internet by entering a question or keywords. The search engine will then provide a list of results that match what you are searching for.

You can also use a search engine through voice assistants such as Siri, Google Assistant and Amazon Alexa.

Examples of search engines include:

Google,

Bing,

DuckDuckGo,

Yahoo, and

Ecosia

We are now going to ask you some questions about the brand of device you own or are the main user of.

We'll start with your **SMARTPHONE**. If you have more than one smartphone, please answer these questions based on your **main** smartphone, or the one you use most often. If you have both a business and personal smartphone, please answer questions based on your personal smartphone.

[Single] [Ask all]
B1. What brand of smartphone do you use?
      1. Apple
      2. Blackberry
      3. HTC
      4. Google
      5. Honor
      6. Huawei
      7. LG
      8. Lenovo
      9. Microsoft (Android
      10. Microsoft (Windows)
      11. Motorola
      12. Nokia
      13. OnePlus
      14. Oppo
      15. RealMe
      16. Samsung
      17. Sony
      18. Vivo
      19. Xiaomi
      20. ZTE
      97. Other brand (please specify) _____
      98 Don't know phone brand

[Single] [Ask all]
B2. How old is your smartphone?
      1. Less than 1 year old
      2. 1 to less than 2 years old
      3. 2 to less than 3 years old
      4. 3 to less than 4 years old
      5. 4 to less than 5 years old
      6. 5 or more years old.
      98. Don't know

[Single] [Ask all]

B3. When you first got your smartphone, who set it up so that it was ready for use (for example, selecting the language, time zone and Wi-Fi network)?

1. No-one – it was already set up

2. I did it with someone else's assistance

3. I did it myself

4. Someone else did it for me

5. Don't know

[Single] [Ask all]

B4. On your smartphone, how often do you search for information or answers to questions on the Internet?

     1. At least once a day

     2. At least once per week

     3. At least once per month

     4. Less often than once per month

     5. Never

Now we'll move to your **personal** computer. If you have more than one computer, please answer all relevant questions based on your main computer, or the one you use most often. If you have both a business and personal computer, please answer questions based on your personal computer.

[Single] [Ask all]

B7. What type of computer do you use?

     1. Acer

     2. Apple

     3. Asus

     4. Dell

     5. Google

     6. HP

     7. Lenovo

     8. Microsoft

     9. Samsung

     10. Sony

     11. Toshiba

     97 Other brand (please specify) _____

     98. Don't know type of computer

[Single] [Ask all]

B8. How old is your computer?

      1. Less than 1 year old

      2. 1 to less than 2 years old

      3. 2 to less than 3 years old

      4. 3 to less than 4 years old

      5. 4 to less than 5 years old

      6. 5 or more years old.

      98. Don't know

[Single] [Ask all]

B9. What operating system are you running on your computer? Your best guess will do.

An operating system is the main software that runs your computer. It manages the computer's memory and processes, as well as its hardware and software. You may see a logo for your operating system when you turn your computer on.

      1. Windows

      2. MacOS

      3. ChromeOS

      4. Debian

      5. Linux Mint

      6. Fedora

      7. Ubunto

      8. CenOS

      9. Other Linux-based operating system

      97 Other operating system (please specify) _____

      98. Don't know the operating system

[Single] [Ask all]

B11. On your computer, how often do you search for information or content on the Internet?

      1. At least once a day

      2. At least once per week

      3. At least once per month

      4. Less often than once per month

      5. Never

We are now going to ask you some questions about the web browsers and search engines you use.

[Single per item] [Carousel] [Flip response options] [Ask all]
C1. How much do you agree or disagree with the following statements?

RESPONSE OPTIONS

1. Strongly disagree
2. Disagree
3. Neither agree nor disagree
4. Agree
5. Strongly agree
6. Don't know

STATEMENTS

1. I feel confident that I am able to find things on the Internet
2.
3. Not being able to access and search the Internet would affect me in a very negative way
5. I have never thought much about how I access and search the Internet
7. I have never thought much about what browsers or search engines I use to access and search the Internet
9. I'm confident I have a wide choice of other **browsers** if I am ever unhappy with the way I access the internet
10. I'm confident I have a wide choice of other **search engines** if I am ever unhappy with the way I search for information or answers on the internet
11. I am concerned about the collection of my data and personal information when I use **browsers** and **search engines**
13. **Search engines** and **browsers** should allow me to opt out of collecting certain types of information about me, how they use it and/or what they can share
14. **Search engines** and **browsers** should only collect the information they need to provide their product or service.

 [Single] [Ask all]
C.2a Did you know that when you enter a search query in the address bar of a browser, the browser uses a search engine to search for an answer?

