Consumer purchasing behaviour in the UK smartphone market for the CMA's Mobile Ecosystems Market Study

Final Report

June 2022

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Definitions used in the report

- **Marginal Users:** users that considered switching when purchasing a new smartphone but ultimately did not
- **Non-Considerers:** users that did not consider switching operating system when intending to buy a new smartphone
- **Non-Switchers:** users that did not switch operating system when purchasing a new smartphone – this group includes both Marginal Users and Non-Considerers
- **Switchers:** users that switched operating system when purchasing a new smartphone
- **OS:** Mobile Operating System

Executive Summary

Background

The Competition and Markets Authority (CMA) launched a market study over concerns that Apple and Google have too much control over operating systems (iOS and Android), app stores (App Store and Play Store), and web browsers (Safari and Chrome) that together form their 'ecosystems'.

This research was commissioned to develop a more in depth understanding of smartphone user purchasing behaviour in the UK smartphone market, with a particular focus on switching behaviour across smartphone brand/operating system.

Method

The method comprised a large scale quantitative survey supported by depth interviews with marginal users, that is considered switching operating system (OS) (ie between Apple and Android or between Android and Apple) but didn't.

The quantitative research method involved recruiting research participants via SMS message sent to a smartphone device following a Random Digit Dial (RDD) approach. This approach helped us to achieve a representative sample of UK smartphone users.

In the SMS messages, smartphone users were asked to complete an online survey by clicking on a survey link on their smartphone. 2,244 surveys were undertaken.

The quantitative approach was complemented with 20 in-depth qualitative interviews among marginal users.

Key Findings

- For Apple users the most mentioned factor in the decision to purchase the smartphone was brand (66%) with screen size and quality next (47%)
- For Android users the most mentioned factor in the decision to purchase the smartphone was screen size and quality (56%), closely followed by overall price (54%), camera (51%) and battery life (50%)
- App related factors were the least mentioned factors for both Apple and Android users
- A third got a new device in the last year
  - Satisfaction was high with the new device (highest for Apple's iPhones and Samsung's phones)
  - Marginal users were relatively dissatisfied with their current device

  - 90% of iOS users' previous phone was an iPhone (8% an Android phone, 1% a new phone purchaser)
  - 91% of Android users' previous phone was an Android phone (5% an Apple iPhone, 3% a new phone purchaser, 1% don't know).

- Other products used:
  - 83% of iOS users have at least one other Apple product
  - 75% of Android users **only** have non iOS products

- Marginal users:
  - 11% of Apple and 12% of Android non switchers considered switching – only a small proportion considered it very seriously (13% of marginal iOS users and 17% of Android marginal users)
  - the most frequently mentioned reason for not switching OS provided by iOS users who didn't switch was 'because I had other devices linked to my phone/OS' (51%) compared to 25% of equivalent Android users.
  - 64% of marginal users and 69% of non-considerers mentioned at least one Barrier To Switching (BTS) when asked why they didn't switch OS for their most recent smartphone purchase. App related barriers were relatively unimportant.

- Switchers:
  - 8% of iOS users switched from Android and 5% of Android phone users switched from iOS
  - Android⇨Apple switched because of better OS, higher quality brand and friends/family have iOS
  - Apple⇨Android switched because of value for money
  - There were high satisfaction ratings with the switching experience for those who did switch. However, 35% of Switchers were dissatisfied with at least one element of the switching journey
  - Satisfaction levels were high for most aspects of switching although there was some dissatisfaction with transferring data and music.

- Mobile apps behaviour and attitudes:
  - 96% of iOS users use the Apple App Store
  - 92% of Android users use the Google Play Store and 30% use alternative Android app stores with this increasing to 36% when considering sideloading[1]. 90% of Android users used the Google Play Store as their main way of accessing apps on their smartphone
  - 8% of iOS users and 6% of Android users used web apps

- Mobile apps means of payment:
  - 76% who spent money on their **gaming** apps on their smartphone in the last 12 months only spent this in the app on their phone/tablet
  - 51% who spent money on their **entertainment/TV** apps on their smartphone in the last 12 months only spent this in the app on their phone/tablet
  - 82% who spent money on their **music** apps on their smartphone in the last 12 months only spent this in the app on their phone/tablet.

[1] Ie Download an app directly from a website

1 Introduction

1.1 Background

The Competition and Markets Authority (CMA) launched a market study over concerns that Apple and Google have too much control over operating systems (iOS and Android), app stores (App Store and Play Store), and web browsers (Safari and Chrome) that together form their 'ecosystems'

This research was commissioned to develop a more in depth understanding of consumer purchasing behaviour in the UK mobile phone market, with a particular focus on switching behaviour across smartphone brand/operating system.

1.2 Objectives

The specific research objectives were:

- What factors influence users smartphone **purchase decision**?
  - Brand, price, operating system (OS), range, quality and price of mobile apps available on that device?
- What are users' **expectations and perceptions** about switching mobile device brand/OS?
  - Incidence of consideration to switching when purchasing.
- What are the **factors which motivate** UK smartphone owners to consider switching smartphone brand/OS for their next purchase?
  - Are range, quality and price of mobile apps considered?
- What are the **key barriers** preventing UK smartphone owners from considering switching smartphone brand/OS?
  - Incidence and direction of switching smartphone/OS in most recent purchase

Switchers

- What was the experience of switching smartphone brand/OS like?
  - Did this impact use of mobile apps and any digital services/subscriptions bought through mobile app stores?
- How satisfied/dissatisfied are UK smartphone owners who switched smartphone brand/OS with their switching experience and why?
  - How did this vary by the direction of the switch (iOS-Android/Android-iOS)?

Accent conforms to the requirements of ISO20252:2012.

2 METHODOLOGY

2.1 Introduction

For the quantitative research our method involved recruiting research participants via SMS message sent to a smartphone device following a Random Digit Dial (RDD) approach. This approach helped us achieve a representative sample of UK smartphone users.

In the SMS messages, users were asked to complete an online survey by clicking on a survey link on their smartphone.

This method was seen as particularly suitable given the research topic. This approach was also seen as useful in facilitating responses from younger users, which can be a challenge when more traditional survey methodologies are adopted such as CATI. As the survey is targeting smartphone users, there were no concerns that this approach excludes UK users who do not have a mobile phone.

The sample comprised users that purchased their personal smartphone (used or new) or were gifted and chose the device (used or new).

The quantitative approach was complemented with more in-depth qualitative interviews among UK users who considered switching OS (ie between Apple and Android or between Android and Apple) but didn't.

Details on both the quantitative and qualitative methods are provided below.

2.2 Quantitative method

We purchased mobile phone sample to recruit participants following the principles of Random Digit Dialling (RDD). However, rather than receiving a phone call, text messages were sent to UK users of mobile phones.

The text messages were issued and administered by Accent using Text Marketer software (https://www.textmarketer.co.uk/). Text Marketer provides a web-based SMS platform that allows for bulk issuing of SMS.

Accent created the text message invitation and issued the invites which included a unique link to our online survey.

One limitation of the approach is that one cannot select sample based on demographic factors or geography, because there is no information provided on the mobile phone owner nor a regional numbering system. Therefore, a purely random sampling approach was adopted.

Incentivising response

For the main stage participants were offered a £10 voucher for completing the survey (with some offered a £15 voucher at the final reminder stage).

We tested the response rate in the pilot survey by testing different incentive sizes and different text message content.

Questionnaire

The questionnaire was designed to last about 10 minutes and covered the following topic areas:

- Scoping
- Factors that influence smartphone purchase
- Device ownership and purchase
- Other products used
- Mobile apps behaviour and attitudes
- Confidence in using smartphones
- Classification questions.

A copy of the questionnaire is included as Appendix A.

Invites and response

SMS invites were sent in four tranches. For each tranche two or three reminders were sent to non-responders. Table 1 provides a summary of the dates each tranche and reminder was sent and the number of complete interviews yielded at each stage.

Table 1: summary of SMS invites and reminders showing dates and completed interviews for each stage

	Initial tranche 5K	2nd tranche 35K	3rd tranche 20K	4th tranche 5,750
Initial Invite	28/03/2022	28/03/2022	29/03/2022	04/04/2022
	52	352	118	40
reminder	29/03/2022	30/03/2022	30/03/2022	05/04/2022
	43	331	164	57
2nd reminder	30/03/2022	01/04/2022	01/04/2022	06/04/2022
	70	241	100	41
Final Reminder £10		03/04/2022	03/04/2022	07/04/2022
		200	215	3
Final Reminder £15		08/04/2022		08/04/2022
		203		14
Final completes	165	1327	597	155

On 28 March 5,000 SMS invites were sent using the same approach as for the best performing approach used in the pilot. We also followed the pilot learnings such as that

the morning is not a good time to send, that two hours either side of 17:30 is a good time to send midweek, that late morning is best at the weekend.

Initial invite

£10 for your opinions as part of an important investigation by the UK Government's Competition and Markets Authority into the mobile phone market. £10 to complete this 10 minute survey HTTPS://SECURE2.ACCENT-MR.COM/D8/3538.ASPX?URN=####. This is a genuine UK Government survey and your opinions really matter to us. For more information about this case: https://www.gov.uk/cma-cases/mobile-ecosystems-market-study. To opt out text RGXX to 88802

We had found little benefit in the pilot of delaying the reminders more than 24 hours past the previous invitation so sent reminders on the 29th and 30th March.

Reminder

Just a gentle reminder to please help with this important Government investigation, if you possibly can. £10 voucher for completing the survey. Please be assured this is not a scam or phishing exercise. To opt out text RGXX to 88802. HTTPS://SECURE2.ACCENT-MR.COM/D8/3538.ASPX?URN=DUMM

For this first tranche the response rates from both the initial invitation, reminder, and final reminder, were lower than in the pilot. Invite volumes were low, though, so for the second large tranche of c35k we used the same approach. After the first reminder it was clear that the interview rates coming from the invites were still suppressed, so we (knowing that the 'final' reminder was both for the pilot and the Initial 5k by far the most effective SMS and therefore inadvisable to alter) decided, in consultation with the CMA, to add a second reminder in between the first and the final SMS.

The second reminder adopted was a new text that aimed to reassure participants as to the validity of the research, and to do that it either asked participants to email the CMA for verification, or to search for their website and check there. There was no clear difference between the two, but with the email version performing marginally better it was decided to adopt the email version.

Version A

Please do contact the Competition & Markets Authority on MobileEcosystems@cma.gov.uk, if you have any doubt over the validity of this study – it's vital that as wide a range of people take part as possible. Still £10 incentive, under 10 mins to complete HTTPS://SECURE2.ACCENT-MR.COM/D8/3538.ASPX?URN=####

Version B

Please contact the Competition & Markets Authority (contact details available on their website), if you have any doubt over the validity of this study – it's vital that as wide a range of people take part as possible. Still £10 incentive, under 10 mins to complete HTTPS://SECURE2.ACCENT-MR.COM/D8/3538.ASPX?URN=####

This second reminder had the worst response rate of all the SMSs, and it impacted on the effectiveness of the final reminder – but crucially the combined result was a net increase in the response rate and so this approach was adopted wholesale from that point.

On 3 April we sent final reminders to roughly half the remaining live records.

The other half were sent to our telephone unit, for us to phone and try to persuade the participant to take part. This was ineffective – we spoke to 109 participants of which 12 advised us that they would complete – however none of them did complete.

As a final attempt to increase response rates, we tested two versions of the final reminder: one that did not mention the incentive again and one that increased it to £15. The results of the test was that the £15 version was marginally better than the baseline so we adopted that approach for the final tranche of reminders.

Version A

Final request to please assist with the CMA survey if you can. If not that's fine – we won't message again. HTTPS://SECURE2.ACCENT-MR.COM/D8/3538.ASPX?URN=####

Version B

Final request to please assist with the CMA survey if you can. Now £15 if you complete. If not that's fine – we won't message again. HTTPS://SECURE2.ACCENT-MR.COM/D8/3538.ASPX?URN=####

A summary of the numbers of SMS sent out for each wave and the interview rates for the main stage and pilot are shown in Table 2.

Table 2: Summary of numbers of invites sent and interview rate by stage

	Main	Pilot
Number delivered	59,561	895
Initial Interviews	562	16
Initial Interview Rate	0.94%	1.79%
Number Reminded	58,948	877
Reminder Interviews	595	14
Reminder Interview Rate	1.01%	1.60%
Number Reminded 2	52,603	818
Post reminder 2 Interviews	382	17
2nd reminder Interview rate	0.73%	2.08%
Number Final Reminded £10	38,068	
Post final reminder £10 Interviews	488	
Final reminder £10 Interview rate	1.28%	
Number Final Reminded £15	13,404	
Post final reminder Interviews £15	217	
Final reminder Interview £15 rate	1.62%	
Total Interviews	**2,244**	**47**
Overall Interview rate	**3.77%**	**5.25%**

Scoping

Not all who responded to the link in the SMS text were in scope for the survey. We excluded the following:

- 305 at Q1 (as they did not accept the privacy statement)
- 101 at Q2 as they were aged under 18
- 35 at Q3 as they did not have a smartphone for personal use
- 43 at Q4 as their smartphone was provided by their employer
- 148 at Q4b they did not choose the smartphone that was gifted to them.

Response rate

The effective response rate of 4.72% was calculated as follows (in line with the approach adopted on previous CMA cases):

	Sample outcome	Final total	Notes
A	Starting sample	65,375	Mobile RDD, total number purchased
B	Fresh (sample not called)	0	We sent the SMS to all
C	Effective starting sample (A-B)	65,375	Auto calculation
D	Unusable records, e.g. unobtainables, business numbers	5,814	This is the number the SMS delivery reports say were not delivered
E	Usable leads (C-D)	59,561	Auto calculation
Ei	Non-smartphone %age	0.09	Manually added[2]
Eii	Adjusted Usable Leads (E*(1-Ei))	54,201	Auto calculation
F	Answered		
G	- Of which interview completed	2244	Self explanatory
H	- Of which eligible survey leavers	143	Q5B answered (i.e. successfully got past screening) but not complete
I	- Of which ineligible survey leavers	326	routed out at Q2-Q4b
J	- Of which refused	300	This is Q1 – drop out at privacy question
K	Incidence rate (G+H) / (G+H+I)	0.880	Auto calculation
L	No answer	52,726	Calculated as Eii-G-H-I-J
M	Estimated "No answer" ineligible leads (L x IR%)	6,336	Assumes IR of "no answers" would have been eligible to participate IF they had answered the SMS and been screened
N	Estimated "Refused" ineligible leads (J x IR%)	36	Assumes IR of "refused" would have been eligible to participate IF they had answered the SMS and been screened
O	Total estimated eligible respondents (Eii – (I+M+N))	47,503	
P	Response rate (G/O)	4.72%	IA/eligible
Q	Refusal rate (J/F)	10%	

[2] This calculation includes an adjustment of 9% of the sample of mobile phone numbers being ineligible as feature phones (based on data from OFCOM Adult Media Literacy Core Survey 2021 - 16TH October - 13TH December 2021). Otherwise, the response rate would be 4.29%

2.3 Cognitive testing of survey materials

Before launching the pilot survey the draft questionnaire was cognitively tested.

Ten cognitive interviews were conducted using an online platform (eg Microsoft Teams or Zoom) allowing for screen sharing between interviewer and participant. The interviewer opened the programmed survey and then shared their screen with the interview participant to allow interviewer and participant to view the same screen at the same time. The interviewer handed over control of the screen to the participant, so they could complete the survey as if they were completing it for real. This mimics the survey mode to ensure it is tested effectively, including ease of navigating through the survey, use of 'more information' buttons etc.

A cognitive interview discussion guide was agreed with the CMA in advance of the interviews and the interviewer followed up on key sections of the survey to probe how the participant made certain choices, what they understood the question was asking and clarification of supporting information where required. The questionnaire was programmed in a way that the interviewer could easily navigate back to a specific question to follow up with the participant. We used a 'read aloud' approach whereby participants were asked to verbalise their thought process as they reviewed and responded to the survey questions. This helped uncover areas of misunderstanding or uncertainty as well as further context behind users' decision-making.

The sample for the cognitive interviews was as follows:

Gender		Social Grade		Age			
Male	Female	ABC1	C2DE	18-24	25-34	35-44	45+
5	5	5	5	2	2	3	3

For six their current smartphone operating system was iOS and for four Android.

Overall, participants perceived the survey as easy to complete and an acceptable length. However, some additional explanations were required during the cognitive interviews, which are detailed below. While these usually would not have prevented the participant from completing the interview they could potentially affect the quality of the responses (ie the response selected may be for a different reason that that intended by the survey design).

These cognitive interviews did reveal users found the questions on mobile app behaviours more complex and challenging to answer and a number of changes were made to the questions in this section for mainstage fieldwork. Whilst we are confident these changes improved the quality of responses, the complexity of the questions asked in this section has been taken into account in the CMA's interpretation of this data and how it informs its wider market study assessment.

A copy of the report on the cognitive interviews is included as Appendix D.

2.4 Survey pilot

A pilot of the survey was undertaken. This tested 10 options of the initial SMS text and two incentive amounts. Different levels on incentive were also tested for the reminders (eg some who received an initial invite mentioning a £5 incentive also got a £5 incentive mentioned in the reminder and some got a £10 incentive mentioned in the reminder).

Overall, there were 126 completed surveys against a target of 100.

The main recommendation from the pilot was that all participants were sent the following initial SMS:

- £10 for your opinions as part of an important investigation by the UK Government's Competition and Markets Authority into the mobile phone market. £10 to complete this 10 minute survey HTTPS://SECURE2.ACCENT-MR.COM/D8/3538.ASPX?URN=DUMM. This is a genuine UK Government survey and your opinions really matter to us. For more information about this case: https://www.gov.uk/cma-cases/mobile-ecosystems-market-study

With two reminders as required

- Just a gentle reminder to please help with this important Government investigation, if you possibly can. £10 voucher for completing the survey. Please be assured this is not a scam or phishing exercise. To opt out text RGXX to 88802. HTTPS://SECURE2.ACCENT-MR.COM/D8/3538.ASPX?URN=DUMM

Second reminder:

- Final request to please assist with the CMA survey if you can. If not that's fine – we won't message again. HTTPS://SECURE2.ACCENT-MR.COM/D8/3538.ASPX?URN=DUMM

Overall the questionnaire worked well and was unchanged based on the results of the pilot[3].

A report on the pilot is included as Appendix C.

2.5 Qualitative research

In parallel with the main quantitative study 20 depths were undertaken. The qualitative research was conducted with in-scope marginal users who had completed the main survey, ie those who considered switching from iOS to Android or vice versa and then decided not to do so.

The qualitative research aimed to understand more about that journey/decision making process.

[3] A decision not to progress with a variation of Q5 was made in advance of seeing any pilot responses

Recruitment was from in scope participants (ie considered switching OS but didn't) identified in the quantitative research who indicated they were prepared to undertake a depth.

The sample was split between those who were currently using iOS and Android smartphones.

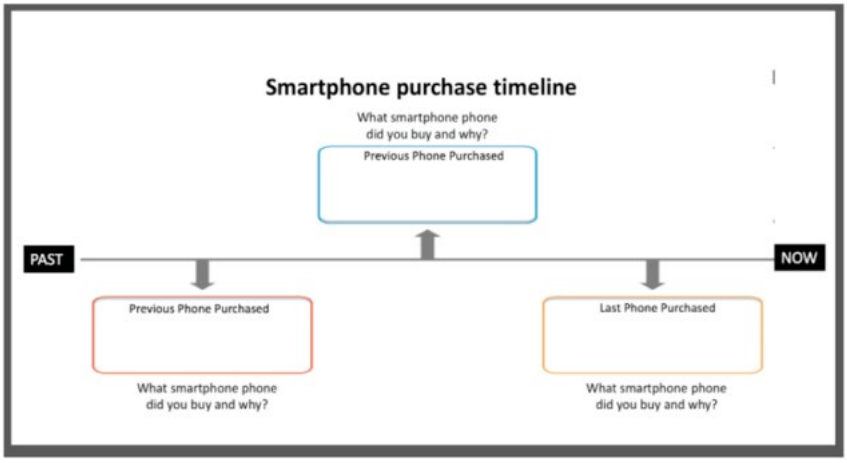
A two-stage methodology was used, involving individual tasks on an online platform (LiveMinds) followed by Individual Depth Interviews by telephone or on Zoom.

Stage 1: Pre-work on LiveMinds

Smartphone users were tasked with the following:

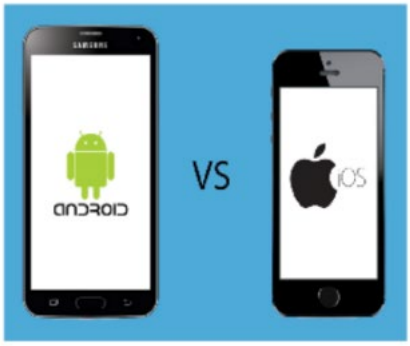
Purchase timeline

We asked participants to complete a retrospective diary of their purchase experience, which contextualised them back in the switching experience and facilitated recollection of their perceptions, experience and behaviours. This was completed via an online platform, LiveMinds, and participants were encouraged to share images for example screen shots of apps that proved difficult in the transition.



iOS v Android choice

We asked participants to reflect upon their smartphone purchase and why they considered the other OS.



Why did you consider Android? Why did you consider iPhone?

Stage 2: Depths

The Zoom depths or telephone calls, were designed to:

- Understand when and why they considered switching; at what stage and for what reasons they decided not to do so: exploring all the contributing factors.
- Explore the push and pull factors that drove them to consider switching and ultimately drove them to stay.
- Get a sense of the extent to which an OS switch is considered an upgrade/downgrade and the impact of this.
- Understand what role the access to and price of apps played in their decision-making.

The interviews lasted around 45 minutes. A topic guide for the depth interviews was created in collaboration with the CMA. See Appendix B.

3 FINDINGS

3.1 Introduction

This chapter sets out the findings from the research. There are 2,244 responses overall. Where sample sizes for specific categories are less than 100 we show numbers and not percentages in line with CMA good practice guidance on surveys[4].

The chapter is split into the following sections:

- Demographics
- Factors that influence smartphone purchase
- Device ownership and purchase
- Confidence in using smartphones
- Other products used
- Whether Considered Switching
- Reasons for not considering switching and not switching
- Switchers
- Mobile apps behaviour and attitudes.

Differences in results with are statistically significant at the 95% confidence level are referred to in the text as significant.

3.2 Demographics

This section sets out the demographics for the sample covering age, gender, household income and UK region.

Overall, the sample is representative of UK smartphone users in line with OFCOM data[5] and the UK adult population[6] where relevant

Age

Figure 1 shows the age profile of the iOS[7] and Android samples compared to Census data. The smartphone market tends to be a little younger than the adult UK population as expected.

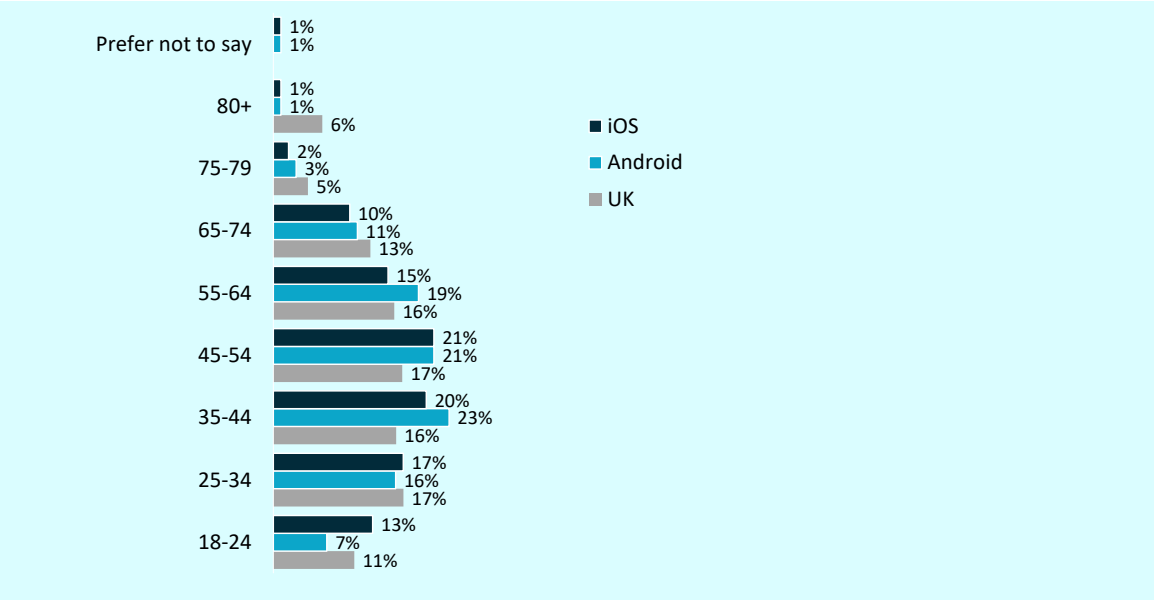
[4] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/708169/Survey_good_practice.pdf

[5] OFCOM Adult Media Literacy Core Survey 2021 - 16TH October - 13TH December 2021

[6] Census 2011

[7] In this report we use Apple and iOS interchangeably given Apple smartphones run on iOS

Figure 1: How old are you?



Base: iOS 1299, Android 945

In Table 3 we show the age breakdown for the survey sample compared to the OFCOM[8] data and the Census. The survey quite closely matches the OFCOM data.

Table 3: Age for sample compared to OFCOM and Census

	Survey %	OFCOM* %	Census
18-24	10	12	11
25-34	16	20	17
35-44	21	21	16
45-54	21	19	17
55-64	17	14	16
65+	14	15	24
Base	**2,244**	**2,331**	

* reweighted to exclude 16 and 17 year olds

Analysis of age group by some of the key categories for this research: OS switchers v non switchers and marginal users (those who considered switching but did not) and non-considerers is shown in Table 4. Marginal users tend to be younger than non-considerers. Switchers are also younger than non-switchers.

[8] OFCOM Adult Media Literacy Core Survey 2021 - 16TH October - 13TH December 2021

Table 4: Age by whether switched or considered switching

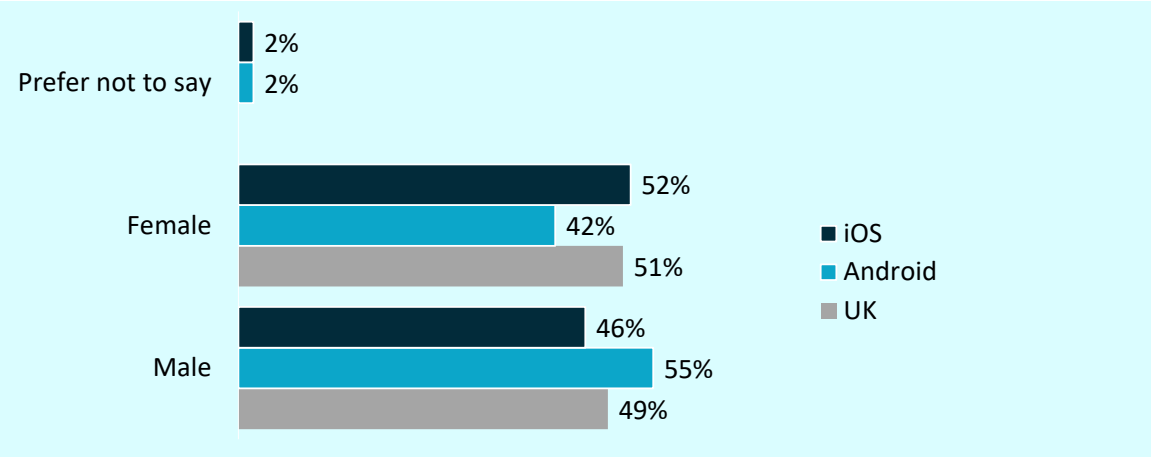
	Switchers	Non-switchers	Marginal users	Non considerers
18-24	20%	10%	11%	9%
25-34	18%	17%	24%	15%
35-44	19%	22%	19%	22%
45-54	20%	21%	20%	21%
55-64	11%	17%	16%	17%
65-74	10%	10%	6%	10%
75-79	2%	2%	2%	3%
80+	1%	1%	0%	1%
Base	**153**	**2,025**	**244**	**1,810**

Green shaded boxes significantly higher than orange shaded boxes for each category

Gender

Figure 2 shows the gender profile of the iOS and Android samples compared to Census data. Android users are more likely to be male than iOS users and the UK population.

Figure 2: Gender



Base: Apple 1299, Android 945

In Table 5 we show the gender split for the survey sample compared to the OFCOM[9] data and the Census. The survey quite closely matches both the OFCOM data and the Census data.

Table 5: Gender for sample compared to OFCOM and Census

	Survey %	OFCOM %	Census
Male	50	48	49
Female	48	51	51
Base	**2,244**	**2,331**	

[9] OFCOM Adult Media Literacy Core Survey 2021 - 16TH October - 13TH December 2021

Analysis of gender by OS switchers v non switchers and marginal users v non-considerers is shown in Table 6. Switchers are less likely to be male than non-switchers. Marginal users are more likely to be male than non-considerers.

Table 6: Gender by whether switched or considered switching

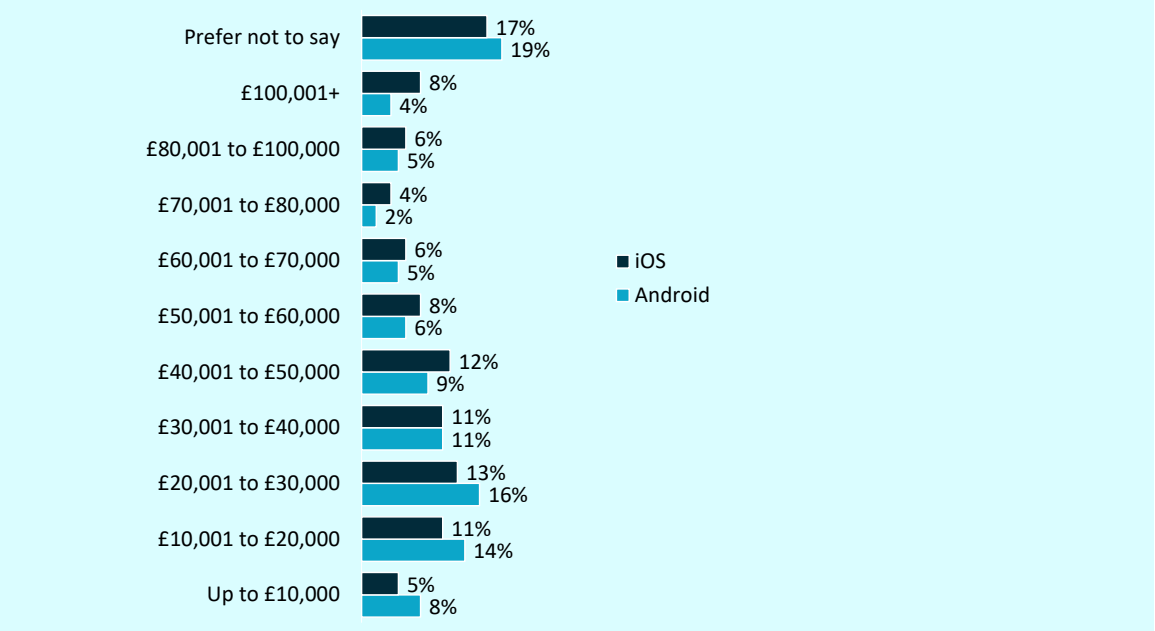
	Switchers	Non-switchers	Marginal users	Non considerers
Male	41%	50%	61%	49%
Female	54%	48%	36%	49%
Prefer not to say	5%	2%	2%	2%
Base	**153**	**2,025**	**244**	**1,810**

Green shaded boxes significantly higher than orange shaded boxes for each category

Household income

Figure 3 shows the total household income per year for the iOS and Android samples. iOS users tend to have higher household incomes than Android users.

Figure 3: How much is your total household income per year from all sources, before tax and other deductions but including any benefits/allowances?



Base: iOS 1299, Android 943

Analysis of total household income per year by whether iOS or Android, OS switchers v non switchers and marginal users v non-considerers is shown in Table 7.

As noted before iOS users are significantly more likely to have higher incomes than Android smartphone users.

Switchers have lower household incomes than non-switchers. Marginal users are similar to non-considerers with respect to household incomes.

Table 7: total household income per year by mobile OS, whether switched or considered switching (after excluding prefer not to say)

	iOS	Android	Switchers	Non-switchers	Marginal users	Non considerers
Under £20,000	19%	28%	27%	22%	25%	22%
£20,001- £40,000	29%	33%	40%	31%	30%	30%
£40,001- £70,000	31%	25%	24%	29%	30%	29%
£70,001+	21%	14%	10%	19%	16%	19%
Base	**1,082**	**766**	**124**	**1,680**	**206**	**1,497**

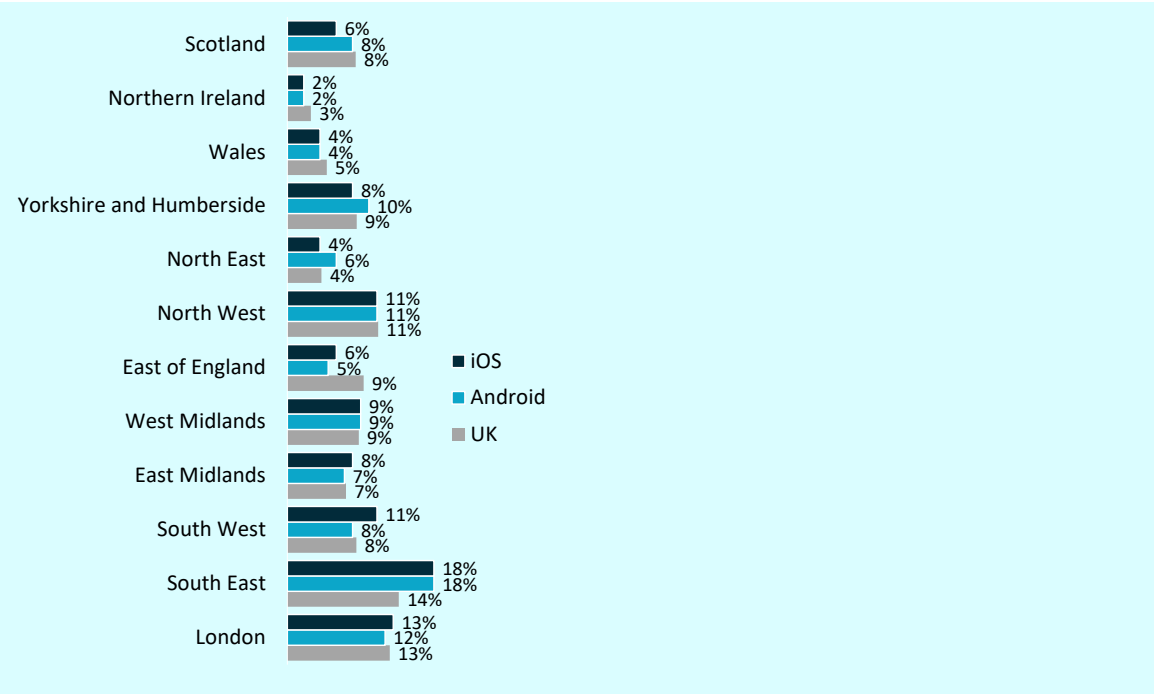
Green shaded boxes significantly higher than orange shaded boxes for each category

UK Region

Figure 4 shows the UK region for the iOS and Android samples compared to the Census.

Overall, there is a close match to UK regions with the main discrepancy being more iOS and Android users in the South East.

Figure 4: Which area do you live in?



Base: iOS 1299, Android 943

3.3 Factors that influence smartphone purchase

The sample was asked which factors (up to five) were important in their decision to choose their current smartphone and then asked which was the most important, the second most important and third most important.

The factors included were:

- Overall price
- Brand (eg Apple, Samsung)
- Operating system (The operating system (OS) is the pre-installed system software powering mobile devices. Examples are Apple iOS and Google Android)
- Camera
- Product design (eg the look of the phone)
- Screen size and quality
- Battery life
- Other product features (eg, speed, 5G capability, face/fingerprint recognition etc)
- Security and privacy
- Compatibility with other personal smart devices (for example, smart watches, headphones, etc)
- Range and quality of mobile apps available on the device
- Price of subscriptions/content for apps available on the device
- Other.

The order of the factors in the questionnaire was randomised.

All factors were significantly different between the two operating systems except 'operating system', 'other product features', 'the range and quality of mobile apps available on the device' and 'price of subscriptions/content for apps available on the device'.

The most notable differences by operating system were:

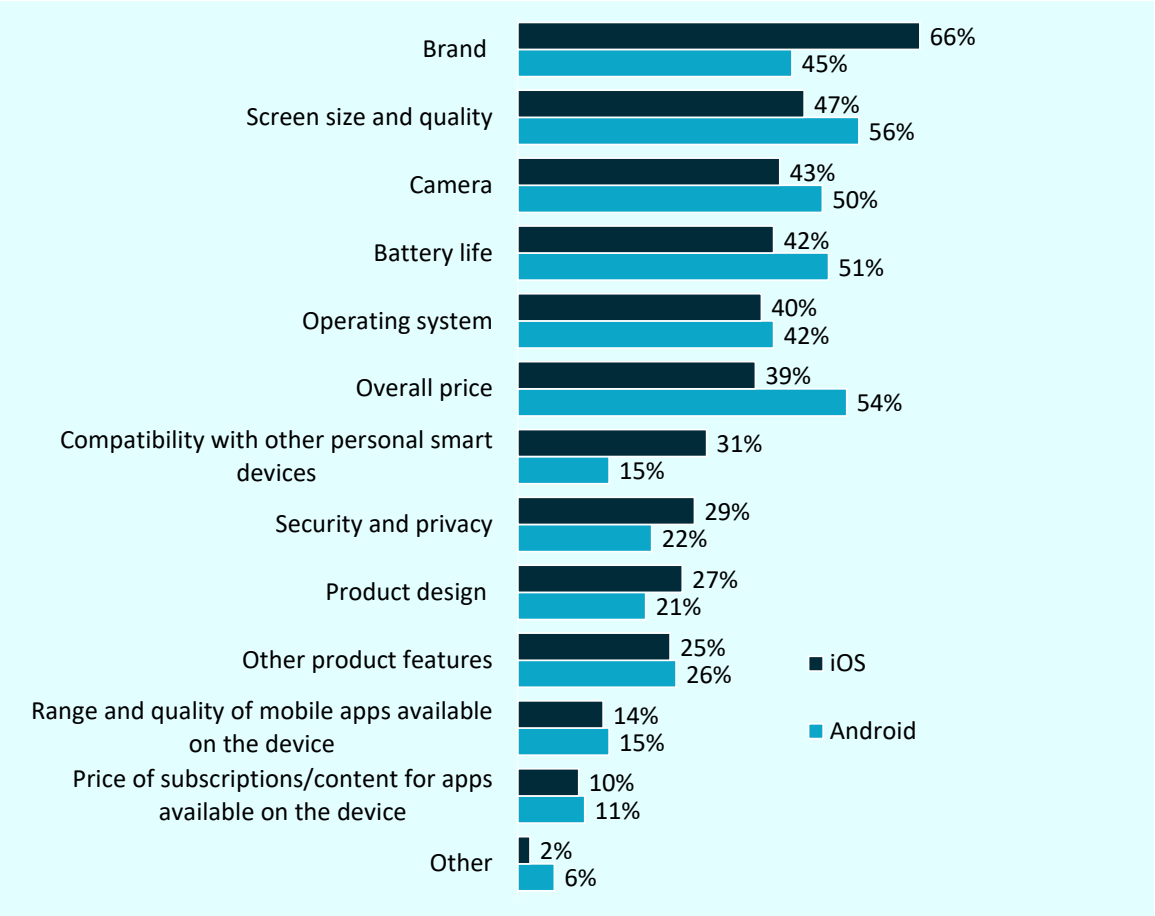
- For iOS, brand was by far the most mentioned factor (66% compared to 45% for Android). Screen size and quality was the next most mentioned, although a smaller proportion mentioned this than for Android (47% compared to 56%)

- For Android, screen size and quality (56%) was the most mentioned factor, closely followed by overall price (54%), battery life (51%) and camera (50%): all four significantly higher for Android than iOS.

Compatibility with personal smart devices was twice as important for iOS than Android: 31% v 15%.

The range and quality of mobile apps available on the device and price of subscriptions/content for apps available on the device were the least mentioned factors across both operating systems.

Figure 5: What factors were important in your decision to buy/choose* your current smartphone?



Base: iOS 1299, Android 945, *If gifted

For those who considered switching, brand and compatibility with other devices was significantly **less** important than those who didn't (43% v 61% and 19% v 25% respectively) and screen size and quality was significantly **more** important than those who didn't (58% v 50%). See Table 8.

Table 8: What factors were important in your decision to buy/choose* your current smartphone by whether Marginal user or non-considerer

	Marginal users %	Non considerers %
Brand	43	61
Screen size and quality	58	50
Camera	48	45
Battery life	51	45
Overall price	46	45
Operating system	39	41
Other product features	30	25
Security and privacy	30	25
Product design	25	25
Compatibility with other personal smart devices	19	25
Range and quality of mobile apps available on the device	15	14
Price of subscriptions/content for apps available on the device	10	10
Other	4	4
Base (Marginal users and non-considerers)	**244**	**1,810**

*If gifted

Green shaded boxes significantly higher than orange shaded boxes for each category

Ranked factors

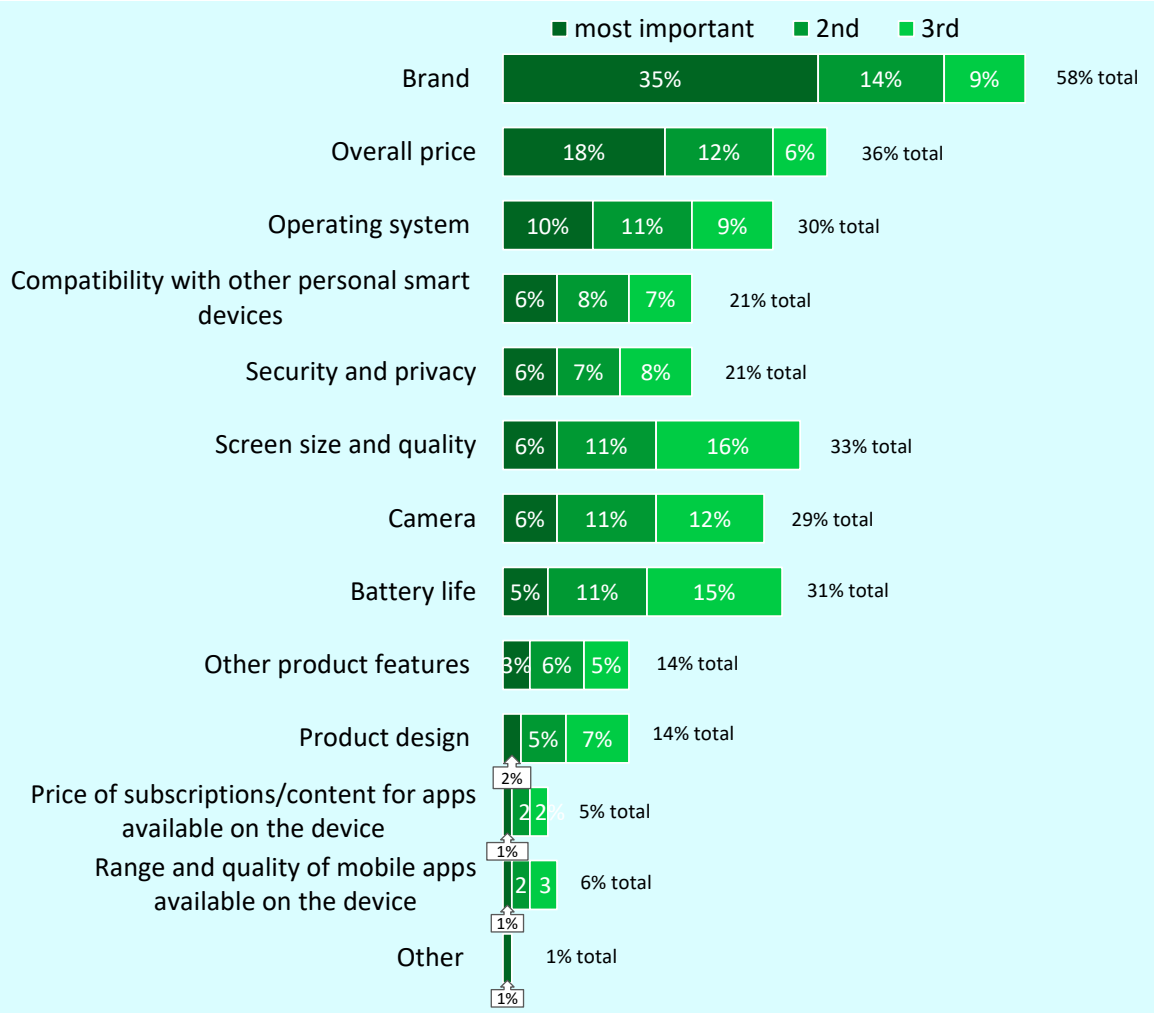
Participants who chose two or more factors were then asked which one of these was the most important, which was the second most important[10] and the third most important[11].

When the factors were ranked brand remained most important factor for the iOS sample and overall price became the most important for the Android sample. See Figure 6 for the iOS sample and Figure 7 for the Android sample.

[10] If three or more factors chosen

[11] If four or more factors chosen

Figure 6: Factors ranked for iOS

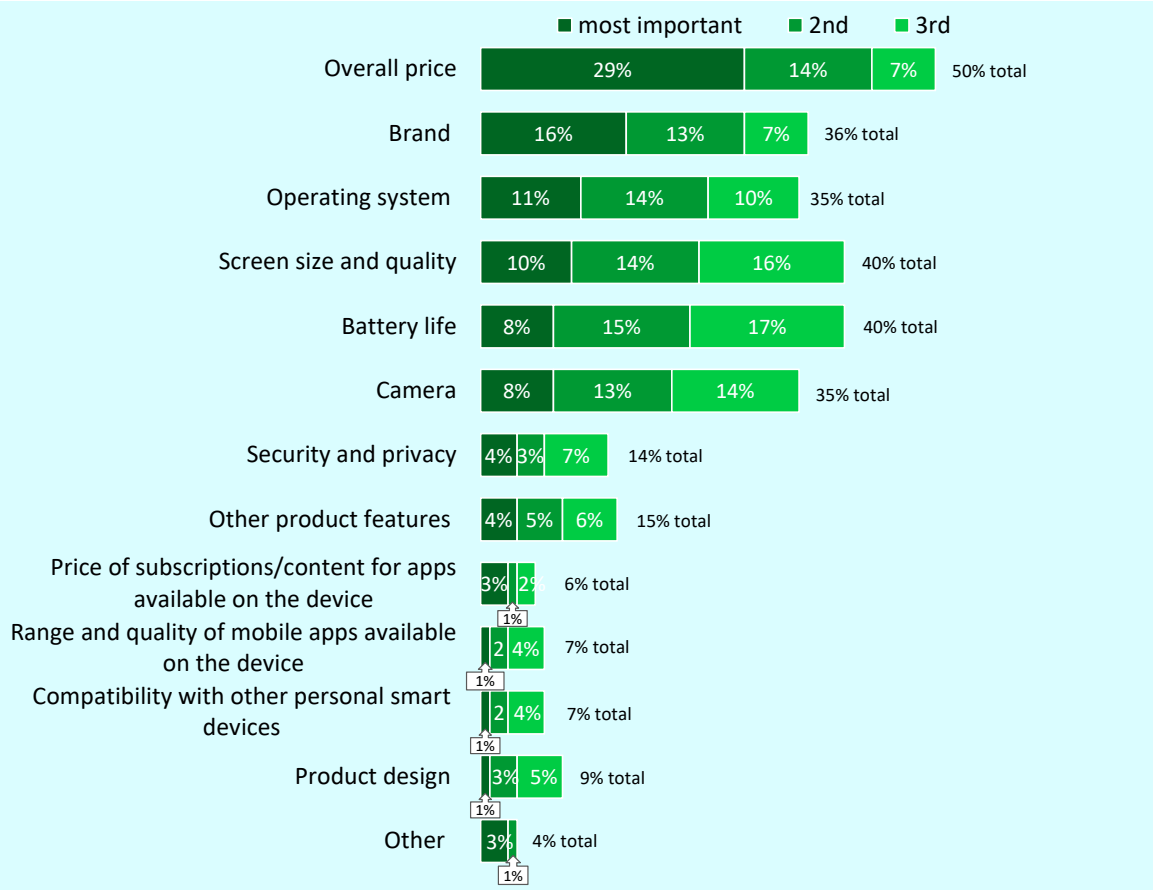


Base: iOS 1299

For iOS, 35% said brand was the most important factor with 14% 2nd and 9% third. Overall price was chosen as most important by 18% and operating system by 10%.

App related features were the two least important factors.

Figure 7: Factors ranked for Android



Base: Android 945

For the Android sample, 29% said overall price was most important factor (14% said it was 2nd and 7% 3rd). Battery life was most important for 16% and operating system for 11%.

Product design, compatibility with other personal Smart home devices and App related features were the least important factors.

For those who considered switching, brand was significantly **less** important than those who didn't (30% v 15%) and battery life and screen size and quality were significantly **more** important than those who didn't (11% v 5% and 10% v 7% respectively). See Table 9.

Table 9: Most important factor in your decision to buy/choose* your current smartphone by whether Marginal user or non-considerer

	Marginal users %	Non considerers %
Overall price	26	23
Brand	15	30
Battery life	11	5
Operating system	10	11
Screen size and quality	10	7
Camera	9	7
Security and privacy	6	5
Other product features	5	3
Compatibility with other personal smart devices	3	4
Product design	2	2
Range and quality of mobile apps available on the device	2	1
Price of subscriptions/content for apps available on the device	1	2
Other	0	2
Base (Marginal users and non-considerers)	**244**	**1,810**

*If gifted

Green shaded boxes significantly higher than orange shaded boxes for each category

3.4 Device ownership and purchase

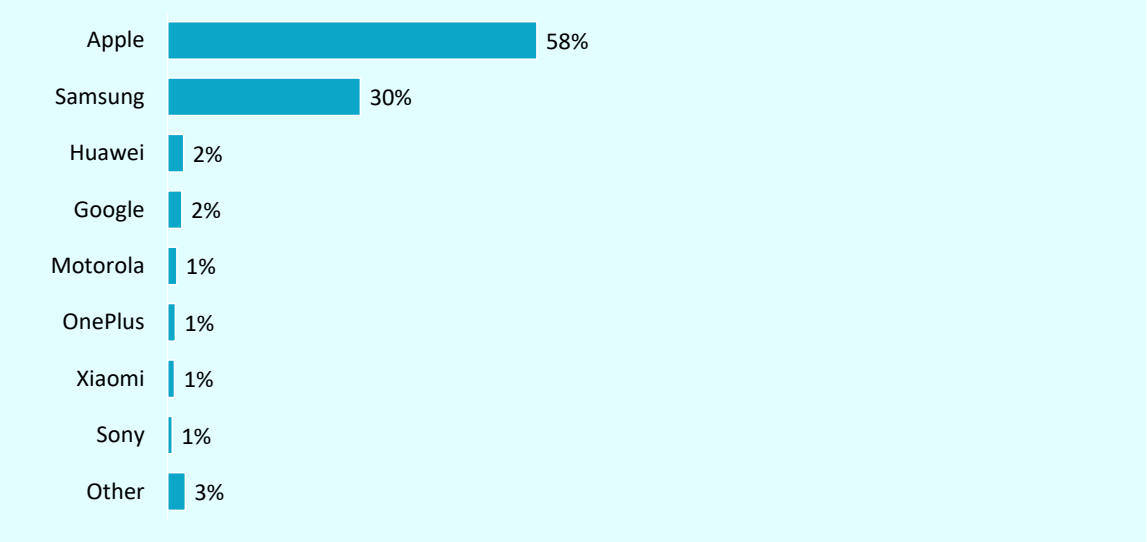
Brand

Participants were asked which of the following smartphone brands was their current personal smartphone. If they had more than one they were asked to answer about the one they used most:

- Apple
- Samsung
- Huawei
- Google
- Nokia
- Sony
- LG
- Motorola
- Blackberry
- Honor
- HTC
- OnePlus
- Alcatel
- Xiaomi
- Oppo
- Asus
- Other.

For 58% an iPhone was their personal smartphone and for 30% a Samsung smartphone. No other brand was mentioned by more than 2%. See Figure 8.

Figure 8: Which of the following smartphone brands is your current personal smartphone



Base: 2,244

Participants were also asked to provide the overall price of their smartphone when they got it and the table below shows the price range by brand.

Table 10: Which of the following smartphone brands is your current personal smartphone by cost band

	£300 or less %	£301-600 %	£601-900 %	£900+ %
Apple	31	56	71	74
Samsung	42	29	25	25
Huawei	5	3	1	*
Google	2	4	2	*
Motorola	6	*		*
OnePlus	1	3	*	*
Xiaomi	4	1		
Sony	2	1	1	
Oppo	1	1	*	
Honor	1	*	*	
Alcatel	1	*		
Nokia	1	*		
LG		*		*
Asus	*		*	
Blackberry			*	
Other	3	1		
Base	**485**	**587**	**547**	**423**

* = less than 0.5%

Mobile Operating System

Participants were then asked if they knew what the mobile operating system of their current personal smartphone was? The question said: *"iOS is the operating system for Apple iPhones and Android is the operating system for almost all other smartphones such as Samsung, LG, Oppo, Google Pixel, OnePlus and Motorola"*.

Overall, 97% who said their phone was Apple said iOS. 1% said Android and 2% said 'no'. Those who said 'Android' or 'no' were told "As it is an Apple phone we think it is iOS. Do you agree?" 94% did so.

Overall, 95% who said their phone was not Apple said Android. 2% said iOS and 1% said other and 2% said 'no'. Those who didn't agree were allocated to Android. Those who said 'Android' or 'no' were told "As it is an Apple phone we think it is iOS. Do you agree?" 95% did so. Those who didn't agree were allocated to iOS.

The overall sample was allocated as 58% iOS, 42% Android.

Cost

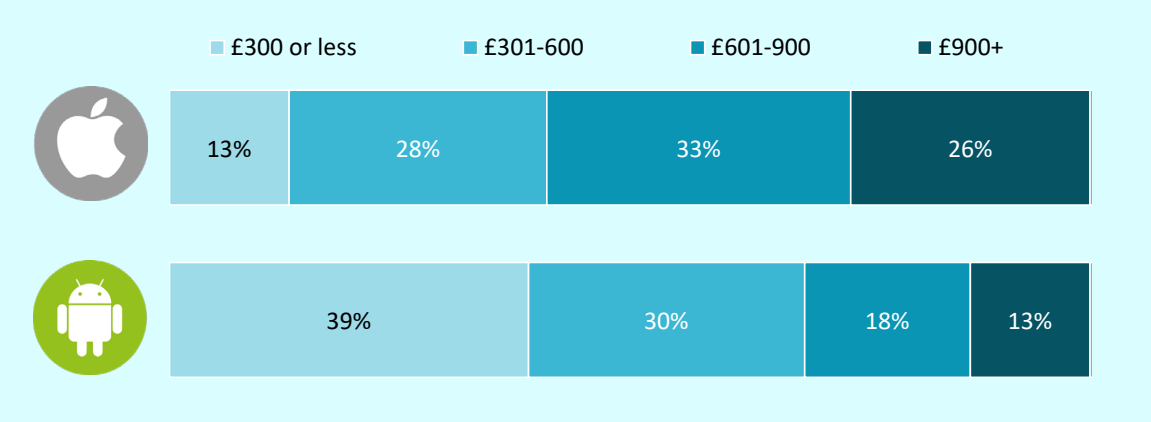
Participants were asked what was the overall price of their smartphone when they got it. They were told that if they purchased it as part of a pay monthly contract, to estimate the cost of the smartphone if you are able to. The costs were self-reported.

iPhones are significantly more expensive than Android phones:

- 13% of iPhones £300 or less, significantly less than the 39% for Android
- 33% of iPhones £601-£900, significantly more than 18% for Android
- 26% of iPhones over £900, significantly more than 13% for Android

Figure 9 shows the cost banded into £300s for iOS and Android. The full breakdown of costs by the total sample and operating system is shown in Table 11.

Figure 9: What was the overall price of this smartphone when you got it by OS and bands



Base: iOS 1175, Android 867 who provided a price

Table 11: What was the overall price of this smartphone when you got it?

	Total %	iOS %	Android %
£0-100	4	2	6
£101-200	8	3	16
£201-300	9	6	14
£301-400	9	8	12
£401-500	8	9	8
£501-600	8	9	8
£601-700	8	10	6
£701-800	10	12	6
£801-900	7	8	5
£901-1000	8	10	4
£1000+	11	14	7
Don't know	9	10	8
Base	**2,244**	**1,299**	**945**

Green shaded boxes significantly higher than orange shaded boxes for each category

There was little difference in the cost of smartphone by whether considered switching or not. However, those who did switch were significantly less likely to buy phones costing less than £300 phones and significantly more likely to buy phones costing £301-£600. Satisfaction with current phone is significantly higher with more expensive models. See Table 12.

Table 12: What was the overall price of this smartphone when you got it by whether switched, satisfaction with smartphone and whether considered switching

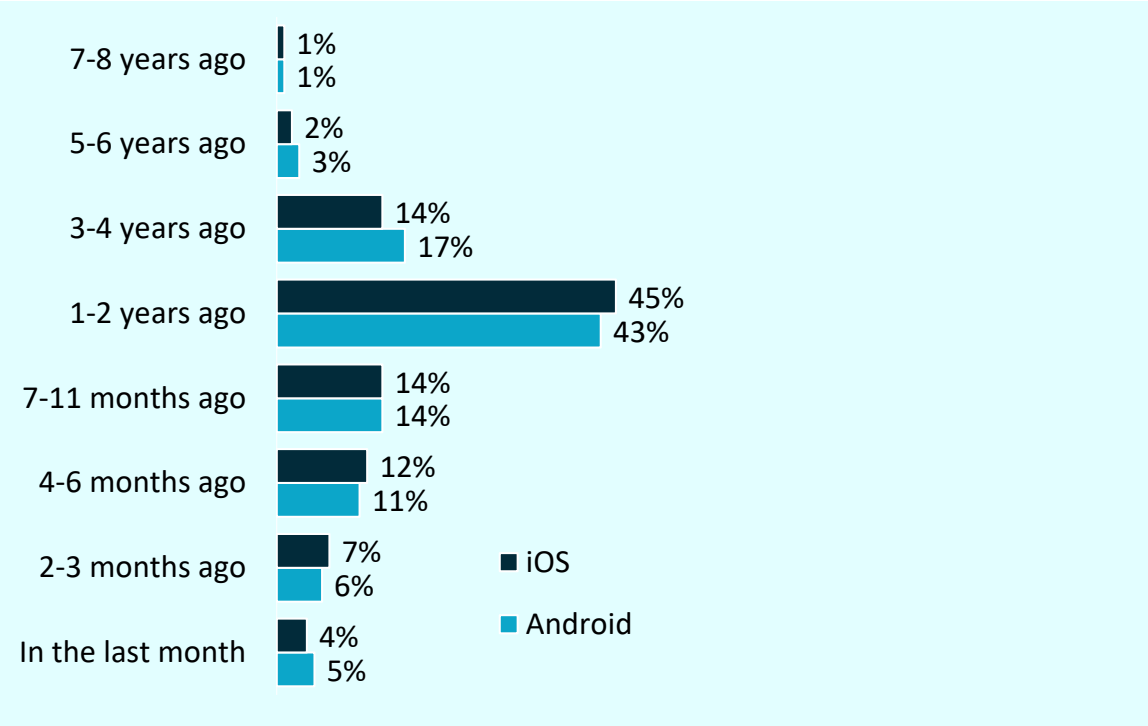
	Switching		Satisfaction with current smartphone			Considered switching OS for current smartphone	
	Yes %	No %	0 to 6 %	8 to 10 %	9 to 10 %	Yes %	No %
£300 or less	17	23	37	21	19	25	24
£301-600	41	28	31	28	27	33	27
£600-900	27	27	21	28	28	25	27
£900+	15	22	11	23	26	18	22
Base	**140**	**1,849**	**267**	**1,475**	**1,005**	**227**	**1,642**

Green shaded boxes significantly higher than orange shaded boxes for each category

When purchased

Over a third (37% iOS, 36% Android) purchased (or got) their smartphone in the last year. As can be seen in Figure 10 there was very little difference in when the current device was purchased by operating system.