1. Yes
2. No – I didn't know that you could search in that way
3. No – I knew you could search that way, but thought it was the browser doing the search

C2b The search engine that the browser uses to search for answers to search queries is called the "default" search engine. Browsers decide on which search engine to use as the default and consumers are able to change the default. Before now, did you know you were able to change the default search engine?
    1. Yes
    2. No - I knew browsers set a default search engine, but didn't know I could change it
    3. No – I didn't know browsers set a default search engine or that I could change it

[Single] [Randomise codes 1-5] [Ask all]
C2. **Browsers** tend to be provided free of charge to consumers. What is the main way that companies providing a free browser make money?
    1. Through digital advertising
    2. By selling consumer data
    3. From search engines that pay to be default providers on the browser4. From device manufacturers that pay to install the browser on the device
    5. Through public funding
    97. Other method (please specify) _____
    6. They do not make profits – services are provided on a not-for-profit basis [Single response]
    98. Don't know

[Single] [Randomise codes 1-5 in same order as C2] [Ask all]
C3. **Search engines** tend to be provided free of charge to consumers. What is the main way that companies providing a free search engine make money?
    1. Through digital advertising
    2. By selling consumer data
    3. From browsers that pay to use the search service
    4. From device manufacturers that pay to install the search application on the device
    5. Through public funding
    97. Other method (please specify) _____
    6. They do not make profits – services are provided on a not-for-profit basis [single response]
    98. Don't know

[Single] [Randomise] [Ask all]
C4. In response to a search query, search engines provide a list of results in an ordered way. How do you think a search engine ranks or decides the order of results it displays to you in response to a search query?
    1. It ranks the results in the order that the algorithm decides is the most relevant
    2. It ranks the results in chronological order
    3. It ranks the results randomly
    4. It ranks the results based on how much third parties pay the search engine to display the results
    5. It ranks the results based on information it has collected about me (for example, my location, search history)
    6 It ranks the results based on relevance <u>and</u> the amount paid by third parties to display results
    98. Don't know

We're now going to ask you some questions about the **web browser** you use on your **smartphone.** We will ask similar questions later about your computer.

Remember:
- a **WEB BROWSER** is used to access the internet
- a **SEARCH ENGINE** provides answers to a search query on the internet

DISPLAY LOGO FOR EACH BROWSER

[Multiple] [Randomise] [Ask all]

E1. Before today, which web browsers had you heard of? *Please select all that apply*

1. Google Chrome
2. Mozilla Firefox
3. Apple Safari
4. Microsoft Edge
5. Opera
6. Microsoft Internet Explorer
7. Brave
8. Vivaldi
9. UC Browser
10. Maxthon
11. Sleipnir
12. Lunascape
13. DuckDuckGo Privacy Browser
14. Ecosia
15. Samsung Internet
97 Other browser (please specify) _____ [Keep at end]
98. None of the above [Keep at end] [Single response]

DISPLAY LOGO FOR EACH BROWSER.

[Multiple] [Randomise in same order as E1] [Ask all]

E2. Now thinking about your **SMARTPHONE**. Which **web browsers** do you **currently** use on your smartphone? If you are unsure, please check your phone now.

1. Google Chrome
2. Mozilla Firefox
3. Apple Safari
4. Microsoft Edge
5. Opera
6. Microsoft Internet Explorer
7. Brave
8. Vivaldi

9. UC Browser

10. Maxthon

11. Sleipnir

12. Lunascape

13. DuckDuckGo Privacy Browser

14. Ecosia

15. Samsung Internet

97. Other browser (please specify) _____ [Keep at end]

98. Don't know [Keep at end] [Single response]

If Don't Know (98 at E2) ASK E6

If code 98 at E2, autopunch code 98 at E7

DISPLAY LOGO FOR EACH BROWSER

[Single per item] [Show options selected at E2 in same order] [Carousel] [Ask all]

E3. VARIABLE WORDING:

IF 1 ITEM SELECTED AT E2: Did you install [insert response from E2] on your smartphone, or was it already there when you got the phone?

IF MULTIPLE ITEMS SELECTED AT E2: Which of these did you download/install, and which were already available on your phone?

RESPONSE OPTIONS

1. Already available

2. I downloaded/installed it

3. Don't know

BROWSERS

1. Google Chrome

2. Mozilla Firefox

3. Apple Safari

4. Microsoft Edge

5. Opera

6. Microsoft Internet Explorer

7. Brave

8. Vivaldi

9. UC Browser

10. Maxthon

11. Sleipnir

12. Lunascape

13. DuckDuckGo Privacy Browser

14. Ecosia

15. Samsung Internet

97. Other browser (please specify) _____ [Keep at end]

[IF DOWNLOADED/INSTALLED AT LEAST ONE BROWSER – AT LEAST ONE BROWSER AT E3= 2, ASK E4-E5b.

CASCADE E4 – E5b ON ONE SCREEN

[Single] [Flip] [Ask if downloaded browser (E3=2)]
E4. How easy or difficult was it to download a browser to your smartphone?
      1. Very difficult
      2. Difficult
      3. Neither difficult nor easy
      4. Easy
      5. Very easy

 [Multiple] [Ask if downloaded browser (E3=2)
E5b. Did you use any of the following forms of assistance when downloading a browser to your smartphone? *Please select all that apply*
      1. Family/friends
      2. Internet search on how to download a browser
      3. Reading the manual for your device
      4. The in-built help guide on your phone
      5. Contacting the device manufacturer for assistance
      97. Other assistance (please specify) _____
      6. Did not require any assistance [Single response] [Keep at end]

[End if]

[If E3=2 for any browser, autopunch E6 as Code 1, and ask E7]