Figure 10: When did you buy/get* this smartphone?



Base: iOS 1299, Android 945
*If gifted

Switchers (31%) and those who considered switching (32%) less likely to have purchased in last year than non-switchers and non-considerers (38%) but these differences are not significant.

Satisfaction with current smartphone

The sample was asked how satisfied they were with their current smartphone on a scale of 0 to 10 where 0 was very dissatisfied and 10 was very satisfied.

Overall, the smartphone owners in the sample were very satisfied with their smartphone:

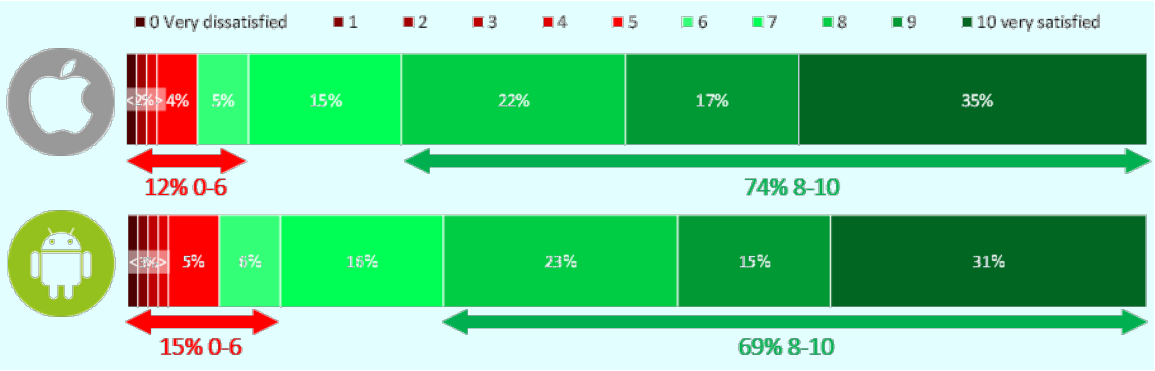
49% gave a rating of 9-10 and 72% a rating of 8-10 with only 13% giving a rating of 0-6.

Satisfaction with the smartphone was higher for iPhones than for Android phones:

- 35% very satisfied with iPhone is significantly higher than the 31% for Android
- 52% 9-10 for iPhones significantly higher than 46% for Android

See Figure 11 for a comparison between iOS and Android.

Figure 11: How satisfied are you with your current smartphone?



Base: iOS 1299, Android 945

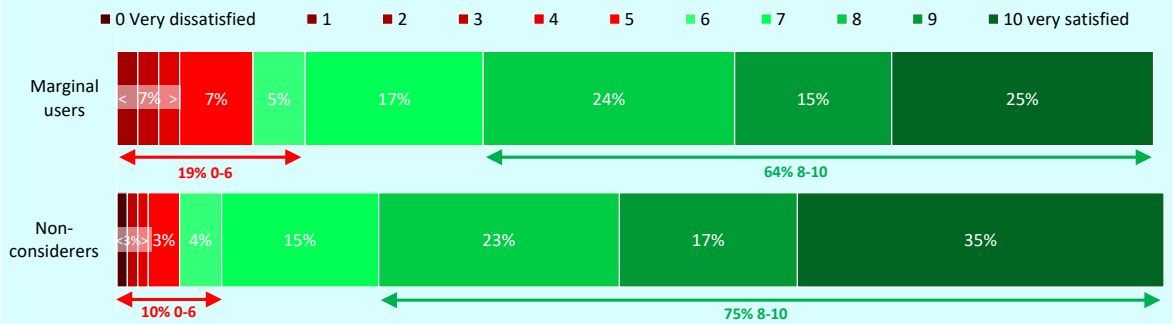
However, it is notable that satisfaction for the phones of Samsung, the largest Android manufacturer, was almost identical to iPhones:

- 51% 9-10 for Samsung compared to 52% for iPhones
- 73% 8-10 for Samsung compared to 74% for iPhones

Marginal users were significantly more dissatisfied with their current device than non-considerers:

- 19% of marginal users give a rating of 0-6 for their current phone compared to 10% non-considerers
- 64% of marginal users give a rating of 9-10 for their current phone compared to 75% non-considerers.

Figure 12: How satisfied are you with your current smartphone?



Base: Marginal users 244, non-considerers 1810

Analysis of grouped satisfaction ratings (ie 0-6, 8-10 and 9-10)[12] by when bought smartphone, the price of the smartphone and confidence in changing settings is shown in Table 13.

[12] These satisfaction score groupings are defined in line with wider market research practice when reporting question responses across a 0-10 scale including for example the Net Promoter Score (NPS) question

Table 13: Grouped satisfaction ratings by when bought phone, price of phone and confidence in changing settings

		0 to 6 %	8 to 10 %	9 to 10 %	Base
When bought phone	Within the last year	10	78	58	826
	Over a year ago	15	69	44	1,409
Overall price of current smartphone	£300 or less	20	64	40	485
	£301-600	14	70	45	587
	£601-900	10	75	51	547
	£900+	7	81	63	423
	iOS £501+	9	77	55	814
	Android £501+	11	74	52	345
	iOS £901+	6	81	62	311
	Android £901+	9	81	65	112
Confidence in changing settings on smartphones	Confident	11	74	51	1,906
	Not confident	22	60	37	308

- Recent purchasers (within last year) are much more satisfied than purchasers of phones over a year ago: 58% 9-10 rating compared to 44%

- Those who spend more on the smartphone tend to be more satisfied:
  - 40% 9-10 rating for £300 or less
  - 45% 9-10 rating for £301-600
  - 51% 9-10 rating for £601-900
  - 63% 9-10 rating for £900+

When differences between Android are banded by cost there is very little difference between the operating systems:

- For smartphones of £501+ the 9-10 rating for iOS is 55% compared to 52% for Android
- For smartphones of £900+ the 9-10 rating for iOS is 62% compared to 65% for Android

Previous smartphone

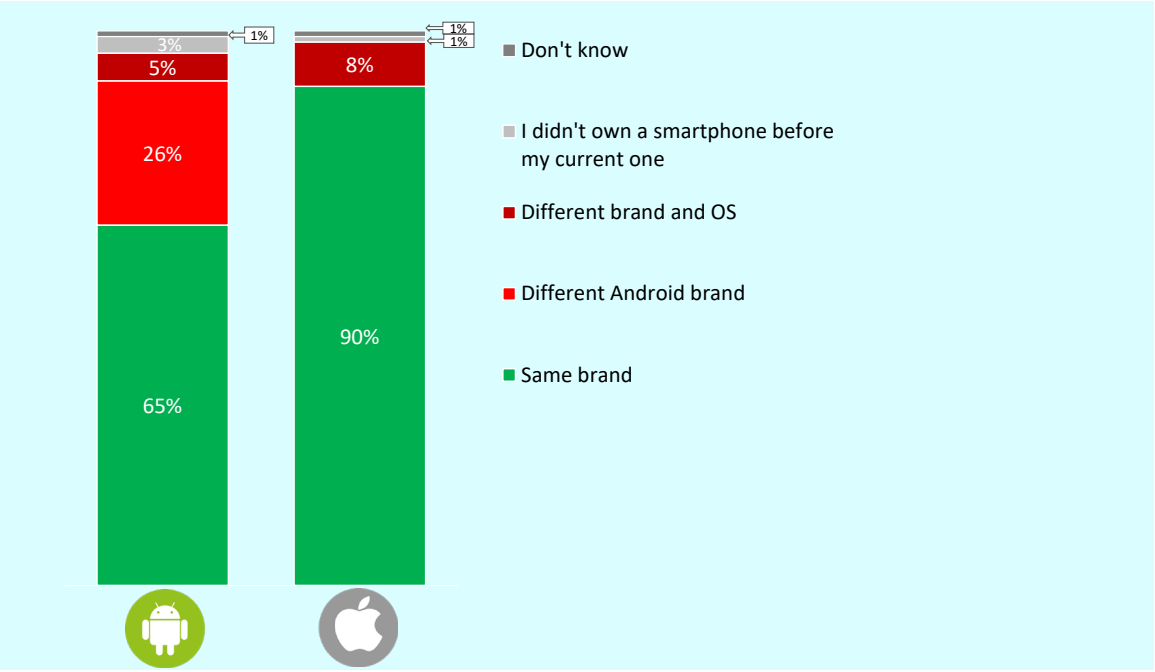
The sample was asked whether the previous phone they purchased (or got) was the same brand as they had or a different brand. It should be noted that the question focused on the brand of the smartphone and not the OS.

Owners of Android smartphones were much more likely to have switched smartphone brands than owners of iPhones (31% v 8%). However, when we explore which specific brand in the following question we see that it is mostly for another Android smartphone: 5% iOS, 26% other Android.

Overall, 8% of iOS users had switched from Android and 5% of Android users had switched from iOS.

For 3% of the Android sample and 1% of the iOS sample it was their first phone. This difference is significant, indicating that entry phones are more likely to be Android.

Figure 13: Whether previous phone purchased/got* was the same brand as they had or a different brand



Base: iOS 1299, Android 945
*If gifted

Marginal users were significantly more likely to have had different brand (18% v 11%) and less likely to have had same brand (77% v 86%) than non-considerers suggesting a wider openness among this group to changing OS. See Table 14.

Table 14: Which of the following smartphone brands was your previous smartphone by whether marginal user or non-considerer

	Total %	Marginal users %	Non-considerers %
Same brand	79	77	86
Different brand	18	18	11
I didn't own a smartphone before my current one	2	2	2
Don't know	1	3	1
Base (Marginal users and non-considerers)	**2,244**	**244**	**1,810**

Green shaded boxes significantly higher than orange shaded boxes for each category

The previous phone for those who had a different brand was most often a Samsung: 54% for the iOS sample and 22% for the Android sample. Huawei was the previous phone for 18% of the overall sample and Sony for 9%. See Table 15.

Table 15: Which of the following smartphone brands was your previous smartphone?

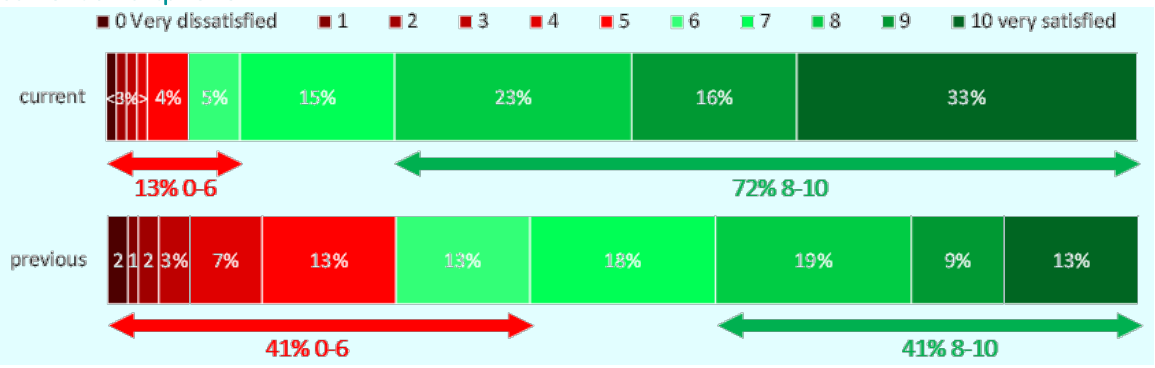
	Total %	iOS %	Android %
Apple	12	-	16
Samsung	31	54	22
Huawei	18	12	20
Sony	9	8	9
Nokia	7	5	8
Google	3	5	3
Motorola	3	2	3
HTC	3	2	3
OnePlus	2	3	2
Blackberry	2	2	2
LG	2	0	3
Honor	1	1	1
Alcatel	1	1	1
Oppo	1	1	1
Xiaomi	1	0	1
Other	3	1	4
Don't know	1	2	1
Base (those who switched brands)	**400**	**107**	**293**

Satisfaction with previous smartphone

The sample who had a different brand previous phone (404 or 17% of the sample) was asked how satisfied they were with their previous smartphone on a scale of 0 to 10 where 0 was very dissatisfied and 10 was very satisfied.

Overall, the satisfaction with the previous smartphone was much lower than for the current smartphone.

Figure 14: How satisfied are you with your previous smartphone compared to satisfaction with current smartphone



Base: 2,244 current, 404 previous

Table 16 shows summary satisfaction for the previous smartphone compared to the current smartphone for the sample of those who had a different brand previous phone.

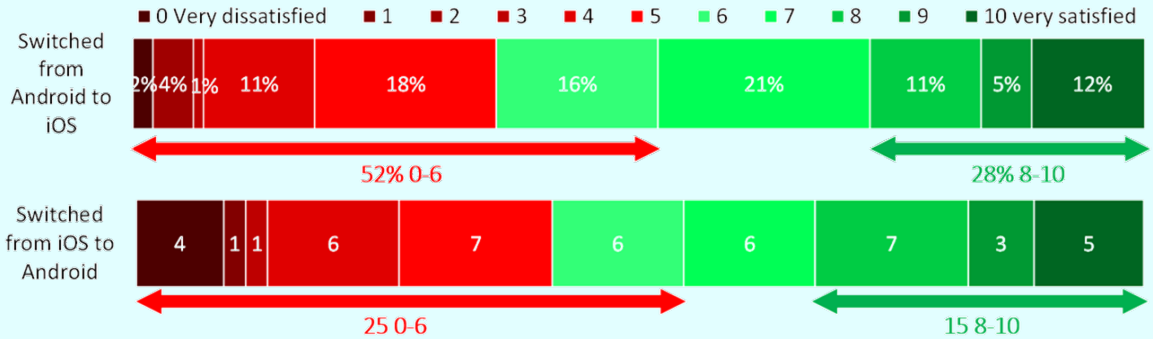
Table 16: Summary satisfaction scores for previous v current smartphone for same sample

	previous	current
0-6	42%	18%
8-10	40%	65%
9-10	22%	41%

Base: 404 who had a different brand previous phone
Green shaded boxes significantly higher than orange shaded boxes for each category

Those who switched from iOS to Android had a higher proportion dissatisfied with the previous phone than those who switched from Android to iOS. It should be noted that the sample size for the former group is just 46, so numbers, not percentages, are shown in Figure 15.

Figure 15: How satisfied are you with your previous smartphone compared to satisfaction with current smartphone: switchers



Base: 46 switched from iOS to Android, 107 who switched from Android to iOS

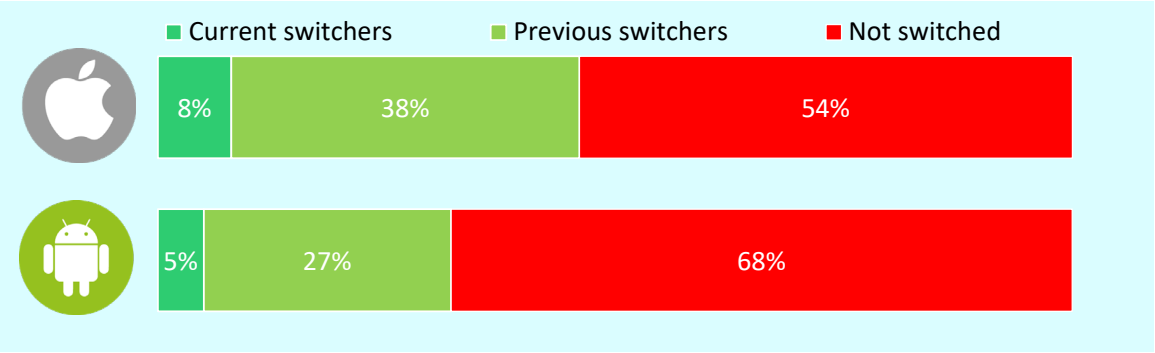
Whether ever owned other OS

Nearly half of the iOS sample (46%) and about a third of the Android sample (32%) have owned the other OS sometime in the past.

Those who did not switch brand for their previous smartphone were asked if they ever owned the other OS.

- The iOS sample were asked: "Have you ever owned an Android smartphone as your personal smartphone?"
- The Android sample were asked: "Have you ever owned an iPhone as your personal smartphone?"

Figure 16: Have you ever owned an iPhone/Android smartphone as your personal smartphone?



Base: iOS 1269, Android 680

3.5 Confidence in using smartphones

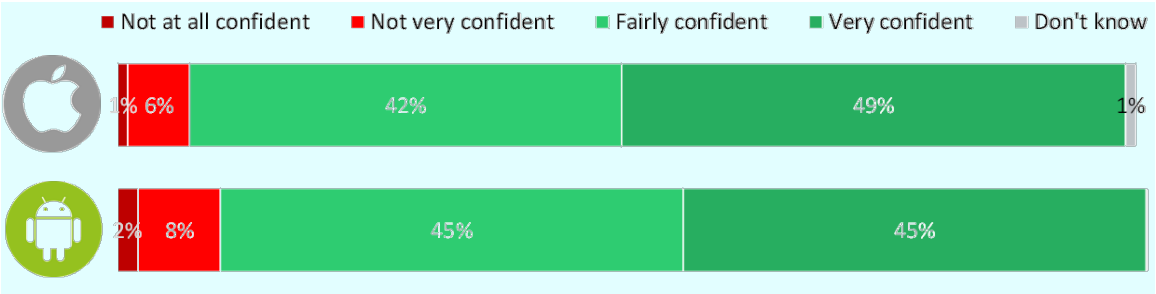
Confidence with smartphone technology

Survey participants were asked how confident, if at all, they were with smartphone technology and using the different applications that are available on smartphones.

There were high levels of claimed confidence from both iOS and Android users in smartphone technology and using the different applications. See Figure 17.

iOS users had a significantly higher proportion than Android users for 'very confident': 49% compared to 45%.

Figure 17: How confident, if at all, are you with smartphone technology and using the different applications that are available on smartphones?



Base: iOS 1299, Android 945

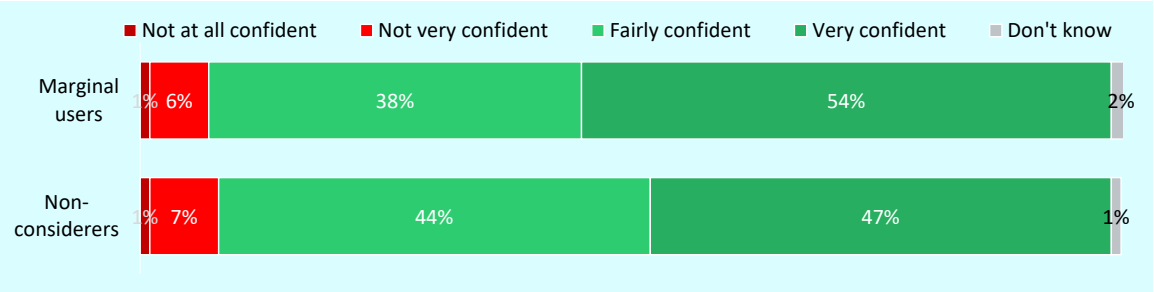
There was no significant difference in confidence for switchers compared to non-switchers.

However, those who had previously ever switched were significantly more confident than those who had never switched (54% v 46% very confident).

Figure 18 shows confidence with smartphone technology for marginal users compared to non-considerers.

Marginal users were more confident than non-considerers.

Figure 18: How confident, if at all, are you with smartphone technology and using the different applications that are available on smartphones? – marginal v non-considerers



Base: Marginal users 244, Non-considerers 1810

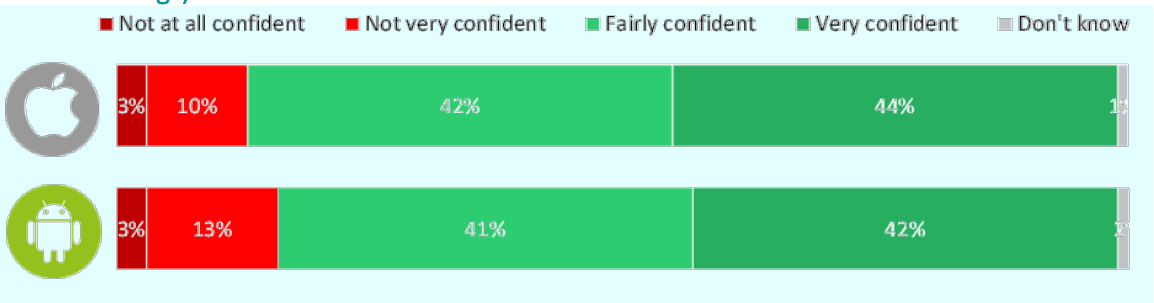
Confidence in changing settings on smartphones

Survey participants were then asked how confident, if at all, they were with changing settings on smartphones (e.g. changing default settings).

There were slightly lower levels of confidence from both iOS and Android users in changing settings on smartphones than for smartphone technology and using the different applications that are available on smartphones.

iOS users were slightly more confident with changing settings on smartphones: there were significantly fewer iOS users who said for 'not very confident': 10% compared to 13%.

Figure 19: How confident, if at all, are you with changing settings on smartphones (e.g. changing default settings)?



Base: iOS 1299, Android 945

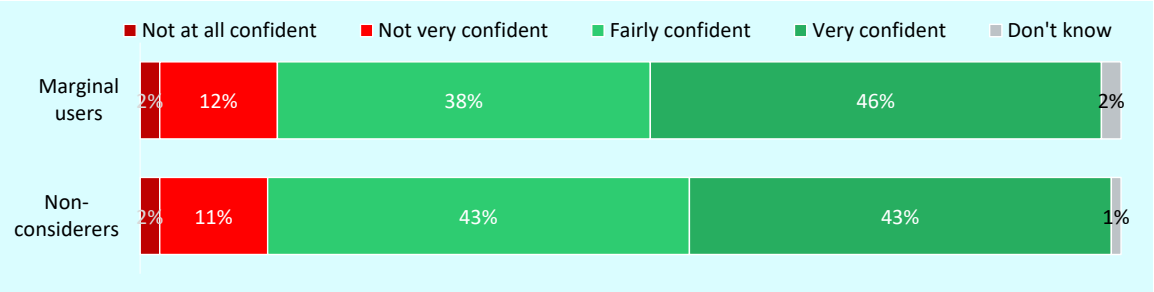
There was no significant difference in confidence for switchers compared to non-switchers.

However, those who had previously ever switched were significantly more confident than those who never switched (48% v 41% very confident).

Figure 20 shows confidence with changing settings on smartphones for marginal users compared to non-considerers.

Marginal users had a higher proportion who were very confident than those who did not consider switching and didn't switch: 46% v 43% (but the difference was not statistically significant).

Figure 20: How confident, if at all, are you with changing settings on smartphones (e.g. changing default settings)? – marginal users v non-considerers



Base: Marginal users 244, Non-considerers 1810

3.6 Other products used

Participants were asked which other products they personally owned and used from the following list:

- Personal Windows laptop/desktop computer
- Apple Macbook /Apple Mac
- Chromebook
- Android tablet (eg Samsung)
- Amazon Fire tablet
- iPad
- Apple Watch
- Smartwatch (not Apple Watch)
- Google Smart home devices (eg Chromecast for TV, Nest, Google Home Hub)
- Apple Smart home devices (eg HomePod, Apple TV)
- Gaming console (eg Play Station, Xbox)
- Airpods/Airpods Pro
- Other wireless air buds/headphones.

These have been grouped into Apple/iOS, Android/Google OS and other in the charts below[13].

Figure 21 shows that for the iOS sample a wide range of other Apple/iOS products are owned and used: 63% of iOS users have an iPad, 35% have an Apple Mac/Macbook, 32% have Airpods/Airpods Pro and 31% have an Apple Watch.

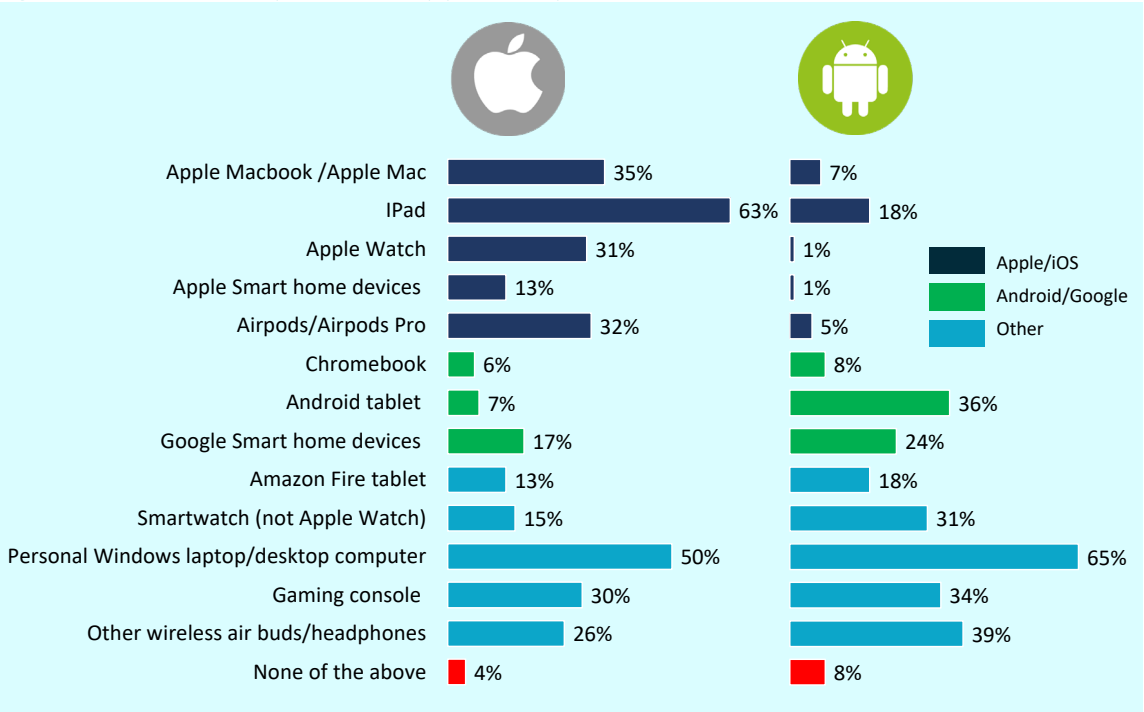
For the Android sample a smaller range of other Android/Google products are owned and used than the equivalent for iOS: 36% of Android smartphone users have an Android tablet (18% have an iPad) and 24% have Google Smart Home devices.

[13] As a Smartwatch (not Apple Watch) could be Android such as WearOS or non Android such as Garmin this has been allocated to 'other'

In summary:

- 83% of iOS users have at least one other Apple product and 17% of iOS users don't have any other Apple products.
- 27% of iOS users have at least three other iOS products.
- 52% of Android users have at least one other Android/Google product
- 48% of Android users don't have any other Android/Google products
- 75% of Android users don't have any iOS products.

Figure 21: Which other products they personally owned and used: iOS and Android



Base: iOS 1299, Android 945

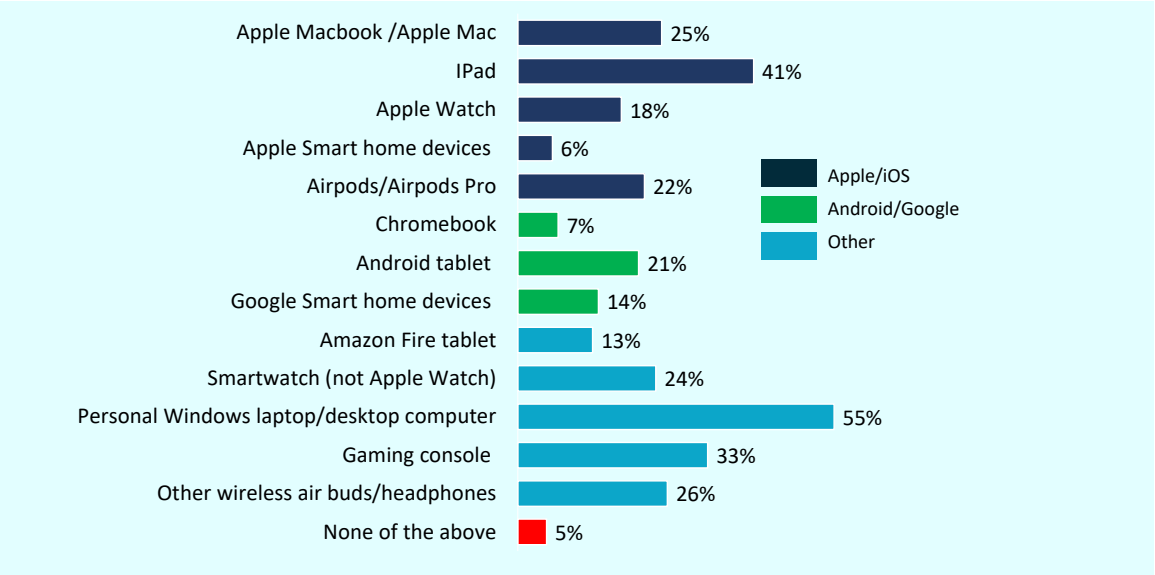
Windows computers are widely owned by users of both iPhones and Android smartphones: 50% iOS and 65% Android.

Switchers

Switchers from Android to iOS had a higher proportion of Apple/iOS products than other Android smartphone users:

- 64% had at least one other Apple product compared to 25% for all Android smartphone owners
- 36% had no other Apple product compared to 75% for all Android smartphone owners.