[Single] [Ask if code 1 or 3 for all items at E3 or code 98 at E2]
E6. Do you know how to download new browsers to your phone?
      1. Yes
      2. No

[If E2=single 1-97, autopunch response from E2 onto E7 and ask E8]

DISPLAY LOGO FOR EACH BROWSER.
[Single] [Display options selected at E2 in same order] [Ask if multiple response codes 1-97 at E2]
E7. Which of these web browsers do you use **most often** on your smartphone? If you use two or more equally, please select the one you prefer to use.
      1. Google Chrome
      2. Mozilla Firefox
      3. Apple Safari
      4. Microsoft Edge
      5. Opera
      6. Microsoft Internet Explorer
      7. Brave
      8. Vivaldi
      9. UC Browser
      10. Maxthon
      11. Sleipnir
      12. Lunascape
      13. DuckDuckGo Privacy Browser
      14. Ecosia
      15. Samsung Internet
      97. Other browser (please specify) _____
      98. Don't know

[SINGLE [Ask all] [Randomise codes 3-15]
E8a. VARIABLE WORDING:
IF CODE 98 AT E7: Why do you use the browser you do on your smartphone? Please select the most important reason.
IF 1 ITEM 1-97 SELECTED AT E2: Why do you use [insert browser from E7] on your smartphone? Please select the most important reason.
IF MULTIPLE ITEMS 1-97 SELECTED AT E2: Why do you use [insert browser from E7] the most on your smartphone? Please select the most important reason.
      1. The browser was already on my smartphone and I had no reason to use another browser
      2. The browser was already on my smartphone and I didn't know there were other options
      18. It is my preferred browser
         It is my preferred browser due to…. [expand to options below]

3. Ease of use

4. The privacy features

5. The data collection practices

6. Their social or ethical values

7. Aesthetic design

8. Speed

9. Size of the app/amount of storage it takes up on my smartphone

10. Impact on battery life

11. Compatibility with websites I like to visit

12. Compatibility with software I need to use

13. Access to my saved information (such as bookmarks or passwords)

14. It's the same as/it's the one I use on other devices

15. Familiarity

16. Other features offered (e.g. browser extension, plug-ins or rewards)

17. Other reason (please specify)

97 Other reason (please specify) _____

[Single per item] [Carousel] [Flip response options] [Ask all]

E11. How important are the following attributes to you when deciding which browser to use on your smartphone?

RES

PONSE OPTIONS

1. Very unimportant

2. Unimportant

3. Neither important nor unimportant

4. Important

5. Very important

FEATURES

1. Ease of use

2. The privacy features

3. The data collection practices

4. Their social or ethical values

5. Aesthetic design

6. Speed

7. Size of the app/amount of storage it takes up on my smartphone

8. Impact on battery life

9. Compatibility with websites I like to visit

10. Compatibility with software I need to use

11. Access to my saved information (such as bookmarks or passwords)

12. Using the same browsers on different devices

14. Familiarity

13. Other features offered (e.g. browser extension, plug-ins or rewards)

CASCADE E15-E16 ON THE SAME SCREEN

[Multi] [Ask all]

E15. Have you or someone else ever changed the default browser you use on your smartphone?

"Default browser" means the browser that opens up when you click on a link in an email or an app.

      1. Yes, I changed it myself
      2. Yes, someone else changed it for me
      3. No (Single)
      4. Unsure (Single)

[If E15=1 (Yes, I changed it myself), autopunch E16 as Code 1, and ask E17]

[Single] [Ask if not code 1 at E15]

E16. Do you know how to change the default browser on your smartphone?

"Default browser" means the browser that opens up when you click on a link in an email or an app.

      1. Yes
      2. No
      3. Unsure

[Single] [Ask if changed default without assistance (E15=1)]

E17. Now thinking about the last two years . How often have you changed your default browser on your smartphone in the last two years?

"Default browser" means the browser that opens up when you click on a link in an email or an app.

      1. None – I have not changed it in the last 2 years

      2. 1 time

      3. 2 times

      4. 3 times

      5. 4 times

      6. 5 or more times

[Single] [Flip] [Ask if changed default in last 2 years (E17 = codes 2-6)]

E18. How easy or difficult was it to change the default browser on your smartphone the last time you did this?

      1. Very difficult

      2. Difficult

      3. Neither difficult nor easy

      4. Easy

      5. Very easy

[Multiple] [Randomise] [Ask if changed default in last 2 years (E17 = codes 2-6)]

E19. Did you use any of the following forms of assistance the last time you changed the default browser on your smartphone? *Please select all that apply*

      1. Family/friends

      2. Internet search on how to change default browsers

      3. Reading the manual for your device

      4. The in-built help guide on your phone

      5. Contacting the device manufacturer for assistance

      6. I did not require any assistance [keep at end] [Single response] [Keep at end)

      97. Other assistance (please specify) _____

[Multi] [Randomise] [Ask if did not download any browser used on phone (code 1 or 3 for all items at E3)]

E28. Why have you never downloaded a browser app to your smartphone? *Please select all that apply*