Figure 22: Which other products they personally owned and used: Android to iOS switchers



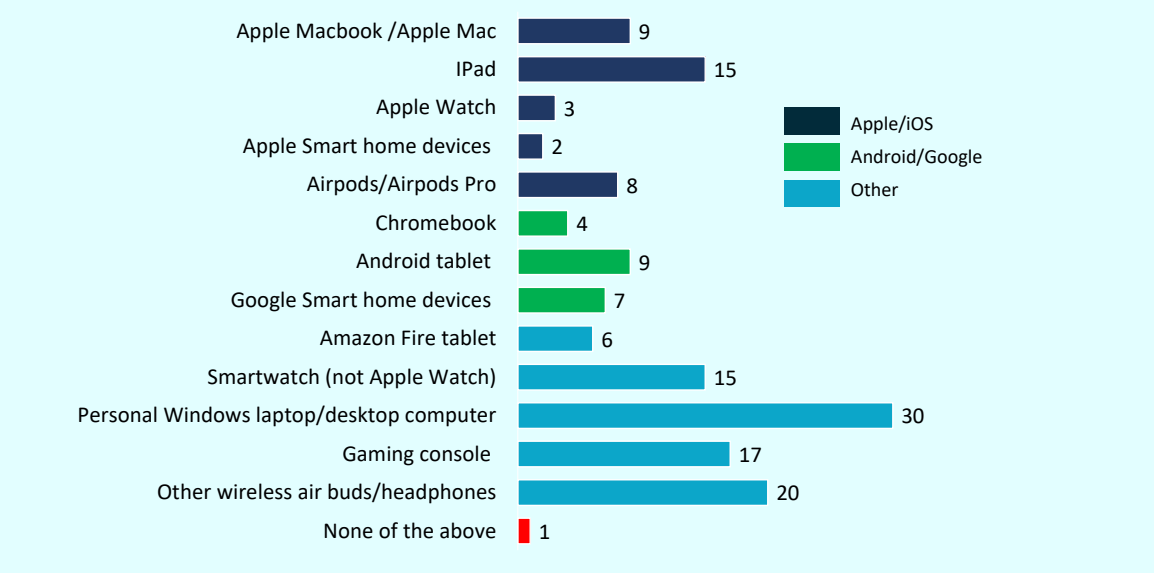
Base: 107 who switched to iOS

Switchers from iOS to Android had a lower proportion of Apple/iOS products than other iOS users.

- 25 of 46 had at least one other Apple product
- 21 of 46 had no other Apple product.

It should be noted that the sample size for this group is just 46, so numbers, not percentages, are shown in Figure 23.

Figure 23: Which other products they personally owned and used: iOS to Android switchers



Base: 46 who switched to Android

3.7 Whether Considered Switching

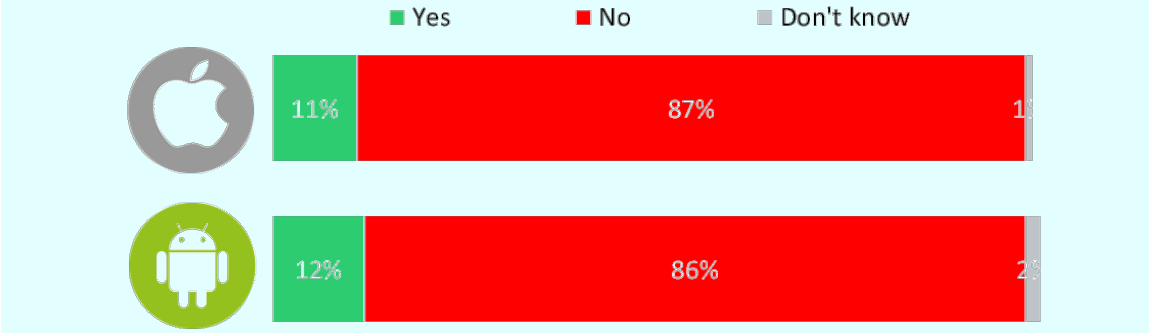
This section concerns marginal users (those who considered switching operating system when purchasing a new smartphone but ultimately didn't and non-considerers (users that did not consider switching operating system when intending to buy a new smartphone).

Those who had not switched were asked:

- **If an iOS smartphone (iPhone) user:** When you bought/got your current Apple personal smartphone did you consider buying/getting an Android smartphone?
- **If an Android smartphone user:** When you bought/got your current Android personal smartphone did you consider buying/getting an iPhone?

11% of iOS and 12% of Android non switchers considered switching. See Figure 24.

Figure 24: when you bought/got* your current personal smartphone did you consider buying/getting* an iPhone/Android smartphone

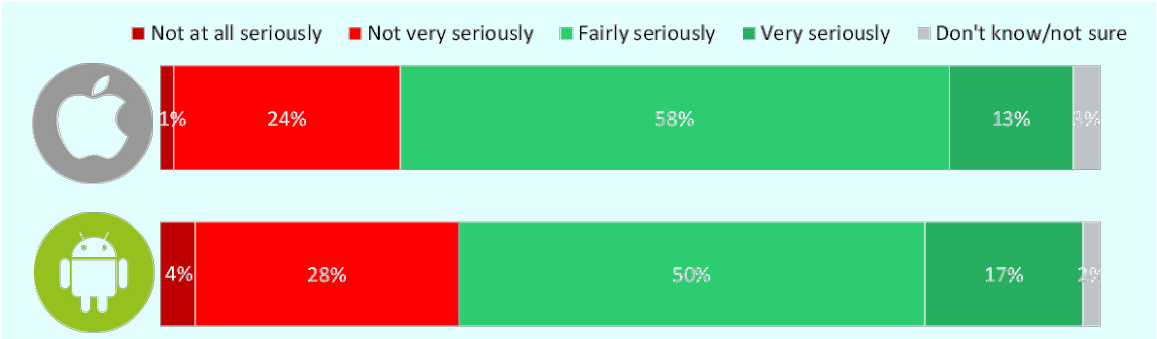


Base: Those who did not switch: iOS 1192, Android 899
*If gifted

Those who did consider switching were asked how seriously, if at all, they considered switching.

A relatively small proportion seriously considered switching: 17% of Android users and 13% of iOS users. A larger proportion of Android phone users also said not very seriously or not at all seriously: 32% compared to 25%.

Figure 25: How seriously, if at all, did you consider buying/getting an iPhone/Android smartphone?



Base: those who considered switching OS: iOS 137, Android 107

3.8 Reasons for not considering switching and not switching

Non-considerers (89% of iOS users and 88% of Android smartphone users) were asked why they didn't consider switching when they bought their current smartphone.

Marginal users (11% of iOS users and 12% of Android smartphone users) were asked why they didn't switch when they bought their current smartphone.

The order of the reasons was randomised. The pale blue indicates potential barriers to switching and the orange potential differences in app offerings (an "app related factor").

- iOS non-considerers were asked: Which of the following reasons explain why you didn't consider switching to an Android smartphone?
  iOS marginal users were asked: Which of the following reasons explain why you didn't buy/get[14] an Android smartphone?
  - Too expensive
  - The Android phone is lower quality
  - I was concerned about losing data when transferring to an Android phone
  - I didn't want to spend the time learning how to use an Android phone
  - Because I have other devices linked to my phone/operating system (iOS)
  - My friends/family use the same operating system (iOS)
  - I identify more closely with iOS than Android
  - I am happy with/prefer my existing smartphone brand
  - I am happy with/prefer iOS
  - I use apps not available on Android
  - iOS has access to a wider range of mobile apps
  - iOS has access to mobile apps with better prices
  - I was concerned about losing paid-for subscriptions/content in apps on my phone
  - I felt it would be too much hassle to switch to an Android phone
  - iOS has better data security
  - iOS has better privacy
  - Couldn't get one from my mobile provider/contract
  - I could not see any significant benefits from switching
  - Other
  - Don't know.

- Android non-considerers were asked: Which of the following reasons explain why you didn't consider switching to an iPhone?
  Android marginal users were asked: /
  - Too expensive
  - The iPhone is lower quality
  - I was concerned about losing data when transferring to an iPhone
  - I didn't want to spend the time learning how to use an iPhone
  - Because I have other devices linked to my phone/operating system (Android)
  - My friends/family use the same operating system (Android)
  - I identify more closely with Android than iOS

[14] If gifted phone

- I am happy with/prefer my existing smartphone brand
- I am happy with/prefer Android
- I use apps not available on iOS
- Android has access to a wider range of mobile apps
- Android has access to mobile apps with better prices
- I was concerned about losing paid-for subscriptions/content in apps on my phone
- I felt it would be too much hassle to switch to an iPhone
- Android has better data security
- Android has better privacy
- Couldn't get one from my mobile provider/contract
- I could not see any significant benefits from switching
- Other
- Don't know.

iOS Marginal users and Non Considerers

The main reasons cited by iOS marginal users for not switching and for non-considerers for not considering switching to an Android smartphone were:

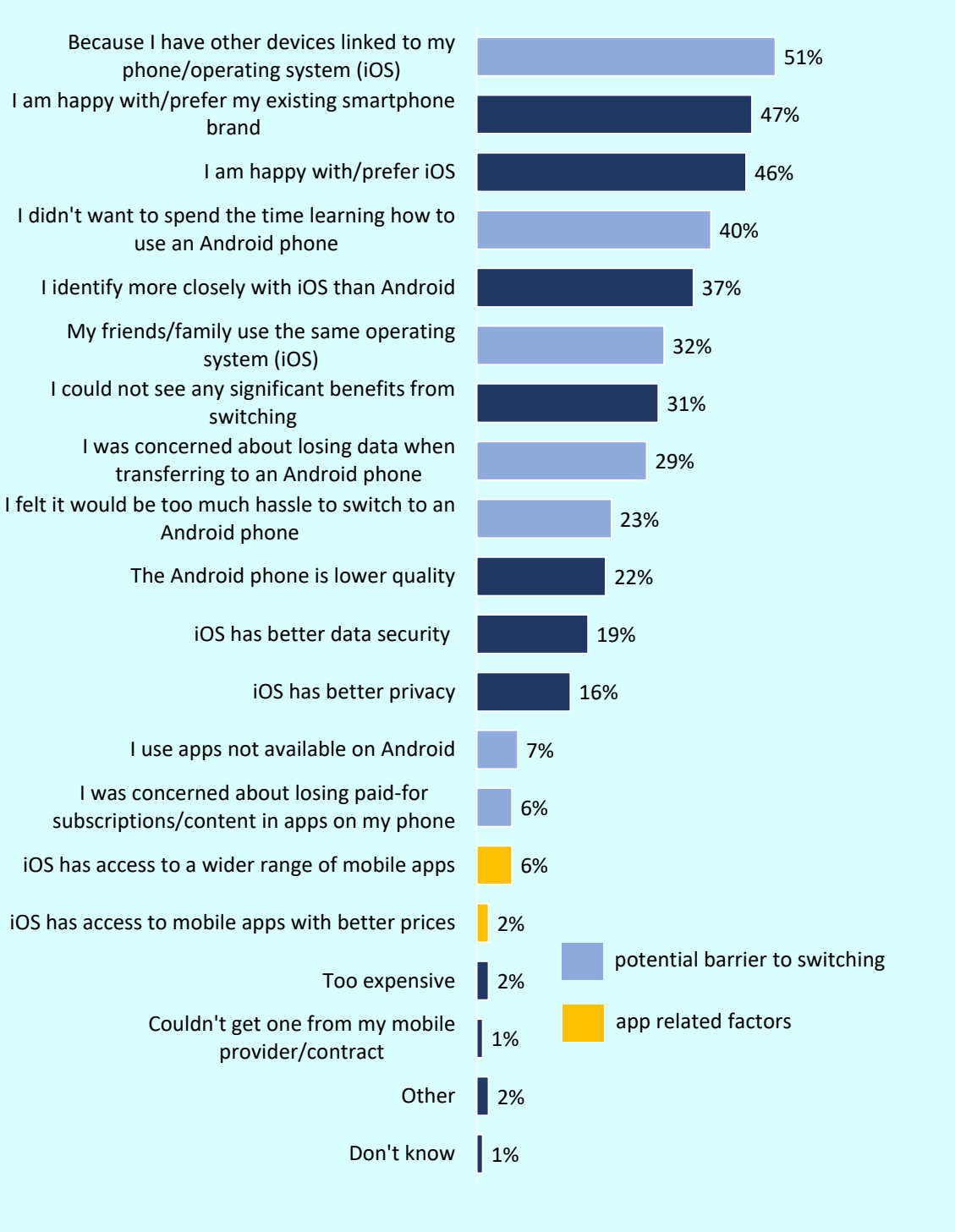
- Other linked devices 51%
- Brand 47%
- Preference for iOS 46%
- Difficulty learning new OS 40%

See Figure 26 – these figures are for all Non-Switchers (ie include both the Marginal Users and the Non-Considerer groups).

When comparing with the Android sample, barriers to switching were more important:

- 79% of iOS users mentioned at least one potential barrier to switching compared to 56% of Android users
- 1.9 potential barriers were mentioned by each iOS user on average compared to 1 for Android users.

Figure 26: Which of the following reasons explain why you didn't consider switching to an Android smartphone?/Which of the following reasons explain why you didn't buy/get[15] an Android smartphone?



Base: 1175 iOS marginal users and non-considerers

Android Marginal Users and Non-considerers

The main reasons cited by Android marginal users for not switching and for non-considerers for not considering switching to an iPhone were:

[15] If gifted phone

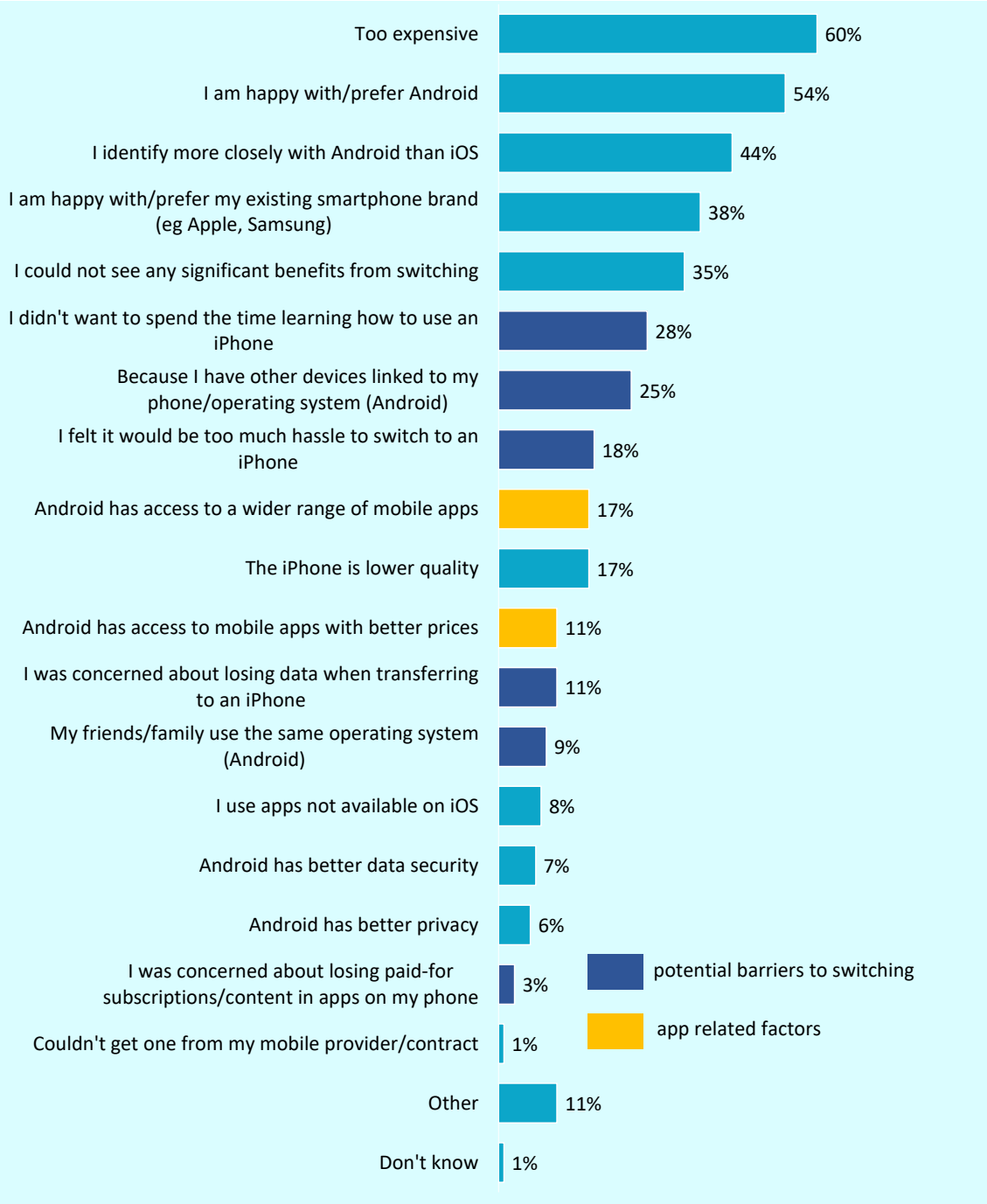
- Cost 60%
- prefer Android 54%
- Identifying with Android 44%
- Happy with current brand 38%

See Figure 27 – these figures are for all Non-Switchers (ie include both the Marginal Users and the Non-Considerers groups).

The app related factors were relatively unimportant for both iOS and Android users although they were more important for Android users:

- 0.08 app related factors mentioned by each iOS user on average
- 0.28 app related factors mentioned by each Android user on average.

Figure 27: Which of the following reasons explain why you didn't consider switching to an iPhone/Which of the following reasons explain why you didn't buy/get[16] an iPhone?



Base: 879 Android marginal users and non-considerers

Within the 11% 'other' responses a variety of reasons were given. The main themes are listed below:

	n
■ Don't like Apple's walled garden/Android less constrained	21
■ Don't like Apple phones/design	20
■ Don't like Apple brand	14

[16] If gifted phone

Case Study – Android to iOS marginal user

- Freelance consultant, fairly confident with technology
- Currently has a Google Pixel phone, previously Samsung
- Used to feel a bit 'anti' iOS – more expensive, tying people in
- Her sons (19 and 21) both have iPhones and she feels they are more suited to streaming etc – which she doesn't do
- Needed a new phone because her Samsung was broken: not working at all well
- She is a bit averse to change and Android is familiar. However, she had noticed that friends her age were getting iPhones and they seemed very simple to use with good reviews from her peer group *'my demographic'*
- Her sons advocated moving to iOS and she knew that they were considered to be very good phones

> *"I know Apple do great things and they are meant to be really easy to use, so I thought maybe I should think about it"*

- She said she would have viewed the switch as an upgrade but that is because her Samsung phone was not a particularly high-end model
- Cost was the primary concern for her as she has an unpredictable income and wanted to make sure she got value for money
- She looked in EE shops and got advice from her nephew, who suggested the Pixel phone as a good quality option for the money
- She decided to stay with Android because of the recommendation and familiarity with the OS

> *"I think I would have switched if someone had said 'here's an outstandingly good value iPhone for the same price as the Pixel'"*

Marginal Users compared to non-considerers

For marginal users the main reasons for not switching were:

- Because I have other devices linked to my phone/operating system (32% compared to 41% for non-considerers)
- Too expensive (32% compared to 27% for non-considerers)
- I am happy with/prefer my OS (30% compared to 52% for non-considerers)
- I didn't want to spend the time learning how to use another phone (27% compared to 36% for non-considerers)
- I was concerned about losing data when transferring to an alternative phone (27% compared to 21% for non-considerers).

See Table 17.

Marginal users cite fewer reasons for not switching than non-considerers:

- Marginal users mention 3.4 reasons each on average
- Non-considerers mention 4.2 reasons each on average.

However, there was little difference in the numbers mentioning potential barriers to switching:

- Marginal users mention 1.47 potential barriers each on average
- Non-considerers mention 1.52 potential barriers each on average.

App related factors are relatively unimportant for both marginal users and non-considerers and there was little difference between the two groups:

- Marginal users mention 0.15 app related factors each on average
- Non-considerers mention 0.17 app related factors each on average.

In summary, 64% of marginal users and 69% of non-considerers mentioned at least one potential barrier to switching.

Table 17: Which of the following reasons explain why you didn't consider switching by marginal users and non-considerers

	Marginal users %	Non considerers %
Because I have other devices linked to my phone/operating system	32	41
Too expensive	32	27
I am happy with/prefer my OS	30	52
I didn't want to spend the time learning how to use another phone	27	36
I was concerned about losing data when transferring to an alternative phone	27	21
I am happy with/prefer my existing smartphone brand	26	46
I felt it would be too much hassle to switch to another phone	26	20
I could not see any significant benefits from switching	24	34
I identify more closely with my OS than the other OS	23	42
My friends/family use the same operating system	21	23
My OS has better data security	14	13
My OS has better privacy	12	12
The alternative phone is lower quality	11	21
My OS has access to a wider range of mobile apps	10	11
I use apps not available on the other OS	7	7
I was concerned about losing paid-for subscriptions/content in apps on my phone	7	4
My OS has access to mobile apps with better prices	5	6
Couldn't get one from my mobile provider/contract	2	1
Other	5	6
Don't know	2	1
Base (Marginal users and non considerers)	**244**	**1,810**

Key: Any barrier to switching App related factor

Reflecting the relatively low importance of app related factors outlined above, most of the marginal users who participated in the qualitative stage of the research were unaware of differences in price or availability of apps by operating system. Those considering a switch from iOS to Android claimed not to have thought about apps at first and if they did consider them at some stage, they assumed they could access those they currently use if they switched to Android, even though they were often unsure how the transition would work.

"I didn't think about apps when I was considering the switch, but to be honest I would just assume I could get the same ones as I've got now."

iOS to Android considerer

Some claimed after deciding to stay with iOS that they subsequently wondered if they would have had access to certain first party features, e.g. Apple wallet, Car play, Airdrop, if they had switched. They claimed this may be a factor in future switching considerations, depending on what the Android alternatives were to the features or apps that they were using. Most were unsure how to access this information but claimed that they would search online.

"I realise that I have apple carplay and I don't think my friends who have Androids can connect to the car in the same way. I guess I would just google it and see what the options are ."

iOS to Android considerer, fairly confident

Those Android users who claimed to be more 'tech-savvy' sometimes perceived iOS as more restrictive and less 'open'. Some talked about higher prices on iOS but were unable to give examples. Those who had downloaded or sideloaded APK files or more specialist apps in the past (e.g. a work app or a birdsong app) assumed that they would not be able to access these if they switched to iOS but they expected there to be something similar available on iOS. This issue about potential differentiation in availability of apps was usually discussed in principle, rather than in relation to specific app availability concerns. They claimed this would not be a hindrance to switching *per se*, as they expected that workarounds would be available.

"I think you pay more for Apple apps? When I first bought my iPhone people told me that."

iOS to Android considerer, fairly confident

"I know that Apple is less open and it used to be that it took a lot longer for apps to be available on the app store as there were more hoops to jump through. I don't know if that is still true."

Android to iOS considerer, very confident

"I would have looked into it further before I made the switch, but I can't see it would have stopped me if everything else was right."

Android to iOS considerer, fairly confident

Android v iOS Marginal Users

There were very large differences in the reasons given for not switching between iOS and Android marginal users.

For iOS marginal users the top reasons were:

- Because I have other devices linked to my phone/operating system (44% compared to 17% for Android)
- I was concerned about losing data when transferring to an Android phone (38% compared to 14% for Android)
- I felt it would be too much hassle to switch to an Android phone (34% compared to 16% for Android)
- My friends/family use the same operating system (33% compared to 7% for Android).

For Android marginal users the top reasons were:

- Too expensive (66% compared to 5% for iOS)

- I identify more closely with Android than iOS (27% compared to 20% for iOS)
- I am happy with/prefer Android (27% compared to 32% for iOS).

See Table 18.

iOS marginal users cite fewer reasons for not switching than Android marginal users:

- iOS marginal users mention 3.9 reasons each on average
- Android marginal users mention 2.9 reasons each on average

iOS marginal users cited more than twice as many potential barriers to switching than Android marginal users:

- iOS marginal users mention 2.01 potential barriers each on average
- Android marginal users mention 0.83 potential barriers each on average

Relatively few app related factors were mentioned by both iOS and Android marginal users:

- iOS marginal users mention 0.12 app related factors each on average
- Android marginal users mention 0.17 app related factors each on average

In summary, 79% of iOS marginal users and 45% of Android marginal users mentioned at least one potential barrier to switching.

Table 18: Which of the following reasons explain why you didn't switch/get an Android phone/iPhone by marginal iOS and Android users

	iOS Marginal users %	Android Marginal users %
Because I have other devices linked to my phone/operating system	44	17
I was concerned about losing data when transferring to an Android phone/iPhone	38	14
I felt it would be too much hassle to switch to an Android phone/iPhone	34	16
My friends/family use the same operating system	33	7
I am happy with/prefer iOS/Android	32	27
I didn't want to spend the time learning how to use an Android phone/iPhone	31	21
I am happy with/prefer my existing smartphone brand	28	24
I could not see any significant benefits from switching	24	24
iOS/Android has better data security	23	2
iOS/Android has better privacy	20	3
I identify more closely with iOS/Android than Android/iOS	20	27
The Android phone/iPhone is lower quality	15	7
I was concerned about losing paid-for subscriptions/content in apps on my phone	12	2
I use apps not available on Android/iOS	9	6
iOS/Android has access to a wider range of mobile apps	9	10
Too expensive	5	66
iOS/Android has access to mobile apps with better prices	3	7
Couldn't get one from my mobile provider/contract	2	1
Don't know	3	1
Other	3	7
Base (iOS and Android marginal users)	**137**	**107**

Key: Potential barriers to switching App related factor

Case Study – iOS to Android marginal user

- Works in design technology, very confident user
- Was an early adopter of iPhones and for a few years would always have the latest handset as soon as it was available
- Used to feel iPhones were more stylish, advanced and had better functionality
- However, now he feels that there is very little difference between models of iOS handsets and that Android has caught up and offers some premium handsets for a reasonable price
- Has a MacBook and feels that it is convenient for the iPhone to work with the MacBook. Also has an iPad that he doesn't use much
- Considered switching to Android as he was interested in getting a different premium handset for a lower price, specifically a Google phone or Samsung

"I thought it's not worth paying all that money for an iPhone really. It's time to start looking around"

- He was not too concerned about using pictures etc as he stores them on iCloud via his MacBook. He would get Google Drive to store photos from the Android device if necessary
- He decided to stay because it was easier for him to work with his iPhone and the compatible devices
- He was also told that iOS has better security and this played a part in the decision
- He is still interested in switching to Android in future

"The thing is then when you have an iPhone it really goes well communicating with let's say with your laptop your MacBook so more and more it's like I have this kind of feeling or thought that it's getting more and more difficult for me to get out of this existence from Apple."

Ranked reasons for not switching/not considering switching

Marginal users and non-considerers who chose two or more reasons were then asked which one of these was the most important, which was the second most important[17] and the third most important[18].

When the reasons were ranked for not switching/not considering switching, other linked devices was still the most important for iOS users not to switch, with 20% mentioning it as the most important reason (10% 2nd and 7% 3rd). See Figure 28.

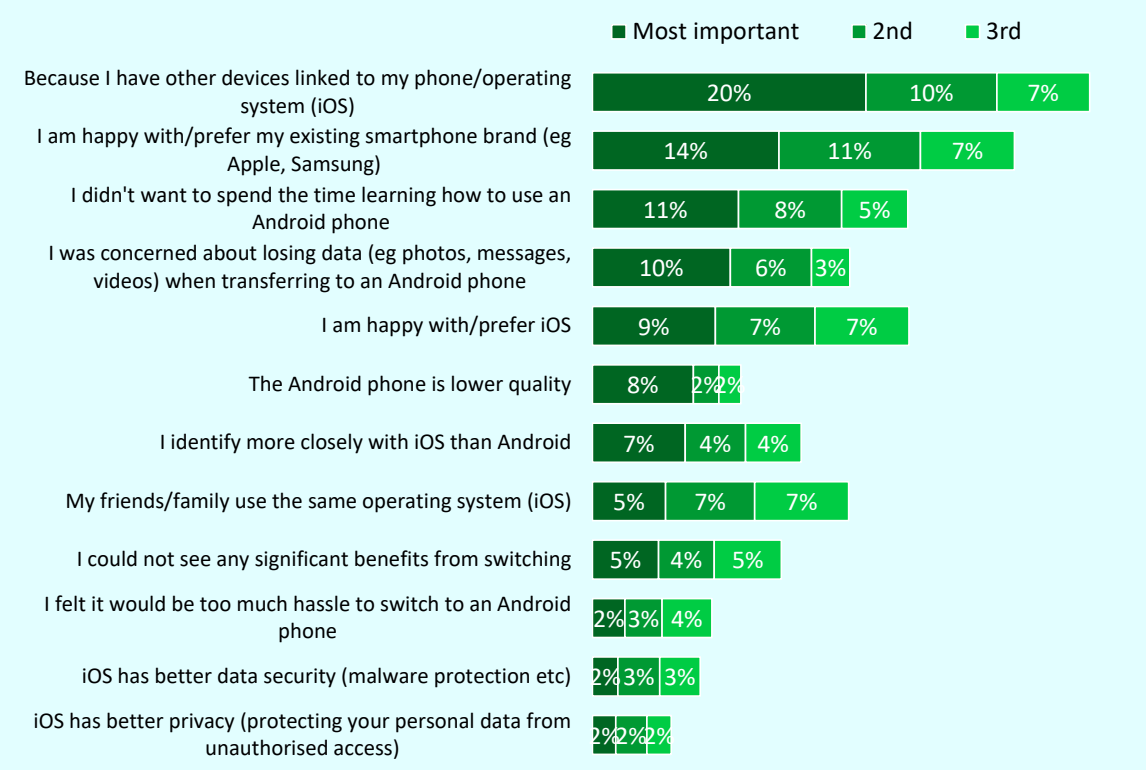
Other important reasons were:

[17] If three or more reasons chosen
[18] If four or more reasons chosen

- I am happy with/prefer my existing smartphone brand: 14% most important, 11% 2nd and 7% 3rd
- I didn't want to spend the time learning how to use an Android phone: 11% most important, 8% 2nd and 5% 3rd.

Fifty per cent of iOS marginal users and non-considerers mentioned a potential barrier to switching as the most important reason compared to 12% for Android marginal users and non-considerers.