    1. I didn't know how to download another browser

     3. The browser I use isn't important to me

    4. I didn't know you could download another browser

    5. I am satisfied with the pre-installed browser/s

    6. I don't want to lose access to some information I have on my browser (such as saved passwords, search history)

    7. I don't know how to download apps onto my device

    8. I started the process but was scared off by warning messages

    97. Other reason (please specify) _____

[End if]

The next set of questions is about the **SEARCH ENGINES** on your smartphone

Remember a **SEARCH ENGINE** provides answers to a search query on the internet

[Multiple] [Randomise codes 1-5 – but keep codes 1&2 together and keep codes 3&4 together] [Ask all]

F1a. On your smartphone, how do you search for information on the Internet? *Please select all that apply.*

    1.   I use my web browser – I use the address bar to type a search query in directly
    2.   I use my web browser – I go to the search website of my choice and use the search box
    3. I use a search app on my smartphone
    4. I use the search bar on my smartphone (i.e. the search widget)
    5. I use the voice assistant (e.g. Google Assistant, Siri, Microsoft Cortana) on my smartphone
    97 Other method (please specify) _____
    98 Don't know [Single response]

IF MORE THAN ONE RESPONSE GIVEN AT F1a, ASK F1b, ELSE AUTOPUNCH RESPONSE FROM F1a AND ASK F2

[Single] [Only show responses from F1a] [Ask if more than one selection at F1a]

F1b. What is your preferred method for searching for information on the Internet?

1. I use my web browser – I use the address bar to type a search query in directly
2. I use my web browser – I go to the search website of my choice and use the search box

3. I use a search app on my smartphone

4. I use the search bar on my smartphone (i.e. the search widget)

5. I use the voice assistant (e.g. Google Assistant, Siri, Microsoft Cortana) on my smartphone

97 Other method (please specify) _____

98 Don't know [Single response]

DISPLAY LOGO FOR EACH SEARCH ENGINE.

[Multiple] [Randomise] [Ask all]

F2. Before today, which search engines had you heard of?

1. Google

2. Bing

3. DuckDuckGo

4. Quora

5. Dogpile

6. Ask.com

7. Ecosia

8. Lycos

9. Swisscows

10. StartPage

11. Yahoo!

12. Yandex

13. Qwant

14. Baidu

15. Naver

97. Other search engine (please specify) _____ [Keep at end]

98 None of the above [Keep at end] [Single response]

DISPLAY LOGO FOR EACH SEARCH ENGINE.
[Multiple] [Show options in same order as F2] [Ask all]
F3. Which **search engines** do you **currently** use on your smartphone for any purpose?
      1. Google
      2. Bing
      3. DuckDuckGo
      4. Quora
      5. Dogpile
      6. Ask.com
      7. Ecosia
      8. Lycos
      9. Swisscows
      10. StartPage
      11. Yahoo!
      12. Yandex
      13. Qwant
      14. Baidu
      15. Naver
      97. Other search engine (please specify) _____ [Keep at end]
      98 Don't know [Keep at end] [Single response]

If code 98 at F3, autopunch code 98 at F4 and ask F5a
[If single response 1-97 at F3, autopunch response at F4 and ask F5a]

DISPLAY LOGO FOR EACH SEARCH ENGINE.
[Single] [Display options selected at F3 in same order] [Ask if multiple response codes 1-97 at F3]
F4. Which of these search engines do you use **most often** on your smartphone? If you use two or more equally, please select the one you prefer to use.
      1. Google
      2. Bing
      3. DuckDuckGo
      4. Quora
      5. Dogpile
      6. Ask.com
      7. Ecosia
      8. Lycos
      9. Swisscows
      10. StartPage
      11. Yahoo!
      12. Yandex
      13. Qwant
      14. Baidu
      15. Naver
      97. Other search engine (please specify) _____ [Keep at end]

98 Don't know [Keep at end]

[SINGLE] [Ask all] [Randomise codes 3-18]

F5a. VARIABLE WORDING

IF F4=98: Why do you use the search engine you do on your smartphone? *Please select the most important reason*

IF 1 ITEM SELECTED AT F3 (BUT NOT CODE 98): Why do you use [insert search engine from F4] on your smartphone? *Please select the most important reason*

IF MULTIPLE ITEMS SELECTED AT F3: Why do you use [insert search engine from F4] the most on your smartphone? *Please select the most important reason*

- 1. It is what was already on my smartphone and I had no reason to change
- 20. It was the only option on my preferred browser
- 2. I didn't know there were other options
- 21. It is my preferred search engine.
- It is my preferred search engine due to…. [expand to options below]
  - 3. Ease of use
  - 4. Privacy features
  - 5. The data collection practices
  - 6. Their social or ethical values
  - 7. Aesthetic design of the search engine page
  - 8. Aesthetic design of how search results are presented
  - 9. Speed
  - 10. Relevance of results to my search queries
  - 11. Number of results
  - 12. Results are personalised to my interests
  - 13. Results are personalised to my search history
  - 14 Results are based on location
  - 15. Lack of ads
  - 16. Relevant/personalised ads
  - 17. The search results page provides answers to my search queries directly on the page, without me having to click through a link
  - 18. Familiarity
  - 19 Other reason (please specify)
- 97. Other reason (please specify) _____
- 98 Don't know

[End if]

[Single per item] [Carousel] [Flip response options] [Ask all]

F8. How important are the following attributes to you when deciding which search engine to use on your smartphone?

RES

RESPONSE OPTIONS

1. Very unimportant

2. Unimportant

3. Neither important nor unimportant

4. Important

5. Very important

FEATURES

1. Ease of use

2. The privacy features

3. The data collection practices

4. Their social or ethical values

5. Aesthetic design of the search engine page/site

6. Aesthetic design of how search results are presented

7. Speed

8. Relevance of results to my search queries

9. Number of results

10. Results are personalised to my interests

11. Results are personalised to my search history

12. Results are based on location

13. The search results page provides answers to my search queries directly on the page, without me having to click through a link'

14. Compatibility with preferred browsers

15. Ads are personalised and relevant

16. Ads are easy to identify

17. There aren't too many ads

18. Familiarity

CASCADE F12-F13 ON THE SAME SCREEN

MULTI
F12. Have you or someone else ever changed the default search engine on the main browser you use on your smartphone?

"Default" means the search engine that is automatically used by the browser. Unless the user has actively selected a different search engine, the default search engine will be the one pre-selected by the developer of the browser.

> 1. Yes, I changed it myself
> 2. Yes, someone else changed it for me
> 3. No (Single)
> 4. Unsure (Single)

[If F12=1 (Yes, I changed it myself), autopunch F13 as Code 1, and ask F14]

Single] [Ask if not code 1 at F12
F13. Do you know how to change the default search engine on the browsers in your smartphone?

"Default" means the search engine that is automatically used by the browser. Unless the user has actively selected a different search engine, the default search engine will be the one pre-selected by the developer of the browser.

> 1. Yes
> 2. No
> 3. My browser does not permit me to change my search engine
> 4. Unsure

F14. Now thinking about the last two years. How many times have you changed a default search engine on your smartphone in the last two years?

"Default" means the search engine that is automatically used by the browser. Unless the user has actively selected a different search engine, the default search engine will be the one pre-selected by the developer of the browser.

      1. None - I have not changed it in the last 2 years
      2. 1 time
      3. 2 times
      4. 3 times
      5. 4 times
      6. More than 4 times

[Single] [Flip] [Ask if changed default in last 2 years (F14 = code 2-6)]
F15. How easy or difficult was it to change the default search engine on your smartphone the last time you did this?
      1. Very difficult
      2. Difficult
      3. Neither difficult nor easy
      4. Easy
      5. Very easy

[Multiple] [Randomise] [Ask if changed default in last 2 years (F14 = code 2-6)]
F16. Did you use any of the following forms of assistance the last time you changed the default search engine on your smartphone? *Please select all that apply*
      1. Family/friends
      2. Internet search on how to change default search engines
      3. Reading the manual for your device
      4. The in-built help guide on your phone
      5. Contacting the device manufacturer for assistance
      6. I did not require any assistance [Keep at end] [Single response]
      98. Other assistance (please specify) _____

[Multi] [Ask all]
F20. A search engine app is an app that specifically allows you to enter a search query within the app, rather than through a web browser. Have you downloaded a search engine app on your smartphone in the last 2 years?
      1. Yes, I did it without assistance
      2. Yes, but someone helped me
      3. No, but I have heard of search engine apps (Single)
      4. No, and I have never heard of a search engine app before today (Single)
      5. Unsure (Single)

[If F20=1 or 2 (Yes), ask F21 & F22]

DISPLAY LOGO FOR EACH SEARCH ENGINE APP.

[Multiple] [Randomise] [Ask if downloaded search engine apps (F20=1 or 2)]

F21. Which search engine apps have you downloaded to your smartphone?

1. Google
2. Search All
3. Qwant
4. Findx
5. Incognito
6. WWF Panda Search
7. Microsoft Bing Search
8. DuckDuckGo
9. Ecosia
97. Other search engine app (please specify) _____ [Keep at end]

LOOP F22, AND ASK FOR SEPARATELY FOR EACH RESPONSE GIVEN AT F21

[Multiple] [Ask if downloaded search engine apps (F20=1 or 2)]

F22. Why did you download [Response at F21] to your smartphone? *Please select all that apply.*

1. Easier to use than a search engine on a web browser
2. Privacy features
3. The data collection practices of the app
4. Social or ethical values of the app
5. Aesthetic design of the app is better than search engines on a web browser
6. Speed of the app, compared with using a search engine on a web browser
7. Other features offered (e.g. search widgets)
8. Integration of the app to my device
9. I received a prompt from my device
97 Other reason (please specify) _____

[End if]

If F20=3 (No, but heard of them), ask F23]

[Multiple] [Randomise] [Ask if aware of but never downloaded search engine apps (F20=3)]
F23. Why have you never downloaded a search engine app to your smartphone? *Please select all that apply.*
   1. I don't know how to download apps onto my device
   2. I am satisfied with the search engine apps that are already on my device
   3. I am satisfied with the alternative ways to search on my device
   4. I started the process but was scared off by warning messages
   97. Other reason (please specify) _____

[End if]

We're now going to ask you some questions about the **WEB BROWSER** you use on your **computer**. Remember a web browser is used to access the internet.