Figure 28: Which of the following was the most important reason, 2nd most important and 3rd most important? – iOS marginal users and non-considerers



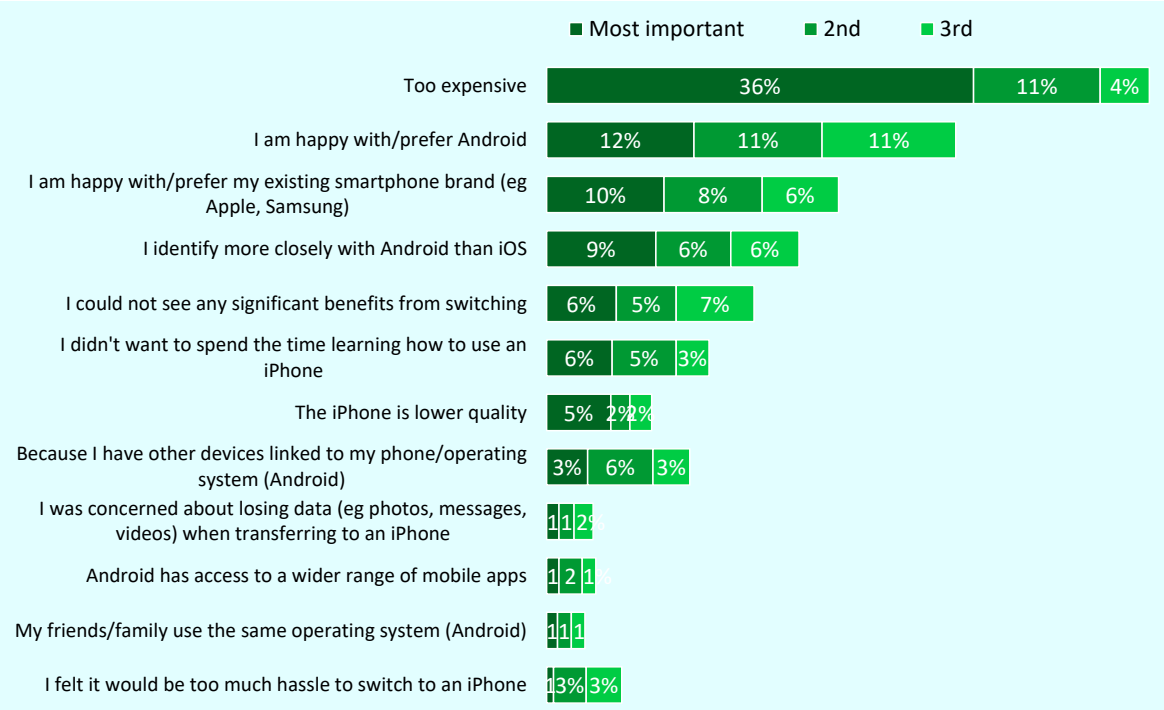
Base: 1,158 iOS marginal users and non-considerers

For the Android sample of marginal users and non-considerers when the reasons were ranked for not switching, the iPhone being too expensive was still the most important for Android users not to switch/not consider switching, with 36% mentioning it as the most important reason (11% 2nd and 4% 3rd). See Figure 29.

Other important reasons were:

- I am happy with/prefer Android: 12% most important, 11% 2nd and 11% 3rd
- I am happy with/prefer my existing smartphone brand: 10% most important, 8% 2nd and 6% 3rd.

Figure 29: Which of the following was the most important reason, 2nd most important and 3rd most important? – Android marginal users and non-considerers



Base: 869 Android marginal users and non-considerers

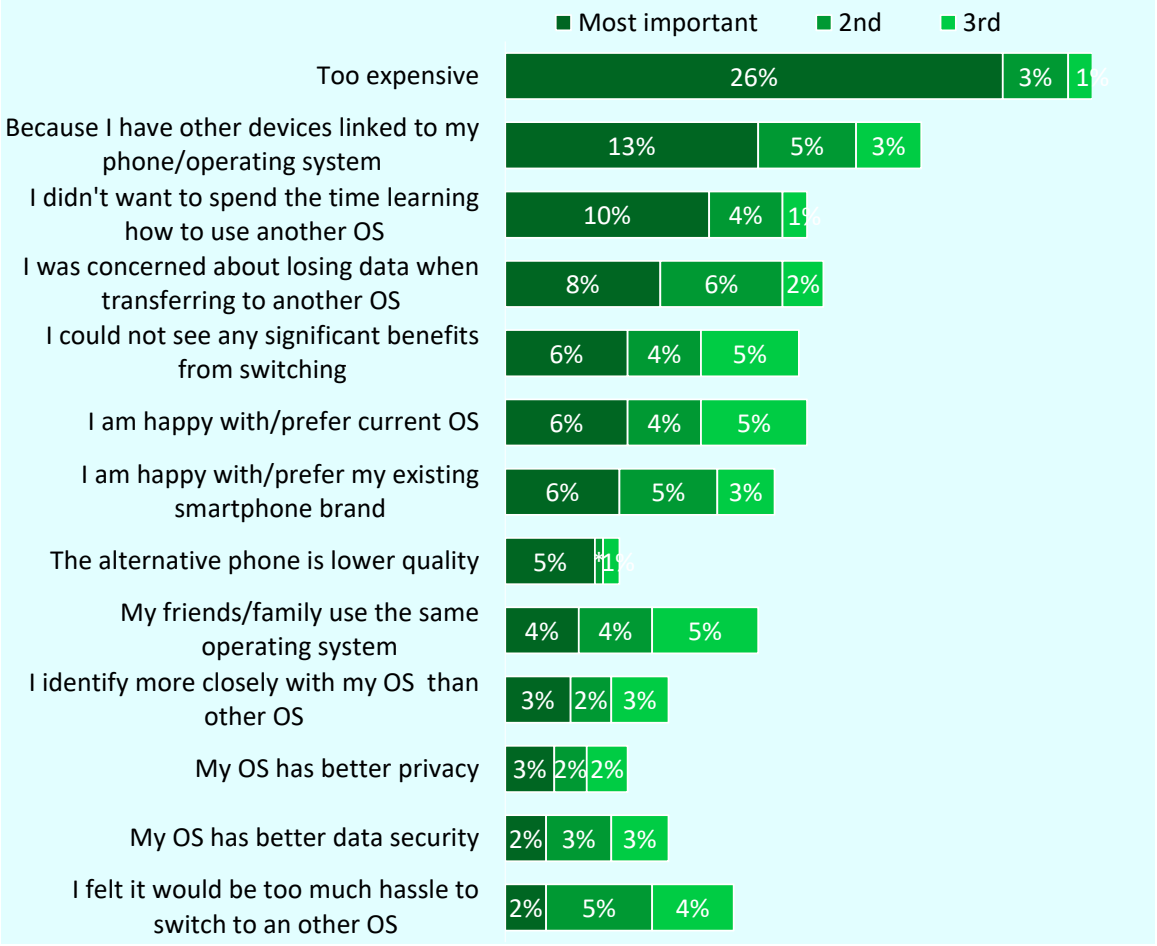
Marginal Users ranked reasons for not switching

When the reasons for not switching were ranked for marginal users cost was the most important: 26% said it was most important, 3% 2nd most important and 1% 3rd most important.

The next two reasons were:

- Because I have other devices linked to my phone/operating system: 13% most important, 5% 2nd and 3% 3rd
- I didn't want to spend time learning how to use another OS: 10% most important, 4% 2nd and 1% 3rd.

Figure 30: Which of the following was the most important reason, 2nd most important and 3rd most important? – Marginal users



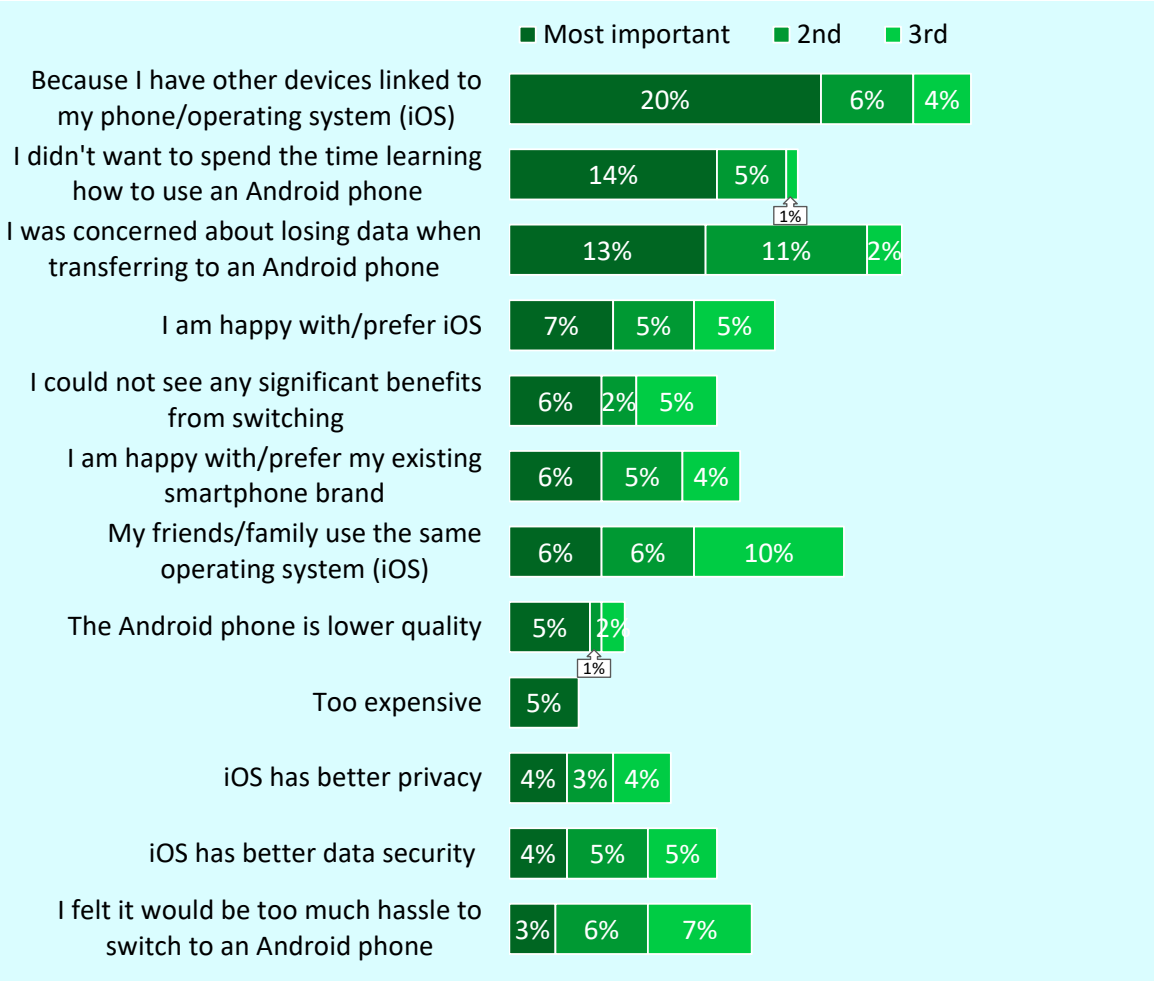
Base: Marginal users 239
* less than 0.5%

For iOS marginal users other linked devices was the most important: 20% said that was most important, 6% 2nd most important and 4% 3rd most important. The next two reasons were:

- I didn't want to spend the time learning how to use an Android phone: 14% most important
- I was concerned about losing data when transferring to an Android phone: 13% most important.

58% of iOS marginal users mentioned a potential barrier to switching as the most important reasons compared to 13% of Android marginal users.

Figure 31: Which of the following was the most important reason, 2nd most important and 3rd most important? – iOS marginal users

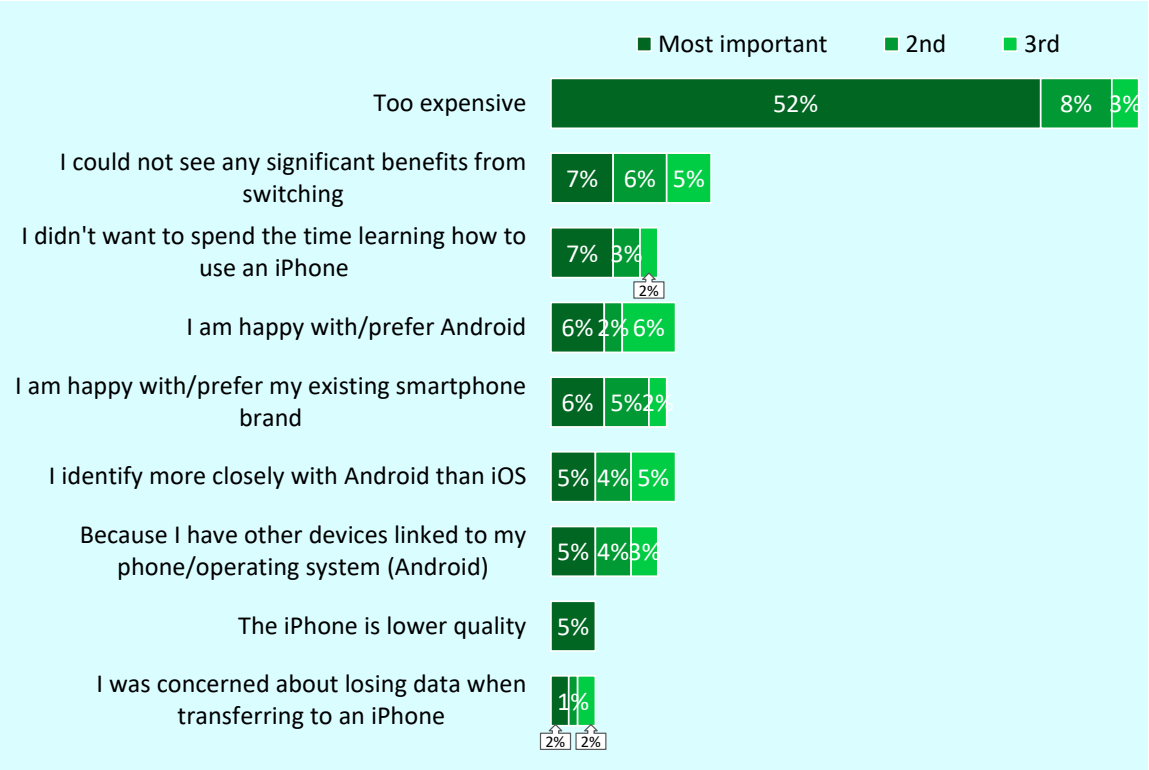


Base: iOS marginal users 133

For Android marginal users cost was the most important: 52% said that was most important, 8% 2nd most important and 3% 3rd most important. The next two reasons were:

- I could not see any significant benefits from switching: 7% most important
- I didn't want to spend time learning how to use an iPhone: 7% most important.

Figure 32: Which of the following was the most important reason, 2nd most important and 3rd most important? – Android marginal users



Base: Android marginal users 106

Further detail on why marginal users eventually decided not to switch OS was reported during the qualitative interviews. Those considering a switch either way were held back by one or a combination of the following factors:

- **Handset or OS preference**
  - Some were held back by their general sense of familiarity with a type of handset or OS, or their preference for a specific feature, such as dual sim (some Android handsets), or simple functionality (iOS).

- **Underlying brand ties**
  - While marginal users, by their definition do not express strong brand loyalty, they describe underlying brand ties usually related to the ownership and use of compatible devices, as reflected in the quantitative data. As shown above some also claim to identify more closely with a smartphone brand or OS.
  - 'I'm a Microsoft person', 'I do really like Apple', 'I like Samsung as a brand'.

> *"I wouldn't say I am the biggest Apple fan, but it is just really convenient how everything talks to each other."*
>
> iOS to Android considerer

- **Hassle factor**
  - While most marginal users interviewed in the qualitative stage were not lacking in technical confidence, they sometimes decided against embarking on the 'hassle' of learning a new OS, or transferring photos, notes etc.

"I knew there would be a way to transfer things, but in the end, I just decided I didn't have the time to be bothered with it this time."

Android to iOS considerer, fairly confident

Those who had considered the move from Android to iOS, similarly to those in the quantitative data who had not considered the switch, talked primarily about price being the main eventual barrier to switching. Some claimed that ultimately, they could not justify the extra cost of an iPhone for similar functionality to what they currently had. The cost of repairs was also assumed, or known, to be higher.

"It just came down to price. I couldn't justify it. I think if there wasn't as much of a difference in price, I probably would have made the change."

Android to iOS considerer

For some marginal users who currently had Android devices, there was a general reticence to 'give in' to the world of Apple, linked to concerns that they may end up having to pay more for devices that would be compatible with the iPhone. Also, for some there was a concern about buying into the popular choice and 'following the herd'. One user, who considered switching because he thought he could get a better quality camera on a specific iPhone model and he liked the overall quality and design of iPhones, talked about how Android smartphones are more flexible in relation to the accessories that can be used with them and the devices that they are compatible with. He had some concerns about having to change his smart watch and buy new headphones if he had made the switch to iOS.

"With Android you can get decent headphones that work really well, but Airpods are really expensive."

Android to iOS considerer

"Once you get an iPhone you can only really use it with Apple products, like watches. They tie you in in that way."

Android to iOS considerer

Aside from the factors mentioned above for both options, those who had considered the switch from iOS sometimes stayed with iOS because they became aware of a good deal on a relevant iPhone via their network provider or elsewhere, which meant that there was no real advantage to switching, as indicated in the quantitative data. Some referred to concerns about making the switch and then realising they prefer the iOS experience.

"I did think, what if I make the switch and then there are things I can't do as easily, so I just stayed put."

iOS to Android considerer, fairly confident

Among those who had considered switching, there were some concerns about what they would do with items that are stored in the cloud and how these could be retained. Most had some awareness that the ecosystems they are currently operating in can be worked around in some way, (eg Google Drive for photos as an alternative to iCloud), thus partially

removing a potential barrier to switching, but possibly adding to the perceived complexity of the switching process. One user explained that he would need to keep his iCloud account for use with his Macbook, but would probably need to set up an alternative cloud account if he switched to Android. He was not overly concerned about this, as he was a very confident user and needed to access his iCloud for work. However, he did see it as adding a potential level of additional inconvenience and extra spend.

"I have all these devices and I'm paying for the iCloud so I can access pictures from my MacBook, so then if I have a device from Android I'd need to pay for another cloud for Android, so I'd have different ecosystems going on and I have to pay twice for the cloud."

iOS to Android considerer, very confident

However, even if they had switched in the past, most admitted that they are unsure exactly how well the transition works from one OS to the other and when prompted felt that this information was not easily available. Even though this was not usually stated as the major barrier to switching, some marginal users stated that it was definitely a consideration when making the final decision not to switch. One user had switched OS in the past from Android to iOS and remembered finding it fairly easy, but he was not sure if this was down to the features on his handset at the time and how the process would work if he was switching away from iOS.

"I switched before from Huawei to iPhone and I was impressed with Huawei as they had this feature where you could say you were switching to an iPhone and it was quite easy to transfer, but I don't know if that was just something that just Huawei have, or how it would work the other way around, because I know it's so easy to swap iPhones with another iPhone."

iOS to Android considerer, fairly confident

Purchase timeline – past

- Past purchase decisions had sometimes been influenced by market changes, such as previous brands being discontinued or the rise in popularity of iPhones, as well as specific handset requirements and good deals
- The current market is perceived as having fewer differences between iOS and Android than in the past, due to the accelerated development of premium Android handsets from respected brands
- Wider access to new and used handsets from different sources also has an impact on the way users shop the market and find deals
- All claimed to be open to switching in the future, depending on price, appeal and relevance of handset, access to functionality and ease of switching

Purchase timeline - Future intentions

- All the marginal users who participated in the qualitative interviews claimed to be open to switching OS in the future and it seems that this would depend upon one or more of the following:
  - A great deal that they know is good value for money
  - Better understanding of the ease of switching OS
  - Providers conducting OS switch on their behalf (like banks)
  - A particularly appealing handset design, appropriate size and relevant features

"For me it would be the price. If I could get an iPhone that does the same for a lower price, I think I would be really interested in switching."

Android to iOS considerer

- However, even though they feel it will not be too difficult to switch operating systems, familiarity with iOS is clearly a holding factor, as is device syncing for some (smart watches, tablets and laptops)

"I know it's possible to do the same things really on Android, but it's just easy to stick with what you know when it comes down to it."

iOS to Android considerer, fairly confident

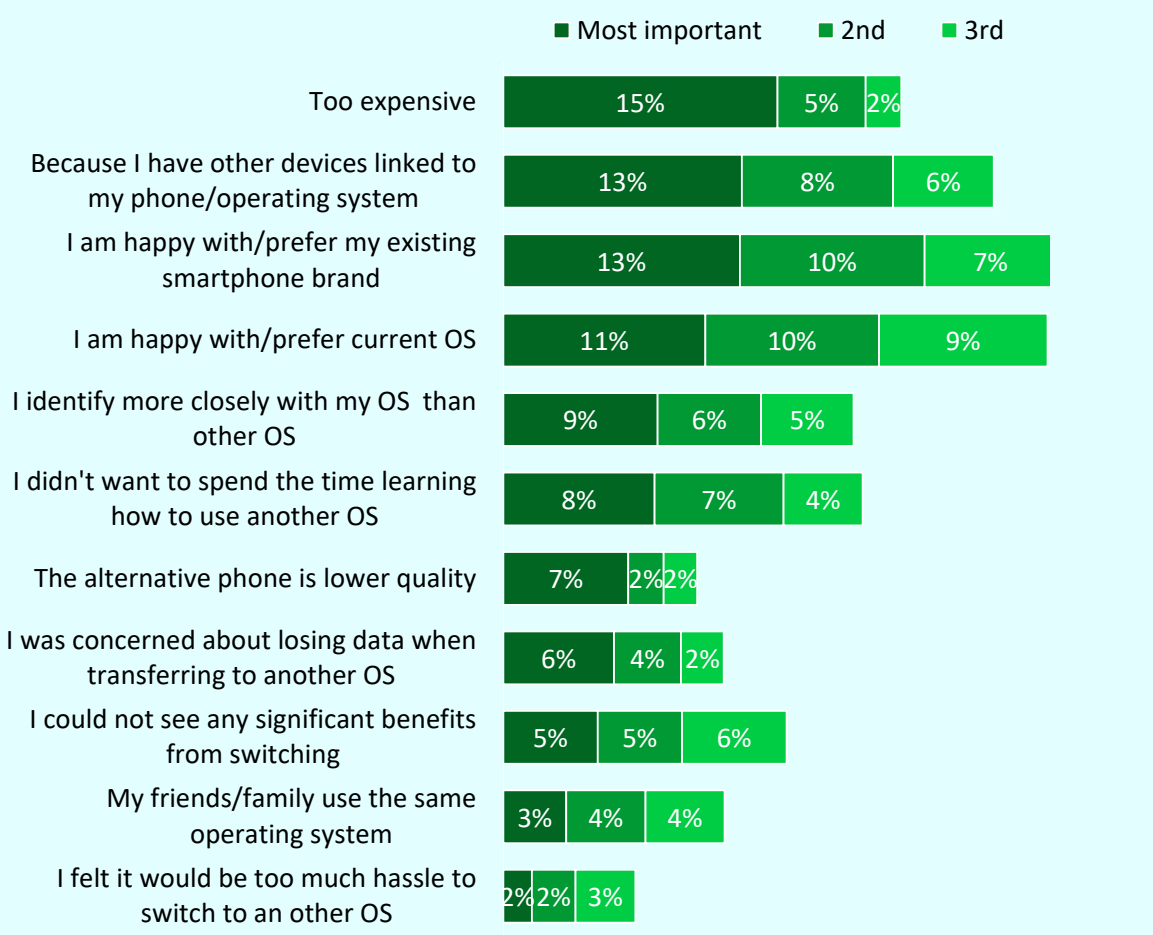
Non-considerers ranked reasons for not switching

For non-considerers, the top two reasons for not switching OS were the same as for marginal users:

- Too expensive: 15% most important, 5% 2nd and 2% 3rd
- Because I have other devices linked to my phone/operating system: 13% most important, 8% 2nd and 6% 3rd.

For this group 'I am happy with/prefer my existing smartphone brand' was the 3rd most important reason whereas for marginal users it was seventh.

Figure 33: Which of the following was the most important reason, 2nd most important and 3rd most important?



Base: Non-considerers 1788

Reasons for considering switching

Marginal users interviewed in the qualitative stage talked about how the mobile phone market and their attitudes towards it had changed in recent years and this has had some impact on their recent behaviour and consideration to switch.

- There are fewer perceived differences between operating systems than in the past. Whereas it was felt that some features were once exclusive to iOS or to Android, they are often perceived to have similar functionality now (features mentioned included swipe type, fingerprint recognition, WhatsApp calling).

> *"iPhones were definitely superior at first, but now you can get a really good Android phone that does the same thing – the more high-end brands."*
>
> Android to iOS considerer

- It was felt that the recent pace of development has been faster for Android phones, as they were once catching up with iPhones, and consumers are aware that there are now more premium handsets available on Android with appealing features and functions

(e.g Samsung, Google, Huawei). For some an additional benefit was that certain brands are also compatible with other devices, such as TVs or tablets.

- Some iOS users feel that different iPhone handsets now all look quite similar and that sometimes there are few tangible benefits to upgrading, meaning that they 'skip' models and keep their handset longer on a SIM only deal, or that they are happy to buy an older model rather than upgrading to the latest version. The following quote is from an iOS user who feels that the excitement of upgrading to a new iPhone has been lost in recent years. He is a designer who always used to think it was important to have the latest handset but feels that this is now relatively unimportant, as there are not always many visual or functional differences between iPhone models.

"There was a time when you would put your handset on your desk to show that you had the latest one, but there's hardly any difference now and nobody really notices"

iOS to Android considerer

- In contrast to the past, when consumers tended to plan their upgrade for as soon as their contract ran out or would visit the retailer when they could afford to upgrade a handset they had bought, these marginal users are aware they have wider access to buying handsets outright, new and used (eg Amazon, eBay) and claim that there are fewer barriers to purchasing from alternative sources than in the past. This can result in them shopping around more for handsets, meaning that they might find a good deal on a handset they were unaware of and then find out information about it, or they might find a deal on the specific brand that they are looking for that is not available via traditional retailers.

"There are so many people selling phones that you can usually get a pretty good deal on a phone that does what you want."

Android to iOS considerer

Marginal users referred to several factors which prompted them to consider switching to a handset on a different Operating System (OS). These were split between 'push factors' that may have put them off staying with their current handset brand or OS, and 'pull factors' (i.e. those drawing them towards the alternative).

The 'pull factors' that influenced the consideration to switch OS often mirrored those stated above as being important when purchasing either Android or iOS smartphones.

iOS → Android

As with current Android users for whom price ranked as the most important factor influencing their purchase, price was a key consideration for marginal users who considered switching from iOS to Android. This and other influencing pull factors are explained further as follows:

- Price and value considerations

  - These were driven by perceived improvements over time in the specification and availability of 'premium' Android phones for the same or a lower price than an iPhone.

"It feels like you are paying more because it's an iPhone, when you can get a really good Android phone quite a bit cheaper"

iOS to Android considerer

- Specific phone features, such as high-quality camera, eye tracking, battery life, colour, look, dual SIM
  - These was often prompted by friends or family owning a specific handset and recommending it.
  - Advertising was also mentioned here as a driver to considering an Android handset.

"You see a lot of adverts for Samsung and Google phones that look a bit different, with new features"

iOS to Android considerer

- Compatibility with tablets or laptops that they and/or others in the household use was sometimes seen as a potential benefit but was not mentioned as a key influencing factor.

- For some, the fact that they use Android work devices, or had other experience with Android, so were not unfamiliar with the OS was also cited as an incidental factor that may have somewhat diluted any initial barriers to switching.

Android → iOS

The influencing pull factors for those who had considered moving from Android to iPhone were:

- Recommendation from family members and friends already on iOS. Sometimes this was due to others highlighting specific features of iOS (eg Airdrop) or describing the overall ease of use. Occasionally others in the household were applying pressure on marginal users to switch OS. The following quote is from a father who has paid for his children to have iPhones but does not feel that he can justify the cost of buying one for himself.

"My kids make fun of me because I am the only one without an iPhone and they say 'why don't you change it, it's better and it's easier to use'"

Android to iOS considerer

- For some, there was a perception that an iPhone might be a more suitable handset than that which they were using, due to potentially superior battery life, a better camera, or the more suitable size of phone (especially not too large). Others were simply attracted to the style and quality of iPhone handsets.

- Being made aware of a deal involving an iPhone for a similar price to an Android phone they were looking at heightened the interest in switching for some.

- Reflecting the quantitative findings where compatibility with other personal smart devices ranked higher in importance for current iOS users than Android users, those who currently owned or were looking to buy other Apple devices, such as iPad, MacBook or Apple Watch considered the advantages of owning a compatible handset.

"I have a MacBook and I think it could be useful for passwords and things like that."

Android to iOS considerer

- Again, reflecting the quantitative findings where security ranked higher in importance for current iOS users than for Android users, some marginal users were attracted to iOS due to the perception that it may be more secure or that it is easier to change the privacy settings on iPhones to avoid tracking. One mum who has children with iPhones had noticed that it was easier to change the settings on their phones to reduce the extent to which their activity was being tracked across apps. This had played a part in her consideration to switching OS.

"Sometimes you look for something and all these adverts come up everywhere on the phone because they can track what you are doing. It's much worse on Android and I know it's easier to change it on the iPhone because my kids have them."

Android to iOS considerer

Push factors

Push factors that prompted marginal users of either OS to look elsewhere were usually hardware (handset) related, such as battery life, or their camera being poor quality, reflecting the relative dissatisfaction outlined in the quantitative findings above:

- For iOS users in particular, the push factor was often a combination of these hardware issues and concerns about the price of replacing their handset (either outright or on a monthly contract), and/or the price of repairs.

- iPhone battery life was a frustration for some iOS users, who were unsure if this would be improved with an Android phone.

- The size of handset was also mentioned by some iOS users: either related to ease of portability and fitting into pockets etc, with some iPhone models being too large; or because they wanted a larger screen than their current iPhone to stream entertainment.

"The iPhone I was thinking about was really big and I like it to fit in my pockets and handbag"

Female iOS to Android considerer

- There were several mentions of iOS updates slowing down the operation of older models of iPhones and some were unsure whether this was a deliberate move.

> *"I feel like they deliberately make it so that you have to upgrade your handset after a while because the iOS updates slow it down"*
>
> iOS to Android considerer

- For Android users, if push factors were mentioned, these usually related to frustration with camera quality or battery life.

Case Study – iOS to Android marginal user

- Teacher, fairly confident with technology
- Switched to iPhone when received as a gift several years ago after Blackberry handsets were no longer available.
- Has had various iPhones since due to the ease of use and familiarity
- Does not describe herself as strongly brand loyal to Apple/iOS
- Does not use many apps and sees phone as mainly for communication
- Main consideration is a very good camera, as she is a keen photographer
- She broke the camera on her iPhone and was concerned about the cost of repairing or replacing
- She had heard of a Samsung phone with a very good camera that would be cheaper than an iPhone
- Sought information online and considered purchasing
- Did not express concern about switching OS as she thought she would get used to it fairly easily
- Did not consider apps, as her usage is low
- She already uses Google Drive for her photos, so knew that wouldn't be an issue if she switched
- However, she managed to get a deal on an iPhone with a good camera and decided to stick with iOS, as she was so familiar with the functionality
- After she decided to stay with iOS, she did wonder about whether there is an alternative to Apple wallet on Android, as she finds that quite useful

> *"I honestly don't think there is anything I can do on iPhone that I couldn't do on Android, but after I got my new iPhone, I did wonder about the Apple wallet and if there is an Android equivalent."*

3.9 Switchers

Overall, 8% of iOS users switched from Android (107 participants) and 5% of Android smartphone users switched from iOS (46 participants).

This section covers the reasons for switching, the ease of switching and the satisfaction with the switching process.

Since there are only 46 who switched from an iOS to an Android smartphone, we mainly focus on those who switched from Android to iOS. Where we do provide data on those who switched from an iOS to an Android smartphone this will show numbers and not percentages.

Overall, the main reasons cited for switching were a perception that the alternative has a better operating system, that the alternative was better quality, that their friends /family use the alternative operating system and price:

- It has a better operating system 31%
- The brand is of higher quality 31%
- My friends /family use Android/iOS 26%
- It was a good price 25%
- It offers good value for money 20%
- I was confident about transfer of data when transferring to iOS/Android 17%
- I was unhappy with my old smartphone brand 17%

Android to iOS Switchers

When asked which of the following reasons explain why they switched to an iPhone, the three top reasons, each mentioned by just under a third, were:

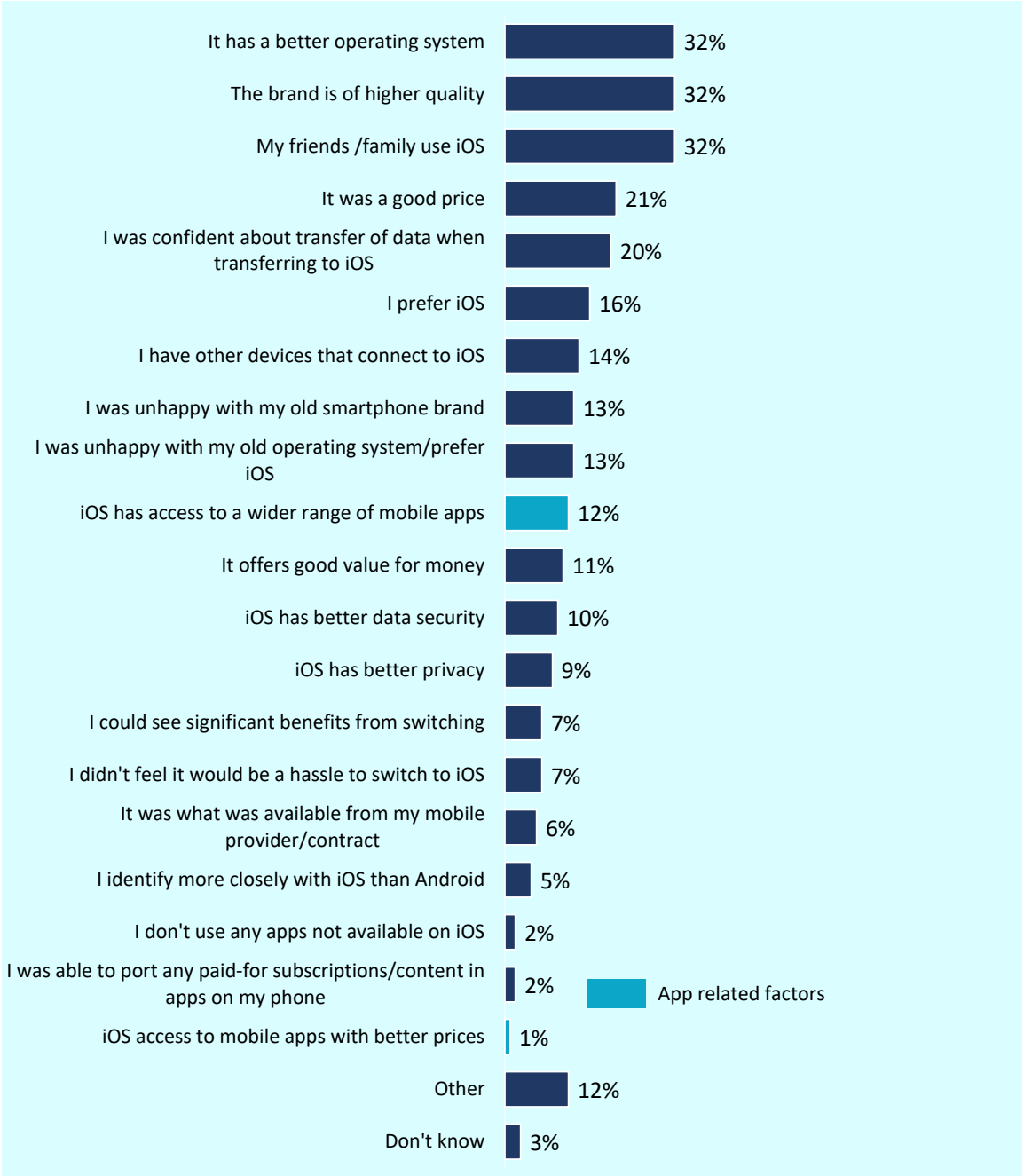
- it has a better operating system (32%)
- the brand is higher quality (32%)
- my friends/family use iOS (32%).

Overall, 2.8 reasons were given by each on average.

Figure 34 shows the reasons ranked in importance and also highlight reasons termed as 'app related factors'.

Overall, the proportions mentioning app related factors was 13%:

Figure 34: Which of the following reasons explain why you switched to an iPhone?



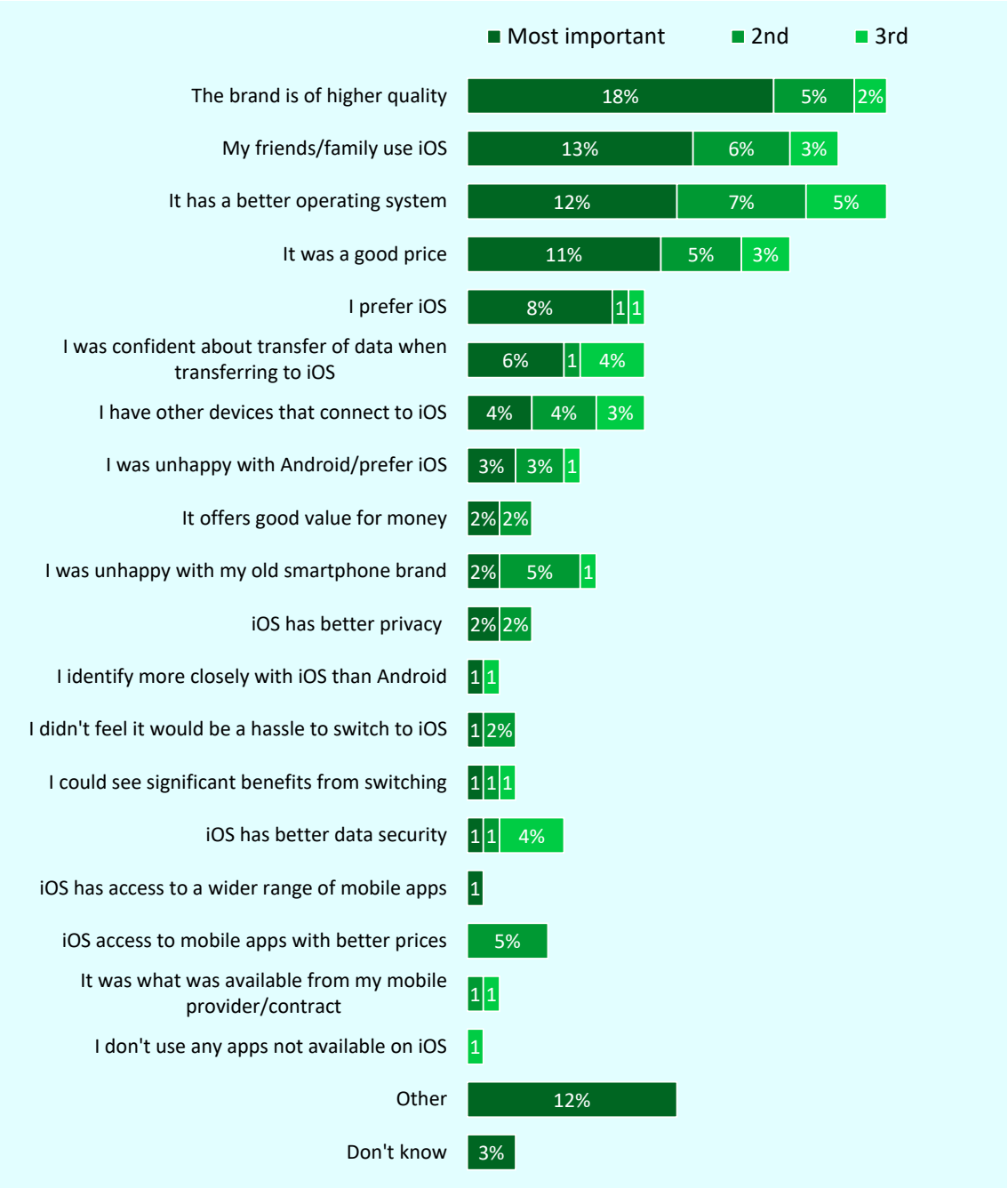
Base: 107 switched to iOS

When the reasons were ranked the brand is higher quality is most important for those switching to iOS (18% most important, 5% 2nd and 3% 3rd).

The next most important reasons were:

- my friends/family use iOS: 13% most important, 6% 2nd and 3% 3rd
- it has a better operating system: 12% most important, 7% 2nd and 5% 3rd
- It was a good price: 11% most important, 5% 2nd and 3% 3rd

Figure 35: Which of the following was the most important reason?/second most important reason?/third most important reason?



Base: 107 switched to iOS

For those who switched from iOS to Android the main reasons mentioned were:

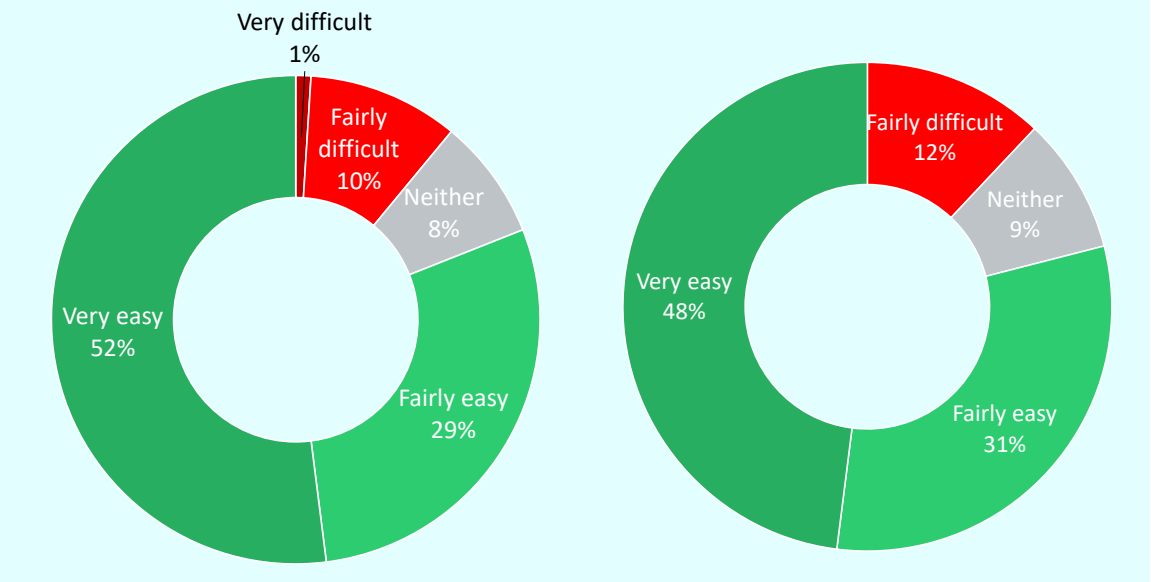
- It offers good value for money
- It was a good price
- It has a better operating system
- The brand is higher quality.

Ease of switching

Those who switched mobile operating system were asked how easy or difficult they found the experience of switching to an iPhone/Android phone.

Overall, 81% found switching mobile OS easy (79% for Android to iOS).

Figure 36: How easy or difficult did you find the experience of switching to an iPhone/Android phone?



Base: 153 who switched

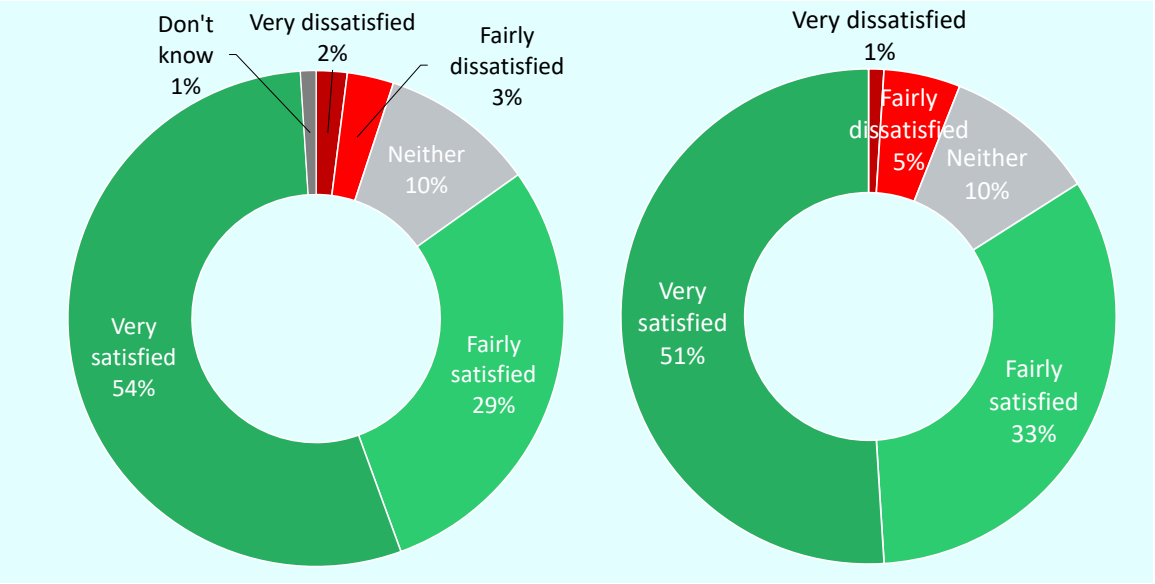
Base: 107 switched to iOS

Satisfaction with switching

Then those who switched mobile operating system were asked how satisfied or dissatisfied they were with their overall experience of switching to an iPhone/Android phone.

Again, for the whole switcher sample there was very high satisfaction ratings: 83% fairly or very satisfied. For the sample who switched from Android to iOS the overall satisfaction rating was 84%. See Figure 37.

Figure 37: Overall, how satisfied or dissatisfied were you with your experience of switching from a iPhone/Android smartphone to an Android phone/iPhone?



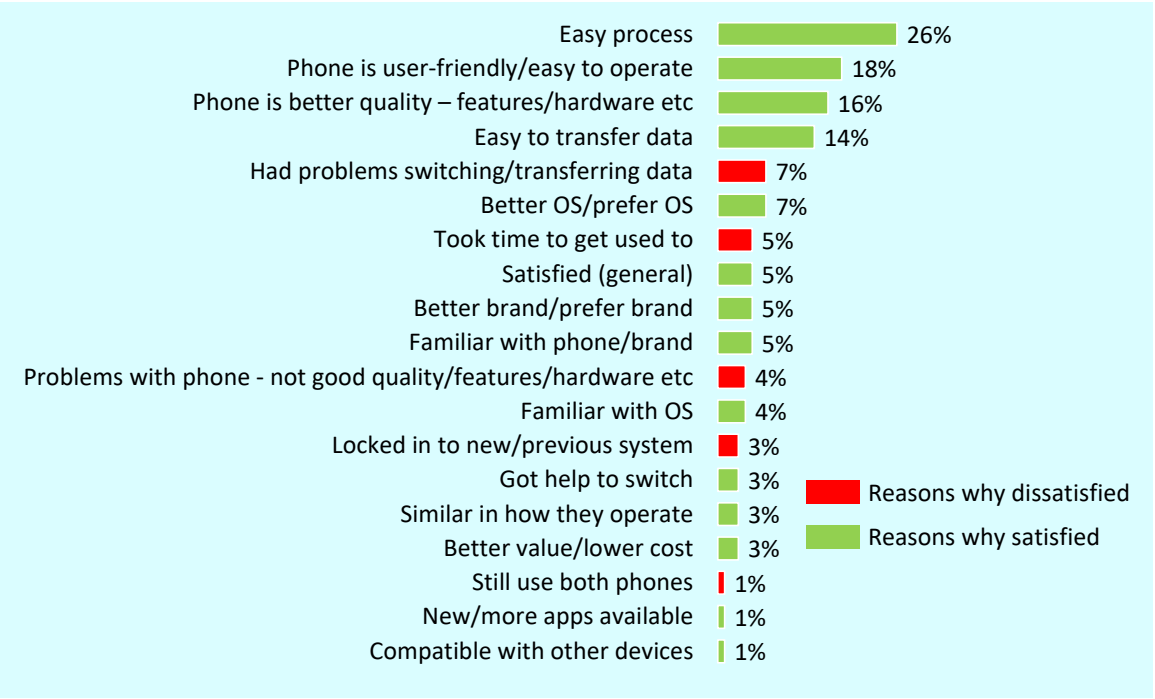
Base: 153 who switched

Base: 107 switched to iOS

Switchers were asked why they gave the satisfaction rating they gave. The responses were hand analysed and coded to a code frame.

The main reasons given were 'easy process' (26%), 'Phone is user-friendly/easy to operate' (18%) and 'Phone is better quality – features/hardware etc' (16%). See Figure 38.

Figure 38: Reasons for satisfaction rating



Base: 153 who switched

Those who switched were then asked how satisfied or dissatisfied they were with the following when switching:

- Accessing the apps (eg music, gaming, film/TV, dating apps) from my old phone
- Transferring data (eg photos, messages, videos) from my old phone
- Accessing paid-for subscriptions on my new phone (eg a subscription to a newspaper app) which were purchased on my old phone
- Managing subscriptions on my new phone (eg cancelling, upgrading or renewing the subscription to a newspaper app) which were purchased on my old phone
- Setting up or adding new email accounts
- Connecting to other devices
- Using a new operating system
- Transferring music from my old phone
- Using a new app store.

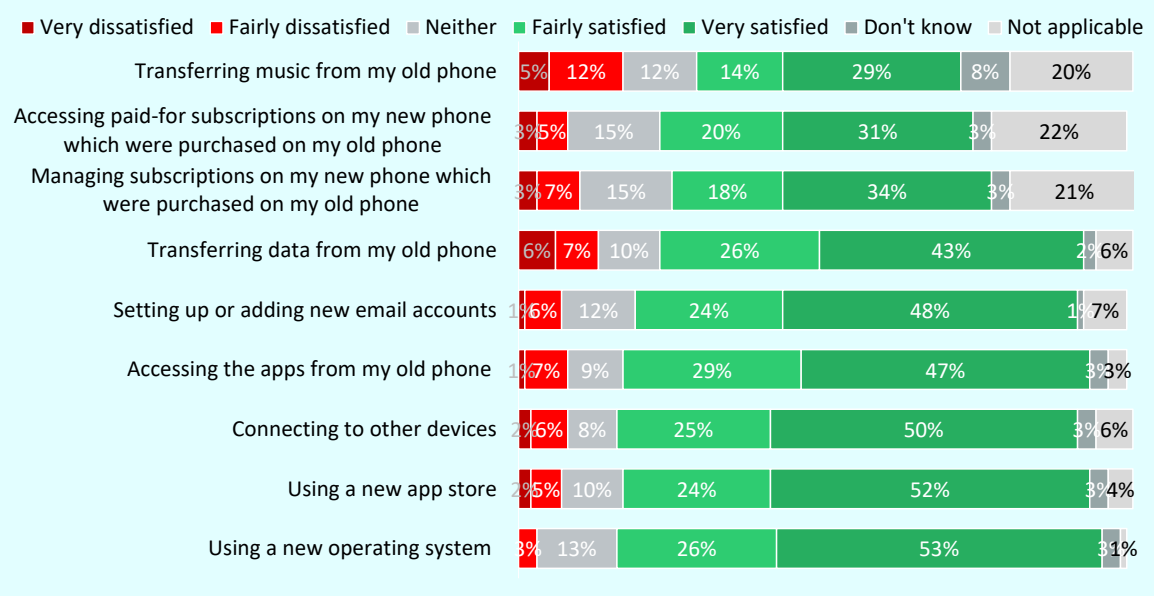
For the overall sample of switchers, satisfaction levels were high for most aspects of switching although there was some notable dissatisfaction with transferring data and music.

The main areas of dissatisfaction were:

- Transferring music (17% fairly or very dissatisfied)
- Transferring data (13% fairly or very dissatisfied)
- Accessing subscriptions from old phone (10% fairly or very dissatisfied).

Overall, 35% dissatisfied with at least one aspect.

Figure 39: How satisfied or dissatisfied were you with the following when switching from an Android phone/iPhone to an Android phone/iPhone?



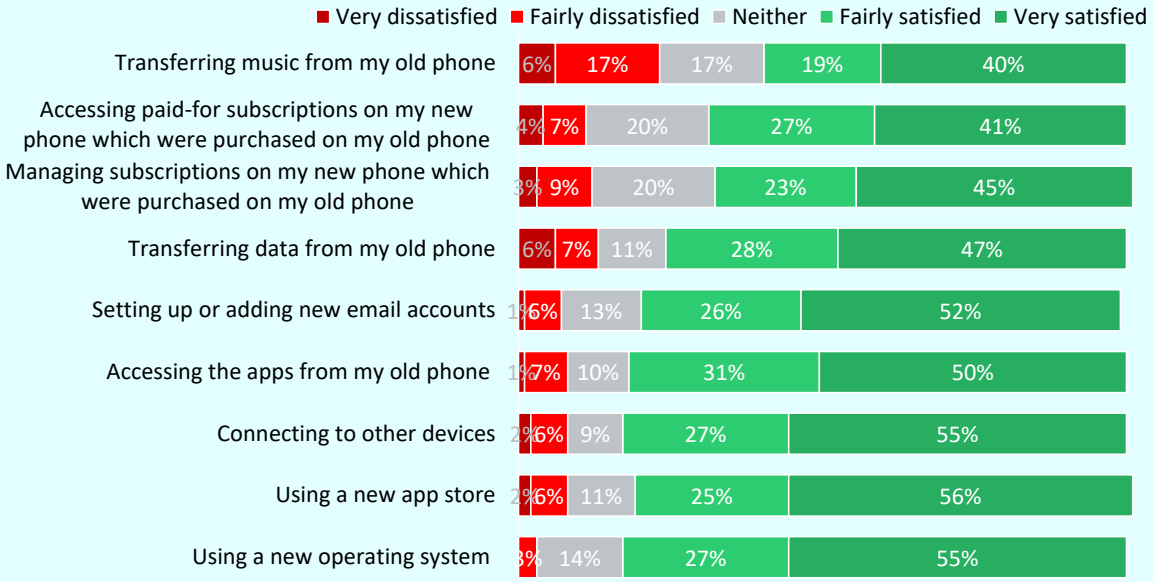
Base: 153 who switched

After excluding 'don't knows' and 'not applicables' (so that the satisfaction ratings were based on experience), the dissatisfaction levels were more marked:

- Transferring music (23% fairly or very dissatisfied)
- Transferring data (13% fairly or very dissatisfied)

- Managing subscriptions (12% fairly or very dissatisfied)
- Accessing subscriptions from old phone (11% fairly or very dissatisfied).

Figure 40: How satisfied or dissatisfied were you with the following when switching from an Android phone/iPhone to an Android phone/iPhone? – excluding don't knows and not applicables



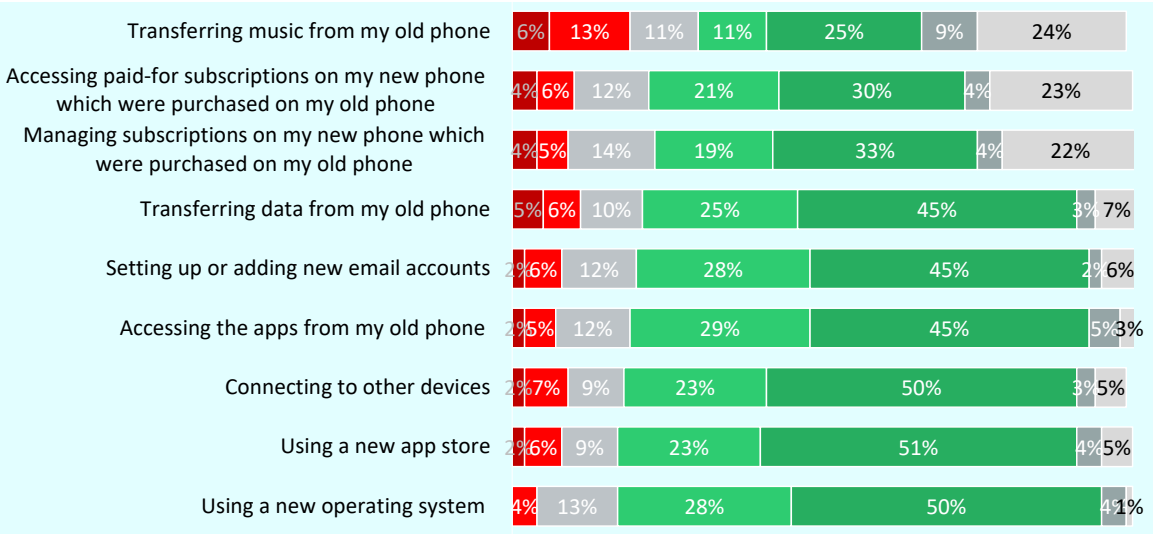
Base: ranges from 110 to 143 depending on number of responses excluded from the initial sample size of 153 users that switched

For the sample that switched from Android to iOS, the main areas of dissatisfaction were similar to those for all switchers:

- Transferring music (19% fairly or very dissatisfied)
- Transferring data (11% fairly or very dissatisfied)
- Accessing subscriptions from old phone (10% fairly or very dissatisfied).

See Figure 41.

Figure 41: How satisfied or dissatisfied were you with the following when switching from an Android phone to an iPhone?

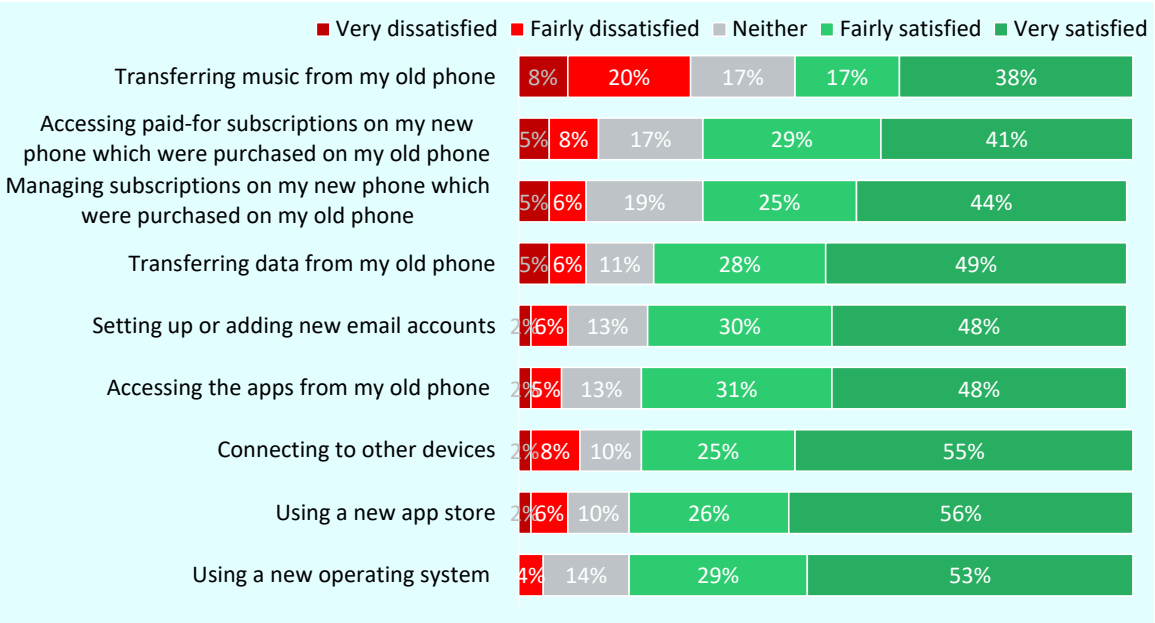


Base: 107 switched to iOS

After excluding 'don't knows' and 'not applicables' (so that the ratings are based on experience), dissatisfaction levels more marked.

- Transferring music (28% fairly or very dissatisfied)
- Accessing subscriptions from old phone (13% fairly or very dissatisfied)
- Managing subscriptions (11% fairly or very dissatisfied)
- Transferring data (11% fairly or very dissatisfied).

Figure 42: How satisfied or dissatisfied were you with the following when switching from an Android phone to an iPhone? – excluding don't knows and not applicables



Base: ranges from 71 to 102 depending on number of responses excluded from the initial sample size of 107 users that switched to iOS

3.10 Mobile apps behaviour and attitudes

This section concerns mobile apps and focusses on gaming, entertainment/TV, dating and music apps.