PROGRAMMER NOTE: PLEASE ADD LOGOS FOR EACH BROWSER. LOGOS PROVIDED IN SEPARATE DOCUMENT
[Multiple] [Randomise in same order as E1, but do not show codes 13-15] [Ask all]
J1. Which **web browsers** do you **currently** use on your computer?

1. Google Chrome
2. Mozilla Firefox
3. Apple Safari
4. Microsoft Edge
5. Opera
6. Microsoft Internet Explorer
7. Brave
8. Vivaldi
9. UC Browser
10. Maxthon
11. Sleipnir
12. Lunascape
97. Other browser (please specify) _____
98. Don't know (Single)

DISPLAY LOGO FOR EACH BROWSER.

[Single per item] [Show options selected at J1 in same order] [Ask all]

J2. VARIABLE WORDING:

IF 1 ITEM SELECTED AT J1: Did you install [insert response from J1] on your computer, or was it already there when you got it?

IF MULTIPLE ITEMS SELECTED AT J2: Which of these did you install, and which were already available on your computer?

RESPONSE OPTIONS

1. Already available
2. I installed it
3. Don't know

BROWSERS

1. Google Chrome
2. Mozilla Firefox
3. Apple Safari
4. Microsoft Edge
5. Opera
6. Microsoft Internet Explorer
7. Brave
8. Vivaldi
9. UC Browser
10. Maxthon
11. Sleipnir
12. Lunascape
97 Other browser (please specify) _____ [Keep at end]

[IF INSTALLED AT LEAST ONE BROWSER – AT LEAST ONE BROWSER AT J2=2, ASK J3-J4.

CASCADE J3 - J4b ON ONE SCREEN

[Single] [Flip] [Ask if installed browser (J2=2)]
J3. How easy or difficult was it to install a browser on your computer?
1. Very difficult
2. Difficult
3. Neither difficult nor easy
4. Easy
5. Very easy

[Single] [Ask if installed browser (J2=2)]
J4a. Did you require any assistance to install another browser on your computer?
1. Yes
2. No

[If J4a=1 (Yes), ask J4b]

[Multiple] [Ask if downloaded browser (J2=2)]
J4b. Did you use any of the following forms of assistance when installing another browser to your computer? *Please select all that apply*
1. Family/friends
2. Internet search on how to download and/or install a browser
3. Reading the manual for your device
4. The in-built help guide on your computer
5. Contacting the device manufacturer for assistance
97. Other assistance (please specify) _____

[End if]

[End if]

[If J2=2 for any browser, autopunch J5 as Code 1, and ask J6

[Single] [Ask if code 1 or 3 for all items at J2 or code 98 at J1]
J5. Do you know how to install new browsers to your computer?
1. Yes
2. No

[If J1=single 1-97, autopunch response from J1 onto J6 and ask J7a]
If code 98 at J1, autopunch code 98 at J6

DISPLAY LOGO FOR EACH BROWSER.

[Single] [Display options selected at J1 in same order] [Ask if multiple response codes 1-97 at J1]

J6. Which web browser do you use **most often** on your computer? If you use two or more equally, please select the one you prefer to use.

1. Google Chrome
2. Mozilla Firefox
3. Apple Safari
4. Microsoft Edge
5. Opera
6. Microsoft Internet Explorer
7. Brave
8. Vivaldi
9. UC Browser
10. Maxthon
11. Sleipnir
12. Lunascape
97. Other browser (please specify) _____
98. Don't know

[SINGLE] [Ask all] [Randomise codes 3-13]

J7a. VARIABLE WORDING:

IF CODE 98 AT J6: Why do you use the browser you do on your computer? Please select the most important reason.

IF 1 ITEM 1-97 SELECTED AT J1: Why do you use [insert browser from J6] on your computer? Please select the most important reason.

IF MULTIPLE ITEMS 1-97 SELECTED AT J1: Why do you use [insert browser from J6] the most on your computer? Please select the most important reason.

    1. The browser was already on my computer and I had no reason to use another browser

    2. The browser was already on my computer and I didn't know there were other options

    16. The browser was already on my computer, and I am not allowed to use other options

    17. It is my preferred browser

      It is my preferred browser due to [expand to options below]

      3. Ease of use

      4 The privacy features

      5. The data collection practices

      6. Their social or ethical values

      7. Aesthetic design

      8. Speed

      9. Compatibility with websites I like to visit

      10. Compatibility with software I need to use

      11.Access to my saved information (such as bookmarks or passwords)

      12. . It's the same as/it's the one I use on other devices

      13. Familiarity

      14 Other features offered (e.g. browser extension, plug-ins or rewards)

     15 Other reason (please specify)

    97. Other reason (please specify) _____

CASCADE J13-J14 ON THE SAME SCREEN

[Multi] [Ask all]

J13. Have you or someone else ever changed the default browser on your computer?

"Default browser" means the browser that opens up when you click on a link in an email or elsewhere outside of a browser.

    1. Yes, I changed it myself

    2. Yes, someone else changed it for me

    3. No (Single)

    4. Unsure (Single)

[If J13=1 (Yes, I changed it myself), autopunch J14 as Code 1, and ask J15]

[Single] [Ask if not code 1 at J13]
J14. Do you know how to change the default browser on your computer?