Means of getting Apps onto Smartphone

First of all, participants were asked in which of the following ways they got apps onto their smartphone:

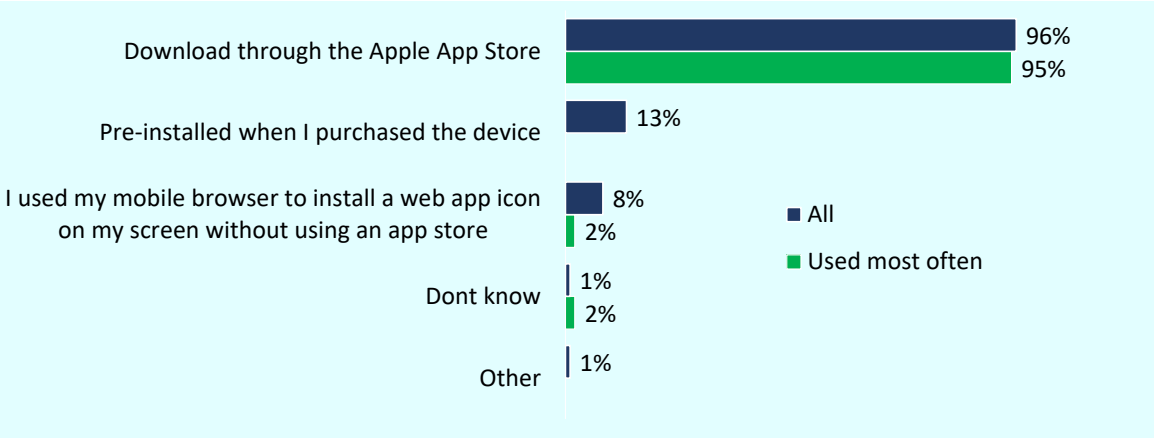
- **iOS sample:** Download through the Apple App Store
- **Android sample:** Download through the Google Play Store
- **Samsung sample:** Download through the Samsung Galaxy Store
- **Android sample:** Download through the Amazon App Store
- **Huawei sample:** Download through the Huawei App Gallery
- **Android sample:** Download through Aptoide
- **Android sample:** Download through APKpure

- **Android sample:** Download through F-droid
- I used my mobile browser to install a web app icon on my screen without using an app store
- **Android sample:** Download an app directly from a website (also known as 'sideloading') without using an app store
- Pre-installed when I purchased the device
- Other
- Don't know.

On Apple's iOS devices 96% of users use the Apple App Store and on Android devices 92% of users use the Google Play Store,

For the iOS sample (see Figure 43), in addition to the Apple App Store, 13% used pre-installed apps and 8% used web apps.

Figure 43: Which of the following ways do you get apps onto your smartphone?/ Which of these ways do you use most often? – iOS users



Base: iOS 1299

For the Android sample (see Figure 44) in addition to the Google Play Store, 23% used the Samsung App Store, 16% used pre-installed apps and 12% used web apps.

Overall:

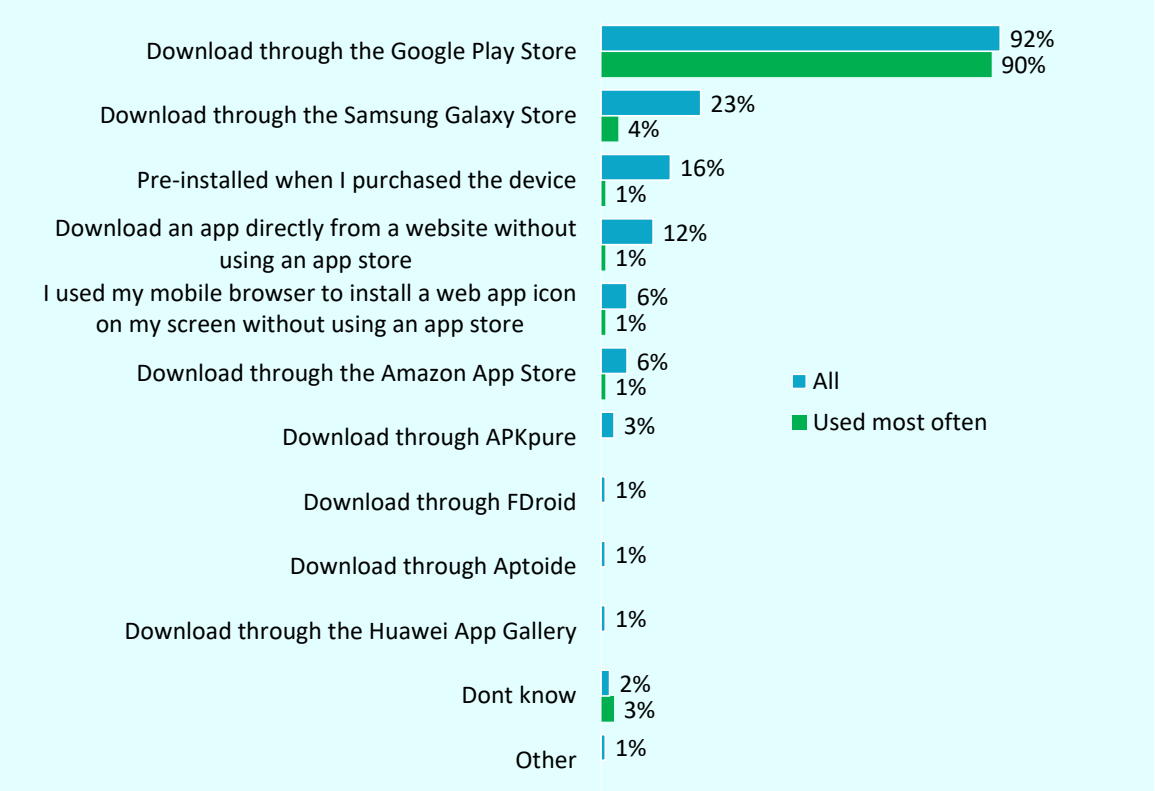
- 30% used Alternative Android App Stores[19]
- 36% used Alternative native app distribution[20]
- 39% used Alternative content distribution[21].

[19] Alternative Android App Stores includes Samsung Galaxy Store, Amazon App Store, Huawei App Gallery, Aptoide, APKpure and F-droid

[20] Alternative native app distribution includes Samsung Galaxy Store, Amazon App Store, Huawei App Gallery, Aptoide, APKpure, F-droid and download an app directly from a website without using an app store

[21] Alternative content distribution includes Samsung Galaxy Store, Amazon App Store, Huawei App Gallery, Aptoide, APKpure, F-droid, I used my mobile browser to install a web app icon on my screen without using an app store and download an app directly from a website without using an app store

Figure 44: Which of the following ways do you get apps onto your smartphone?/ Which of these ways do you use most often? – Android users



Base: Android 945

Types of mobile app used

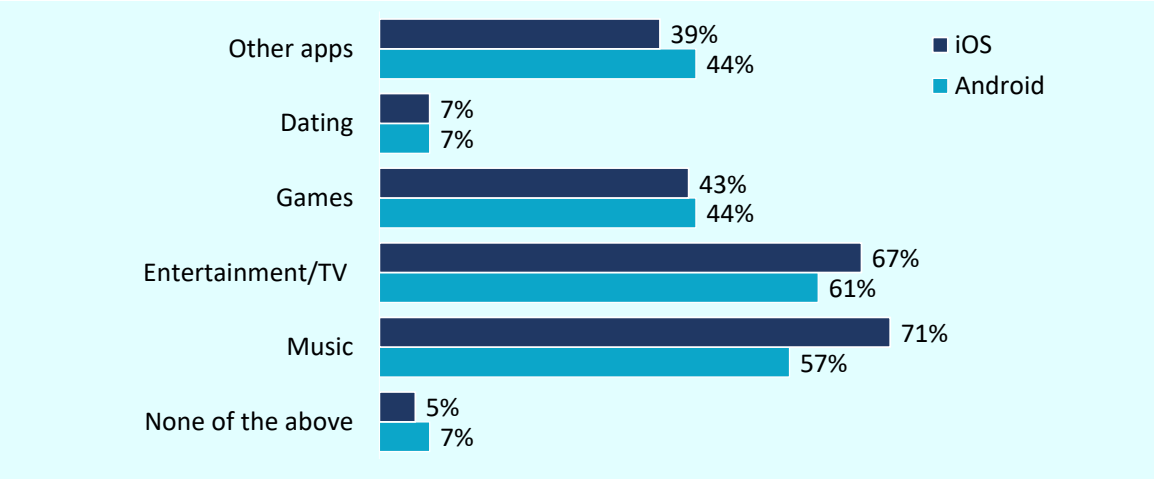
Participants were then asked which, if any, of the following types of mobile apps they used on your smartphone:

- **Games** (eg Candy Crush, Clash of Clans, Fortnite)
- **Entertainment/TV** (eg Netflix, YouTube, TikTok, Disney+, Sky Sports)
- **Dating** (eg Match, Tinder, Bumble)
- **Music** (eg Spotify, Apple Music, Amazon Music)
- Other apps
- None of the above.

This was asked to assess the proportions with gaming, entertainment/TV, dating and music apps.

Over half of both iOS and Android smartphone users have music and entertainment/TV apps, 43-44% have gaming apps and 7% dating apps. See Figure 45.

Figure 45: Which, if any, of the following types of mobile apps do you use on your smartphone?



Base: iOS 1299, Android 945

iOS users were more likely to have **music** apps than Android users (71% v 57%).

iOS users were also more likely to have **entertainment/TV** apps than Android users (67% v 61%)

Similar proportions have **gaming** apps and **dating** apps.

Younger smartphone owners are significantly more likely to have gaming, entertainment/TV, dating and music apps than older smartphone owners. Also, females are significantly more likely to have gaming apps than males. See Table 19.

Table 19: Which, if any, of the following types of mobile apps do you use on your smartphone by age and gender

	Total	Age				Gender	
		18 to 34	35 to 54	55 to 64	65+	Male	Female
None of the above	6%	3%	2%	6%	12%	6%	5%
Music	65%	82%	75%	64%	49%	67%	65%
Entertainment/TV	65%	85%	77%	65%	42%	67%	64%
Games	44%	57%	50%	43%	31%	41%	47%
Dating	7%	16%	10%	4%	3%	8%	7%
Other apps	41%	27%	34%	43%	53%	42%	41%
Base	**2,244**	**233**	**840**	**473**	**679**	**1,112**	**1,078**

Green shaded boxes significantly higher than orange shaded boxes for each category

Gaming Apps

The 43% on iOS and 44% on Android smartphones who have gaming apps on their smartphone were asked how else, if at all, they accessed the mobile gaming services that they have an app for on their smartphone.

Gaming services were accessed mainly on iPads/tablets, games consoles and computers/laptops (in addition to the smartphone app). See Figure 46.

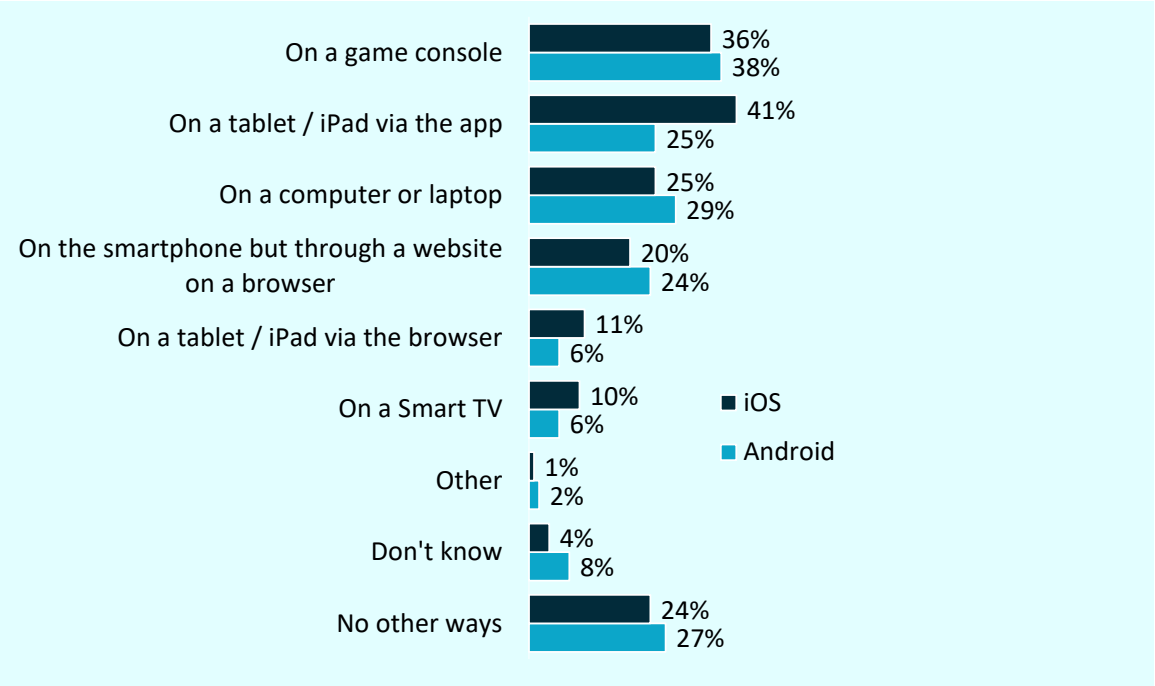
For the iOS sample, 72% access gaming apps in other ways, mainly:

- tablet/iPad via the app (41%)
- games console (36%)
- computer/laptop (25%).

For the Android smartphone sample, 65% access gaming apps in other ways, mainly:

- games console (38%)
- computer/laptop (29%)
- tablet/iPad via the app (25%).

Figure 46: How else, if at all, do you access the mobile gaming services that you have an app for on your smartphone?



Base: iOS 564, Android 416 who have gaming apps on their smartphone

The proportion who say that the only additional way of accessing the mobile gaming services was via a tablet/iPad via the app or said there were no other ways (ie they only use the native app on a mobile device) is 35% for iOS and 31% for Android.

Younger gamers much more likely to use gaming consoles and computers or laptops than older gamers. See Table 20.

Table 20: How else, if at all, do you access the mobile gaming services that you have an app for on your smartphone by age

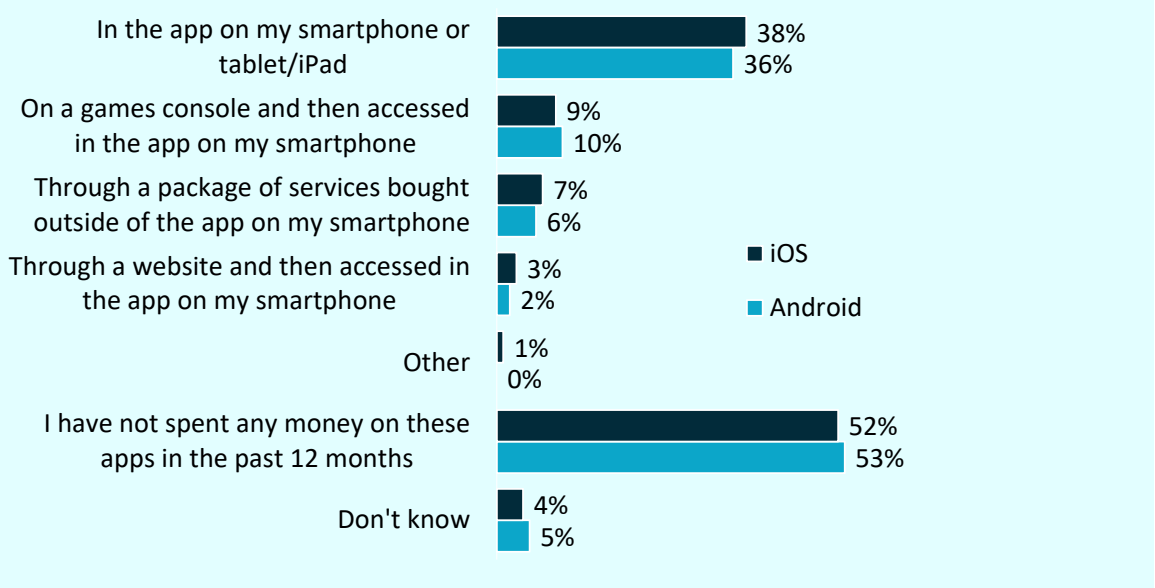
	18 to 34	35 to 54	55 to 64	65+
On a game console	60%	44%	33%	11%
On a computer or laptop	43%	29%	19%	18%
On a tablet / iPad via the app	37%	33%	29%	40%
On the smartphone but through a website on a browser	20%	22%	20%	25%
On a tablet / iPad via the browser	11%	9%	7%	9%
On a Smart TV	11%	10%	8%	3%
Base (with gaming apps on smartphone)	**133**	**423**	**205**	**211**

Green shaded boxes significantly higher than orange shaded boxes for each category

The sample who had gaming apps were asked how, if at all, they spent money on gaming apps that were on their smartphone in the last 12 months. Nearly half (48% iOS, 47% Android) don't spend any money on Gaming apps.

The most mentioned means were in the app on their smartphone or tablet/iPad (38% iOS/36% Android), games console (9%/10%) and through a package of services bought outside the app on their smartphone (7%/6%). There was very little difference in the response by mobile operating system. See Figure 47.

Figure 47: How, if at all, have you spent money on gaming apps (eg levels, tokens) that are on your smartphone in the last 12 months?



Base: iOS 564, Android 416 who have gaming apps on smartphone

Almost a quarter (24%) who use in app on their smartphone or tablet/iPad to spend money on gaming apps also use other means of payment.

Younger gamers use more means of payments than older gamers:

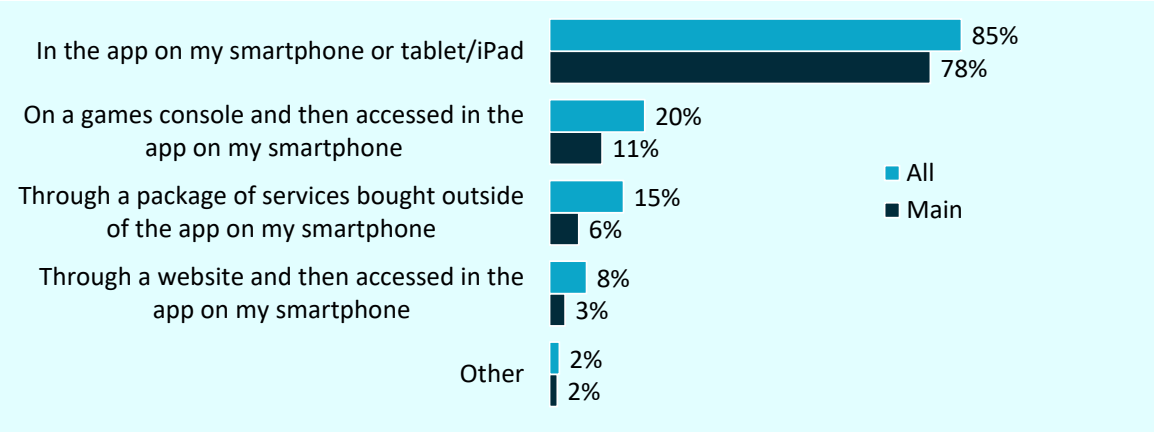
- 52% of 18-34 year olds use one or more means of payment
- 46% of 35-54 year olds use one or more means of payment

- 46% of 55-64 year olds use one or more means of payment
- 30% of 65+ year olds use one or more means of payment.

Figure 48 for iOS and Figure 49 for Android show all means and the main means of spending money on gaming apps (after excluding those who didn't spend any money on gaming apps in the past 12 months).

For iOS, all and **main** means (for those who mention more than one means) are dominated by in the app on their smartphone or tablet/iPad: 85% all means and 78% main means.

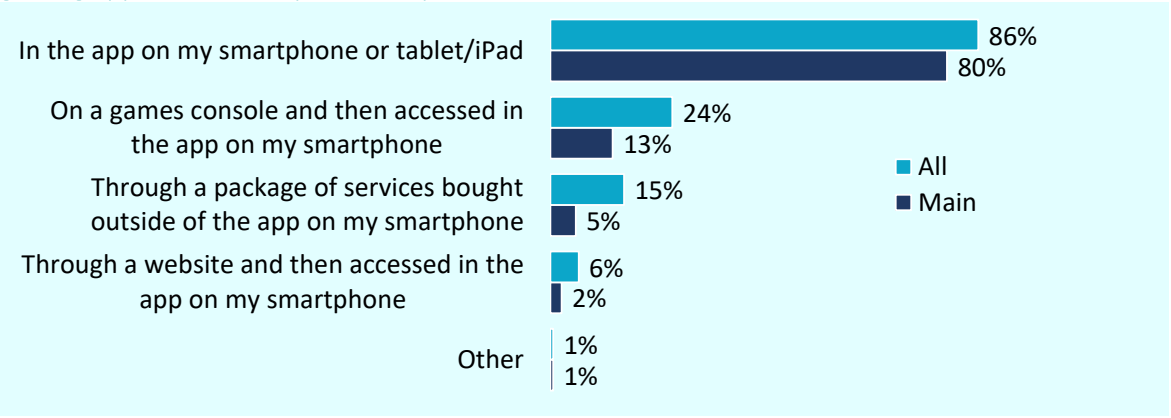
Figure 48: How, if at all, have you spent money on gaming apps (eg levels, tokens) that are on your smartphone in the last 12 months? / And which of these is the main way you pay for content in the gaming apps that are on your smartphone?



Base: iOS 250 who spend money on gaming apps

For the Android sample the results are very similar to iOS with all and **main** means (for those who mention more than one means) dominated by in the app on their smartphone or tablet/iPad: 86% all means and 80% main means.

Figure 49: How, if at all, have you spent money on gaming apps (eg levels, tokens) that are on your smartphone in the last 12 months? / And which of these is the main way you pay for content in the gaming apps that are on your smartphone?



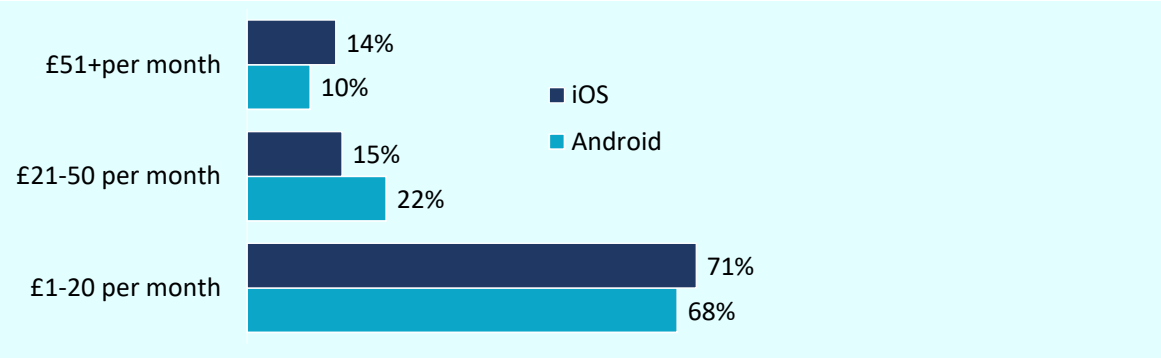
Base: Android 176 who spend money on gaming apps

The sample that did spend money on Gaming apps, were asked how much they spend within the mobile gaming apps on their smartphone on average per month in the last year including subscriptions, downloads and other in-app purchases.

The answers have been grouped into three cost bands.

Overall, 71% on iOS and 68% on Android spent £20 or less per month. See Figure 50.

Figure 50: How much, if anything, did you spend within the mobile gaming apps on your smartphone on average per month in the last year including subscriptions, downloads and other in-app purchases?



Base: iOS 222, Android 162 who spend money on gaming apps

Analysis by age for the whole sample of gamers who spend money on gaming apps shows that younger gamers spend more on mobile gaming apps than older gamers. See Table 21.

Table 21: How much, if anything, did you spend within the mobile gaming apps on your smartphone on average per month in the last year including subscriptions, downloads and other in-app purchases by age

	18 to 34	35 to 54	55 to 64	65+
£1-20 per month	57%	75%	65%	78%
£21-50 per month	25%	15%	18%	16%
£51+per month	18%	11%	18%	6%
Base (who spend money on gaming apps)	**67**	**178**	**85**	**51**

Green shaded boxes significantly higher than orange shaded boxes for each category

Entertainment/TV apps

The 67% on iOS and 61% on Android smartphones who have entertainment/TV apps on their smartphone were asked how else, if at all, they accessed the mobile entertainment/TV services that they have an app for on their smartphone.

Entertainment/TV apps were accessed mainly on Smart TVs, computers/laptops and iPads/tablets (in addition to smartphone app). See Figure 51.

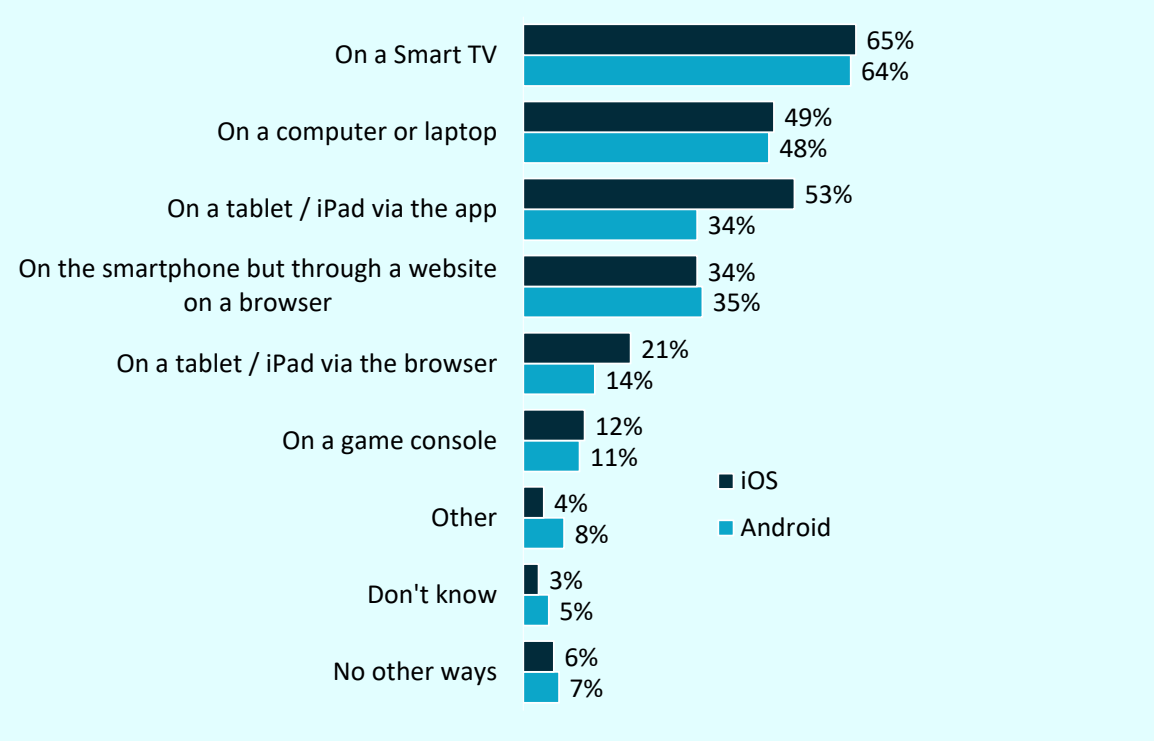
For the iOS user sample 91% access entertainment/TV apps in other ways, mainly:

- smart TV (65%)
- tablet/iPad (53%)
- computer/laptop (49%)
- smartphone but through a website on a browser (34%).

For the Android sample 88% access entertainment/TV apps in other ways, mainly:

- smart TV (64%)
- computer/laptop (48%)
- smartphone but through a website on a browser (35%)
- tablet/iPad (34%).

Figure 51: How else, if at all, do you access the mobile entertainment/TV services that you have an app for on your smartphone?



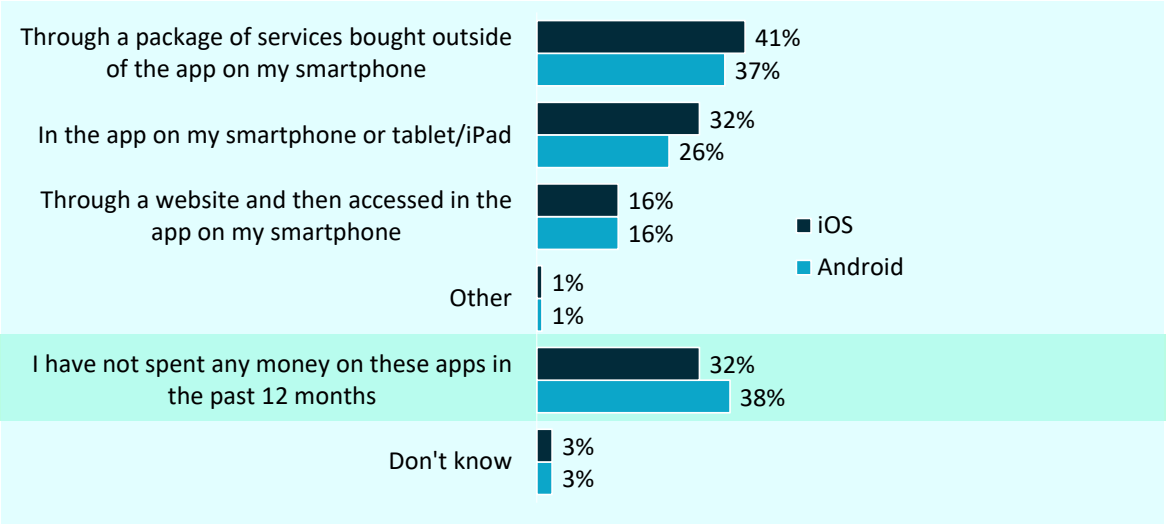
Base: iOS 876, Android 573 who have entertainment/TV apps on their smartphone

The proportion who say that the only additional way of accessing the mobile entertainment/TV services was via a tablet/iPad via the app or said there were no other ways (ie they only use the native app on a mobile device) is 8% for iOS and 7% for Android.

The sample who had entertainment/TV apps were asked how, if at all, they spent money on entertainment/TV apps that were on their smartphone in the last 12 months. 32% of iOS and 38% of Android users have not spent any money on entertainment/TV apps.

The most mentioned means were through a package of services (41% iOS/37% Android) and in the app (32%/26%) and through a website and then accessed in the app on the smartphone (16% each). There was little difference in the response by mobile operating system. See Figure 52.

Figure 52: How, if at all, have you spent money on entertainment apps (eg films, TV series/programmes) that are on your smartphone in the last 12 months?