"Default browser" means the browser that opens up when you click on a link in an email or elsewhere outside of a browser.

    1. Yes
    2. No
    3. Unsure

[Single] [Ask if changed default without assistance (J13=1)]
J15. Now thinking about the last two years. How often have you changed your default browser on your computer in the last two years?

"Default browser" means the browser that opens up when you click on a link in an email or elsewhere outside of a browser.

1. None - I have not changed it in the last 2 years
2. 1 time
3. 2 times
4. 3 times
5. 4 times
6. 5 or more times

[Single] [Ask if changed default in last 2 years (J15 = codes 2-6)]
J16. How easy or difficult was it to change the default browser on your computer the last time you did this?
1. Very difficult
2. Difficult
3. Neither difficult nor easy
4. Easy
5. Very easy

[Multiple] [Randomise] [Ask if changed default in last 2 years (J15 = codes 2-6)]
J17. Did you use any of the following forms of assistance the last time you changed the default browser on your computer? *Please select all that apply*
1. Family/friends
2. Internet search on how to change default browsers
3. Reading the manual for your device
4. The in-built help guide on your computer
5. Contacting the device manufacturer for assistance
6. Following a prompt in the browser/on my computer
7 I did not require any assistance [keep at end] [single response]
97 Other assistance (please specify) _____

The next set of questions is about **SEARCH ENGINES** you use on your computer.

Remember a **SEARCH ENGINE** provides answers to a search query on the internet.

[Multiple] [Ask all]

K1. How do you access information on the Internet on your **computer**? *Please select all that apply.*

1. I type a query directly into the address bar of my browser

2. I have a search engine set as the home page on my browser and I type a query into the search box of a search engine

3. I downloaded a browser extension and I type a query into the address bar

4. I go to the website of a search engine and enter my query into the search box

5. I use the voice assistant available on my computer

97 Other method (please specify) _____

ADD LOGO FOR EACH SEARCH ENGINE.

[Multiple] [Show options in same order as F2] [Ask all]

K2. Which **search engines** do you **currently** use on your computer for any purpose?

1. Google

2. Bing

3. DuckDuckGo

4. Quora

5. Dogpile

6. Ask.com

7. Ecosia

8. Lycos

9. Swisscows

10. StartPage

11. Yahoo!

12. Yandex

13. Qwant

14. Baidu

15. Naver

97. Other search engine (please specify) _____ [Keep at end]

98. Don't know [Keep at end] [Single response]

[If single response codes 1-97 at K2, autopunch response at K3 and ask K4a]

If code 98 at K2, autopunch code 98 at K3 and ask K4

ADD LOGO FOR EACH SEARCH ENGINE.

[Single] [Display options selected at K2 in same order] [Ask if multiple response codes 1-97 at K2]

K3. Which of these search engines do you use **most often** on your computer? If you use two or more equally, please select the one you prefer to use.

     1. Google

     2. Bing

     3. DuckDuckGo

     4. Quora

     5. Dogpile

     6. Ask.com

     7. Ecosia

     8. Lycos

     9. Swisscows

     10. StartPage

     11. Yahoo!

     12. Yandex

     13. Qwant

     14. Baidu

     15. Naver

     97. Other search engine (please specify) _____ [Keep at end]

     98. Don't know [Keep at end]

[SINGLE] [Ask all] [Randomise codes 3-15]

K4a. VARIABLE WORDING

IF K3=98: Why do you use the search engine you do on your computer? Please select the most important reason.

IF 1 ITEM SELECTED AT K3 (BUT NOT CODE 98): Why do you use [insert search engine from K3] on your computer? Please select the most important reason.

IF MULTIPLE ITEMS SELECTED AT K3: Why do you use [insert search engine from K3] the most on your computer? Please select the most important reason.

     1. It's what my browser uses and I had no reason to change

     2. I didn't know there were other options

     18. It is my preferred search engine

                                            It   is

my preferred search engine due to…. [expand to options below]

      3. Ease of use

      4. Privacy features

      5. The data collection practices

      6. Social or ethical values

      7. Aesthetic design of the search engine page/site

8. Aesthetic design of how search results are presented

9. Speed

10. Relevance of results

11. Number of results

12. Other features offered (e.g. lack of ads)

13.. Access to my saved information (such as bookmarks or passwords)

14. It's the same as/it's the one I use on other devices

15. Familiarity

16. Other features offered (e.g. browser extension, plug-ins or rewards)

17 Other reason (please specify)

97.Other reason (please specify) _____

[End if]

CASCADE K10-K11 ON THE SAME SCREEN

[Multi] [Ask all]
K10. Have you or someone else ever changed the default search engine on the main browser you use on your computer?

"Default" means the search engine that is automatically used by the browser. Unless the user has actively selected a different search engine, the default search engine will be the one pre-selected by the developer of the browser.

> 1. Yes, I changed it myself
> 2. Yes, someone else changed it for me
> 3. No (Single)
> 4. Unsure (Single)

[IF K10=1 (Yes, I changed it myself), autopunch K11 as Code 1, and ask K12]

[Single] [Ask if not code 1 at K10]
K11. Do you know how to change the default search engine on the browsers in your computer?

"Default" means the search engine that is automatically used by the browser. Unless the user has actively selected a different search engine, the default search engine will be the one pre-selected by the developer of the browser.

> 1. Yes
> 2. No
> 3. My browser does not permit me to change my search engine
> 4. Unsure

> [Single] [Ask if changed default without assistance (K10=1)]
> K12. Now thinking about the last two years. How often have you changed your default search engines on your computer in the last two years, either by changing the settings of the browser or downloading a search browser extension?

"Default" means the search engine that is automatically used by the browser. Unless the user has actively selected a different search engine, the default search engine will be the one pre-selected by the developer of the browser.

> 1. None – I have not changed it in the last 2 years

2. 1 time

3. 2 times

4. 3 times

5. 4 times

6. More than 4 times

[Single] [Flip] [Ask if changed default in last 2 years (K12 = codes 2-6)]

K13. How easy or difficult was it to change the default search engine on your computer the last time you did this?

1. Very difficult

2. Difficult

3. Neither difficult nor easy

4. Easy

5. Very easy

[Multiple] [Randomise] [Ask if changed default in last 2 years (K10=1 or 2 K12 = codes 2-6)]

K14. Did you use any of the following forms of assistance the last time you changed the default search engine on your computer? *Please select all that apply.*

1. Family/friends
2. Internet search on how to change default search engines
3. Reading the manual for your device
4. The in-built help guide on your computer
5. Contacting the device manufacturer for assistance
6. I did not require any assistance [Keep at end] [Single response]
97. Other assistance (please specify) _____

DEMOGRAPHICS

And finally, a few questions about you.

[Single] [Ask all]

M1. What is the highest level of education you've reached?

1. Some Primary School
2. Finished Primary School
3. Finished School Certificate / Passed 4th Form / Passed Intermediate / Year 10 / Junior or Achievement certificate
4. Finished 5th Form / Year 11 / Passed Leaving or Sub-senior certificate
5. Finished Matriculation, Higher School Certificate (H.S.C.), V.C.E., Year 12, or Senior Certificate
6. Finished Technical School / Commercial College / TAFE (including trade certificate) / other certificate or apprenticeship
7. Diploma from College of Advanced Education or TAFE (Not Degree), Tertiary or Management Training (including Diploma other than University Degree)
8. Degree from University or College of Advanced Education
9. Higher Degree or Higher Diploma (e.g. Ph.D, Masters)
99. Prefer not to say

[Single] [Ask all]

M2. Do you speak a language other than English at home?

1. Yes – I only speak a language other than English at home
2. Yes – I speak both English and another language at home
3. No – English only
99. Prefer not to say

[Single] [Ask all]

M3. Are you of Aboriginal and/or Torres Strait Islander origin?

    1. Yes – Aboriginal origin only

    2. Yes – Torres Strait Islander origin only

    3. Yes – both Aboriginal and Torres Strait Islander origin

    4. No

    99. Prefer not to say

[Single] [Ask all]

M4a. Please indicate your current approximate annual income from all sources before tax.
If you are not certain, please give your best estimate.

    1. Less than $6000

    2. $6,000 - $9,999

    3. $10,000 - $14,999

    4. $15,000 - $19,999

    5. $20,000 - $24,999

    6. $25,000 - $29,999

    7. $30,000 - $34,999

    8. $35,000 - $39,999

    9. $40,000 - $44,999

    10. $45,000 - $49,999

    11. $50,000 - $59,999

    12. $60,000 - $69,999

    13. $70,000 - $79,999

    14. $80,000 - $89,999

    15. $90,000 - $99,999

    16. $100,000 - $109,999

    17. $110,000 - $119,999

    18. $120,000 - $129,999

    19. $130,000 - $149,999

    20. $150,000 - $199,999

    21. $200,000 - $249,999

    22. $250,000 - $299,999

    23. $300,000 Or More

    98. Can't Say

    99. Prefer not to answer

[Single] [Ask if did not provide personal income (M4a=98-99)]
M4b. Could you please tell me whether your income would be over $50,000 or under $50,000 per annum?
    1. Under $50,000
    2. $50,000 Or More
      98. Can't Say
    99. Prefer not to answer

[Single] [Ask all]
M5. Please indicate your household's TOTAL approximate annual income from all sources before tax. *If you are not certain, please give your best estimate.*
    1. Less than $6000
    2. $6,000 - $9,999
    3. $10,000 - $14,999
    4. $15,000 - $19,999
    5. $20,000 - $24,999
    6. $25,000 - $29,999
    7. $30,000 - $34,999
    8. $35,000 - $39,999
    9. $40,000 - $44,999
    10. $45,000 - $49,999
    11. $50,000 - $59,999
    12. $60,000 - $69,999
    13. $70,000 - $79,999
    14. $80,000 - $89,999
    15. $90,000 - $99,999
    16. $100,000 - $109,999
    17. $110,000 - $119,999
    18. $120,000 - $129,999
    19. $130,000 - $149,999
    20. $150,000 - $199,999
    21. $200,000 - $249,999
    22. $250,000 - $299,999
    23. $300,000 Or More
    98. Can't Say
    99. Prefer not to answer

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