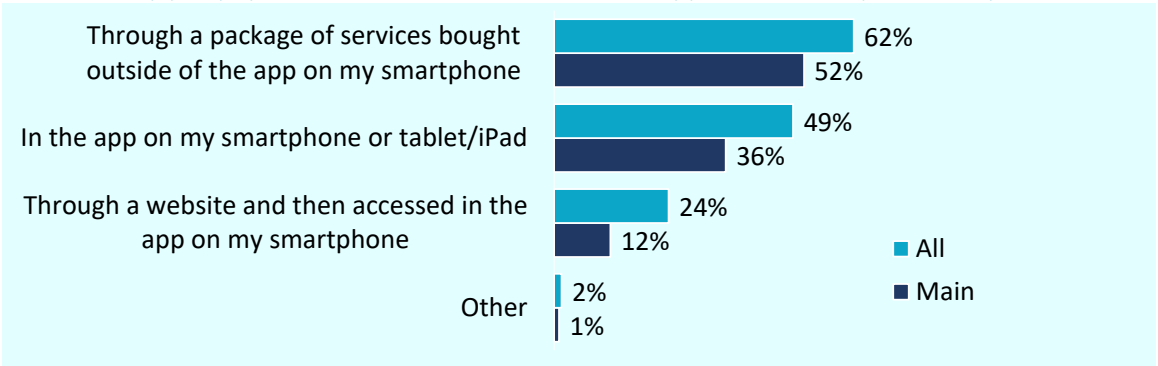
Base: iOS 876, Android 573 who have entertainment/TV apps on their smartphone

Nearly a half (49%) who use in app on their smartphone or tablet/iPad to spend money on entertainment/TV apps also use other means of payment.

Figure 53 for iOS and Figure 54 for Android show all means and the main means of spending money on entertainment/TV apps (after excluding those who didn't spend any money on entertainment/TV apps in the past 12 months).

For iOS, all and **main** means (for those who mention more than one means) are mainly though a package of services bought outside the app on their smartphone: 62% all means and 52% main means and in the app on their smartphone or tablet/iPad: 49% all means and 36% main means.

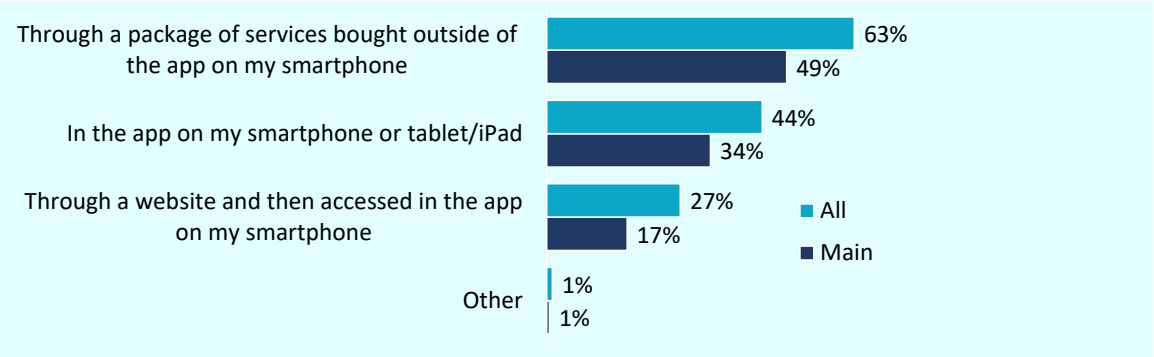
Figure 53: How, if at all, have you spent money on entertainment apps (eg films, TV series/programmes) that are on your smartphone in the last 12 months? / And which of these is the main way you pay for content in the entertainment apps that are on your smartphone?



Base: iOS 574 who spend money on entertainment apps

For Android, all and **main** means (for those who mention more than one means) are, as for iOS, mainly though a package of services bought outside the app on their smartphone: 63% all means and 49% main means and in the app on their smartphone or tablet/iPad: 44% all means and 34% main means.

Figure 54: How, if at all, have you spent money on entertainment apps (eg films, TV series/programmes) that are on your smartphone in the last 12 months? / And which of these is the main way you pay for content in the entertainment apps that are on your smartphone?



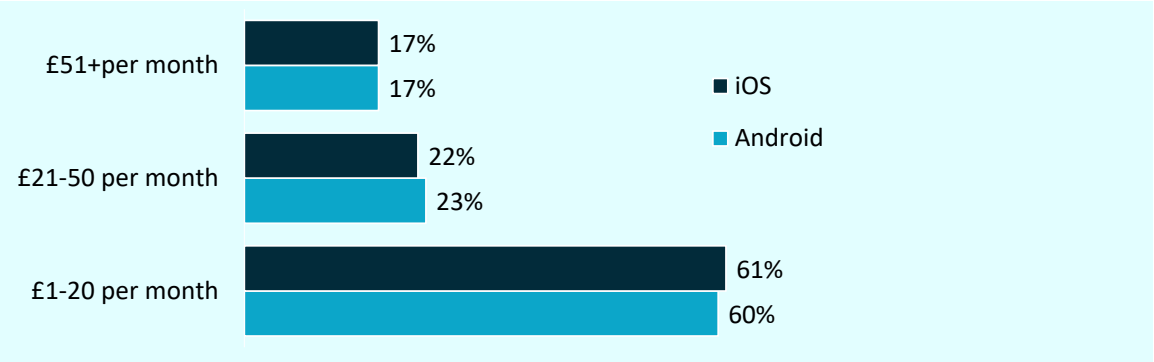
Base: Android 339 who spend money on entertainment apps

The sample that did spend money on entertainment/TV apps, were asked how much they spend within the mobile entertainment/TV apps on their smartphone on average per month in the last year including subscriptions, downloads and other in-app purchases.

The answers have been grouped into three cost bands.

Overall, 61% on iOS and 60% on Android spent £20 or less per month. See Figure 55.

Figure 55: How much, if anything, did you spend within the mobile entertainment/TV apps on your smartphone on average per month in the last year including subscriptions, downloads and other in-app purchases?



Base: iOS 565, Android 332 who spend money on entertainment apps

Analysis by age for the whole sample of entertainment/TV app users who spend money on entertainment/TV apps shows that younger users spend more on mobile entertainment/TV apps than older users. See Table 22.

Table 22: How much, if anything, did you spend within the mobile entertainment/TV apps on your smartphone on average per month in the last year including subscriptions, downloads and other in-app purchases by age

	18 to 34	35 to 54	55 to 64	65+
£1-20 per month	60%	61%	57%	66%
£21-50 per month	16%	23%	29%	18%
£51+per month	**24%**	16%	14%	16%
Base (who spend money on entertainment apps)	**136**	**418**	**192**	**147**

Green shaded boxes significantly higher than orange shaded boxes for each category

Dating apps

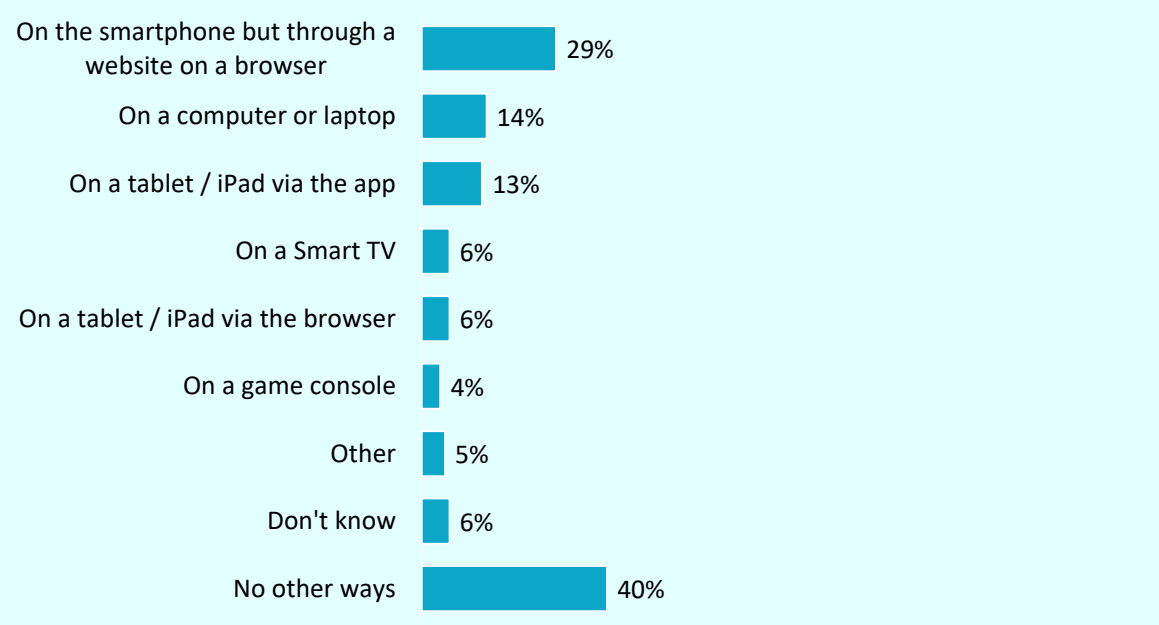
The 7% on iOS and Android who have dating apps on their smartphone were asked how else, if at all, they accessed the mobile dating services that they have an app for on their smartphone.

Dating apps were accessed mainly on the smartphone through a website on a browser, computers/laptops and iPads/tablets (in addition to smartphone app). See Figure 56.

For the overall sample of dating apps users, 54% access dating apps in other ways, mainly:

- on a smartphone but through a website on a browser (29%)
- computer/laptop (14%)
- tablet/iPad via the app (13%).

Figure 56: How else, if at all, do you access the mobile dating services that you have an app for on your smartphone?



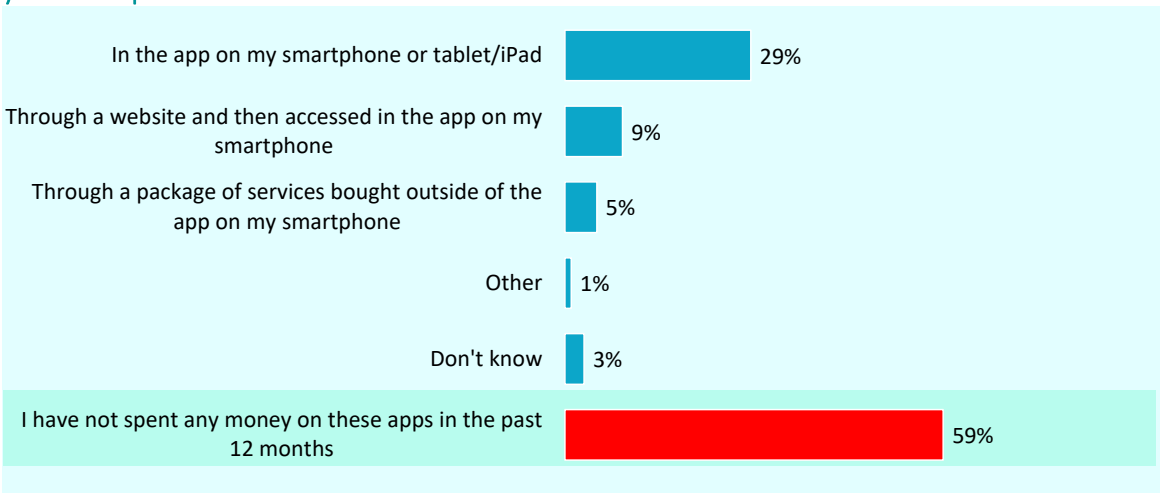
Base: 160 dating app users

The proportion who say that the only additional way of accessing the mobile dating services was via a tablet/iPad via the app or said there were no other ways (ie they only use the native app on a mobile device) is 47%.

Over half (59%) have not spent any money on dating apps.

The most mentioned means were in the app on their smartphone or tablet/iPad (29%) and through a website and then accessed in the app on their smartphone (9%).

Figure 57: How, if at all, have you spent money on dating apps (eg likes, extra features) that are on your smartphone in the last 12 months?



Base: 160 dating app users

5 out of 46 who use in the app on their smartphone or tablet/iPad to spend money on dating apps also use other means of payment.

Table 23 shows all means and main means of spending money on dating apps (after excluding those who didn't spend any money on dating apps in the past 12 months).

All and main means (for those who mention more than one means) are dominated by in the app on their smartphone or tablet/iPad: 46 out of 62 for all means and 43 out of 62 for main means.

Table 23: How, if at all, have you spent money on dating apps (eg likes, extra features) that are on your smartphone in the last 12 months? / And which of these is the main way you pay for content in the dating apps that are on your smartphone?

	All	Main
In the app on my smartphone or tablet/iPad	46	43
Through a website and then accessed in the app on my smartphone	15	13
Through a package of services bought outside of the app on my smartphone	8	5
Other	1	1
Base (who spend money on dating apps on their smartphone)	**62**	**62**

Caution: small sample sizes

The sample that did spend money on dating apps, were asked how much they spend within the mobile dating apps on their smartphone on average per month in the last year including subscriptions, downloads and other in-app purchases.

The answers have been grouped into three cost bands. 32 out of 51 spend £20 or less per month.

- £1-20 per month 32
- £21-50 per month 13
- £51+per month 6

Base: 51
Caution: small sample sizes

Music apps

The 71% of iOS users and 57% of Android smartphone users who have music apps on their smartphone were asked how else, if at all, they accessed the mobile music services that they have an app for on their smartphone.

The music apps were accessed mainly on computers/laptops and iPads/tablets, Smart TVs and on the smartphone but through a website on a browser (in addition to the smartphone app). See Figure 58.

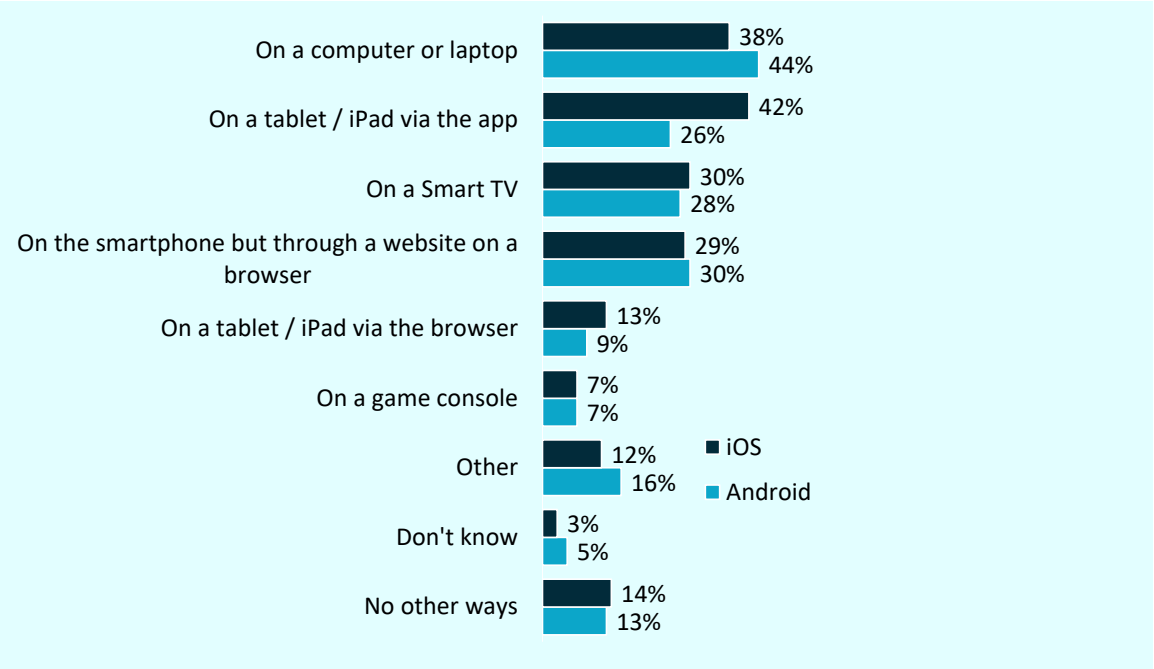
For the iOS user sample, 83% access music apps in other ways, mainly:

- tablet/iPad (42%)
- computer/laptop (38%)
- Smart TV (30%)
- smartphone browser (29%).

for the Android sample, 82% access music in other ways, mainly

- computer/laptop (44%)
- smartphone browser (30%)
- Smart TV (28%)
- tablet/iPad (26%).

Figure 58: How else, if at all, do you access the mobile music services that you have an app for on your smartphone?



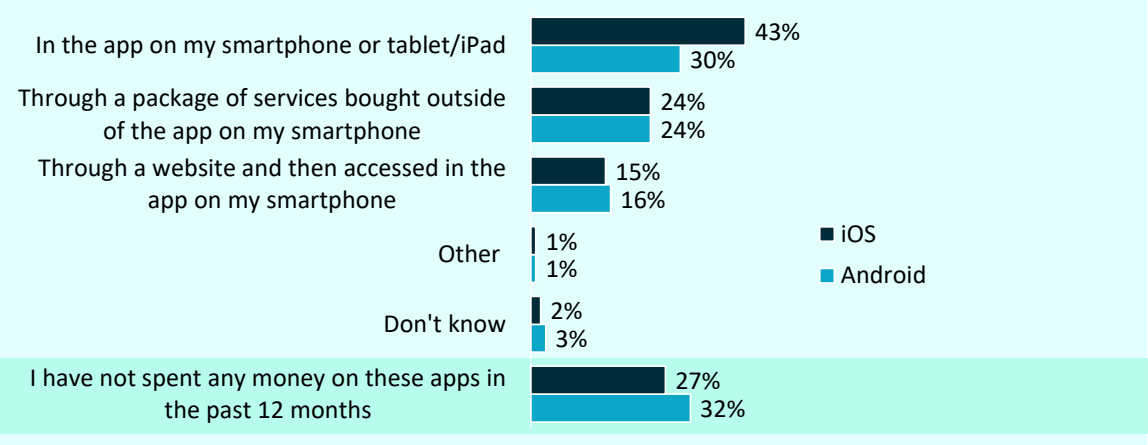
Base: iOS 925, Android 542 who have music apps on their smartphone

The proportion who say that the only additional way of accessing the mobile music services was via a tablet/iPad via the app or said there were no other ways (ie they only use the native app on a mobile device) is 22% for iOS and 17% for Android.

The sample who had music apps were asked how, if at all, they spent money on music apps that were on their smartphone in the last 12 months. 27% of iOS users and 32% of Android users don't spend any money on music apps.

The most mentioned means were in the app on their smartphone or tablet/iPad (43% iOS/30% Android), through a package of services bought outside the app on their smartphone (24%/24%) and through a website and then accessed in the app on the smartphone (15%/16%). See Figure 59.

Figure 59: How, if at all, have you spent money on music apps (eg subscriptions) that are on your smartphone in the last 12 months?



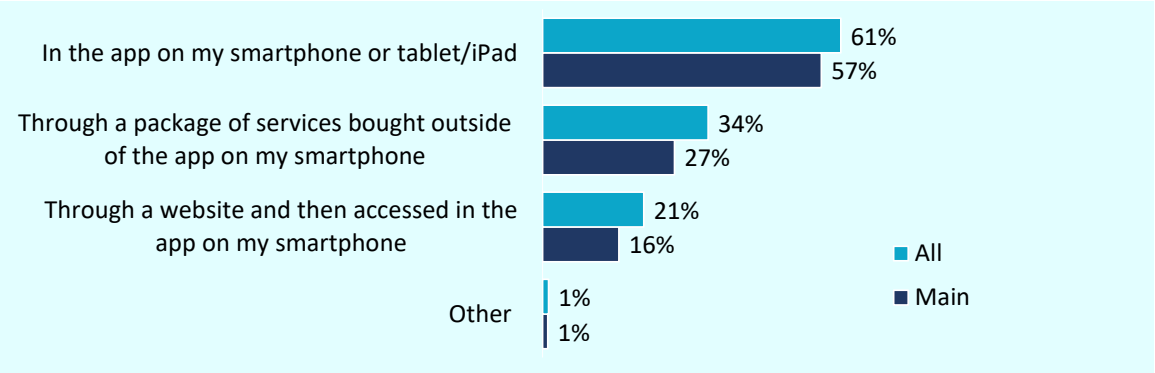
Base: iOS 925, Android 542 who have music apps on their smartphone

Almost a fifth (18%) who use in app on their smartphone or tablet/iPad to spend money on music apps also use other means of payment.

Figure 60 for iOS and Figure 61 for Android show all means and the main means of spending money on music apps (after excluding those who didn't spend any money on music apps in the past 12 months).

For iOS, all and **main** means (for those who mention more than one means) are mainly in the app on their smartphone or tablet/iPad: 61% all means and 57% main means.

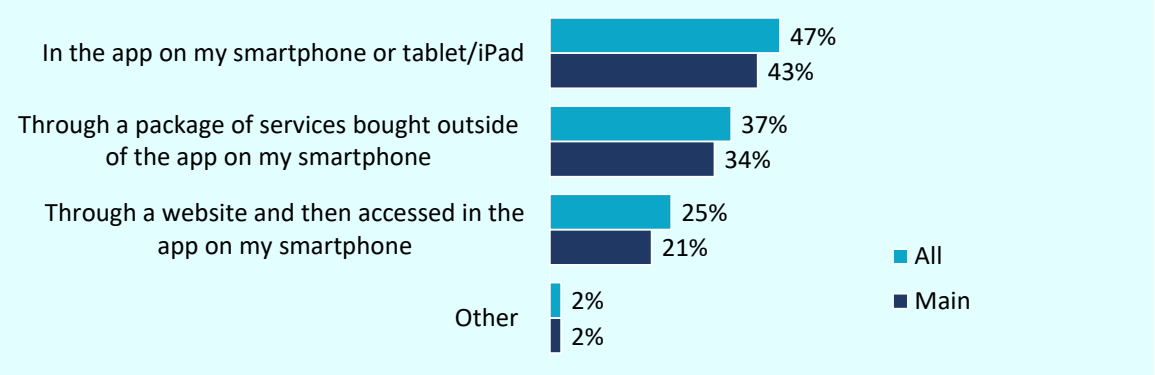
Figure 60: How, if at all, have you spent money on music apps (eg subscriptions) that are on your smartphone in the last 12 months? / And which of these is the main way you pay for content in the music apps that are on your smartphone?



Base: iOS 657 who spend money on music apps

For the Android sample all and **main** means (for those who mention more than one means) was in the app on their smartphone or tablet/iPad: 47% all means and 43% main means. Through a package of services bought outside the app on their smartphone was also an important means: 37% all means and 34% main means.

Figure 61: How, if at all, have you spent money on music apps (eg subscriptions) that are on your smartphone in the last 12 months? / And which of these is the main way you pay for content in the music apps that are on your smartphone?

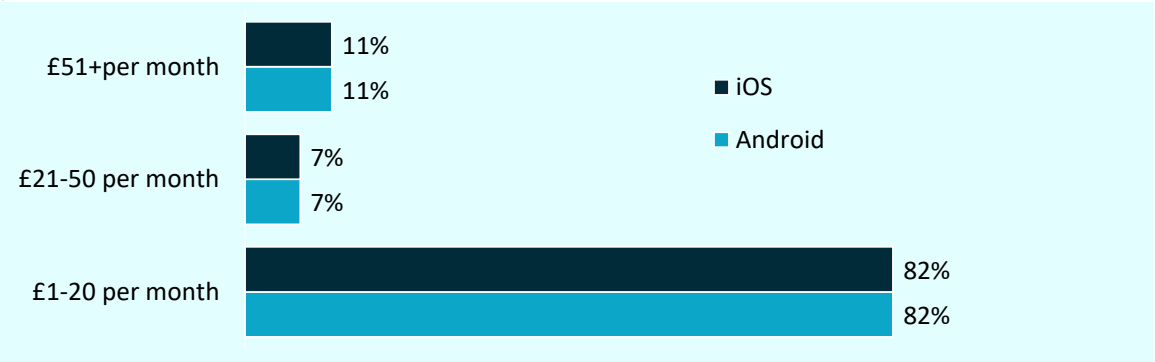


Base: Android 348 who spend money on music apps

The sample that did spend money on music apps, were asked how much they spend within the mobile music apps on their smartphone on average per month in the last year including subscriptions, downloads and other in-app purchases.

The answers have been grouped into three cost bands. There was no difference between iOS and Android. Overall, 82% spent £20 or less per month. See Figure 62.

Figure 62: How much, if anything, did you spend within the mobile music apps on your smartphone on average per month in the last year including subscriptions, downloads and other in-app purchases?



Base: iOS 640, Android 319 who spend money on music apps

Analysis by age for the whole sample of music app users who spend money on music apps shows that younger users spend more on mobile music apps than older users. See Table 24.

Table 24: How much, if anything, did you spend within the mobile music apps on your smartphone on average per month in the last year including subscriptions, downloads and other in-app purchases by age band

	18 to 34	35 to 54	55 to 64	65+
£1-20 per month	78%	83%	79%	86%
£21-50 per month	3%	6%	9%	9%
£51+per month	19%	11%	12%	5%
Base (who spend money on music apps)	137	438	198	182

Green shaded boxes significantly higher than orange shaded boxes for each category

Appendix A

Quantitative Survey Questionnaire

Accent

3538
CMA Mobile Ecosystems Market

SYSTEM INFORMATION:
Date:
Time interview started:

CMA
Competition & Markets Authority

Personal Smartphone Purchase Survey

Thank you very much for agreeing to complete this on-line survey which is being conducted by Accent, an independent research agency in the UK, on behalf of the Competition and Markets Authority (CMA), a government body.

We would like to ask you to complete a survey about the purchase of your smartphone. It should take about 10 minutes and as a thank you for taking part anyone in scope who completes the survey will receive a £10 shopping voucher.

We will just ask you a couple of questions to check that you are eligible to take part in this research.

Any answer you give will be treated in confidence in accordance with the Code of Conduct of the Market Research Society. If you would like to confirm Accent's credentials type Accent in the search box at: https://www.mrs.org.uk/researchbuyersguide.

Scoping questions

Q1. Any data collected over the course of this interview that could be used to identify you, such as your name, address, or other contact details, will be held securely and will not be shared with any third party unless you give permission (or unless we are legally required to do so). Our privacy statement is available at https://www.accent-mr.com/privacy-policy/.

Do you agree to proceeding with the interview on this basis?

Yes
No **THANK AND CLOSE**

Q2. How old are you?

Under 18 **THANK & CLOSE**
18-24
25-34
35-44
45-54
55-64
65-74
75-79
80+
Prefer not to say

Q3. Do you have a smartphone for personal use? **A smartphone is a phone on which you can send and receive emails, use apps, view websites and generally go online. Popular brands include iPhone and Samsung Galaxy.**

Yes
No **THANK & CLOSE**

Q4. How did you get your current **personal** smartphone? **If you have more than one personal smartphone, please answer about the one you use most.**

Purchased as new
Purchased as used
Gifted as new
Gifted as used
Provided by my employer **THANK & CLOSE**
Other (please type in)

Q4b **IF Q4=3 OR 4 ASK:** Did you choose your smartphone yourself?

Yes
No **THANK & CLOSE**

Factors that influence smartphone purchase

Q5.

Q5b **IF Q4=3 OR 4 ASK:** What factors were important in your decision to choose your current smartphone?
IF Q4=1, 2 OR 6 ASK: What factors were important in your decision to purchase your current smartphone? **Please select up to a maximum of 5 factors from the list below**
RANDOMISE LIST AND MULTI RESPONSE UP TO 5

Overall price
Brand (eg Apple, Samsung)
Operating system (The operating system (OS) is the pre-installed system software powering mobile devices. Examples are Apple iOS and Google Android)
Camera
Product design (eg the look of the phone)
Screen size and quality
Battery life
Other product features (eg, speed, 5G capability, face/finger print recognition etc)
Security and privacy
Compatibility with other personal smart devices (for example, smart watches, headphones, etc)
Range and quality of mobile apps available on the device
Price of subscriptions/content for apps available on the device
Other (please type in)

Q6. **IF Q5B ASKED AND TWO OR MORE CHOSEN:** Which one of these was the most important?

SHOW ALL TICKED IN Q5B

Q7. **IF Q5B ASKED AND THREE OR MORE CHOSEN:**
And which was the second most important?

SHOW ALL TICKED IN Q5B LESS RESPONSE IN Q6

Q8. **IF Q5B ASKED AND FOUR OR MORE CHOSEN:**
And which was the third most important?

SHOW ALL TICKED IN Q5B LESS RESPONSE IN Q7

Device ownership and purchase

Q9. Which of the following smartphone brands is your current personal smartphone? **If you have more than one personal smartphone, please answer about the one you use most**

Apple
Samsung
Huawei
Google
Nokia
Sony
LG
Motorola
Blackberry
Honor
HTC
OnePlus
Alcatel
Xiaomi
Oppo
Asus
Other (please specify)
Don't know **THANK & CLOSE**

Q10. Do you know what the mobile operating system of your current personal smartphone is? **iOS is the operating system for Apple iPhones and Android is the operating system for almost all other smartphones such as Samsung, LG, Oppo, Google Pixel, OnePlus and Motorola.**

Yes, iOS
Yes, Android
Yes, other (please type in)
No

IF **Q9 = 1 AND Q10=2 GO TO Q11**
IF **Q9 <>1 AND Q10=1 GO TO Q11**

Q11. **If Q10 = 4 'No' and Q9 <> 1 (Android) ASK:** As it is a #Q5# we think it is Android. Do you agree?
If Q10 = 4 'No' and Q9 = 1 (Apple) ASK: As it is an Apple phone we think it is iOS. Do you agree?

Yes
No

Q12. **IF Q4=3 OR 4 ASK:** When did you get this smartphone?
IF Q4=1, 2 OR 5 ASK: When did you buy this smartphone?

In the last month
2-3 months ago
4-6 months ago
7-11 months ago
1-2 years ago
3-4 years ago
5-6 years ago
7-8 years ago
9-10 years ago

10+ years ago
Don't know

Q13. What was the overall price of this smartphone when you got it? **If you purchased it as part of a pay monthly contract, please estimate the cost of the smartphone if you are able to.**

£0-100
£101-200
£201-300
£301-400
£401-500
£501-600
£601-700
£701-800
£801-900
£901-1000
£1000+
Don't know

Q13B How satisfied are you with your current smartphone?

0 Very dissatisfied
1
2
3
4
5
6
7
8
9
10 very satisfied

Text Variables
BOUGHT/GOT
IF Q4=3 OR 4 BOUGHT/GOT=got
IF Q4=1, 2 OR 5 BOUGHT/GOT=bought
BUY/GET
IF Q4=3 OR 4 BOUGHT/GOT=get
IF Q4=1, 2 OR 5 BOUGHT/GOT=buy
BUYING/GETTING
IF Q4=3 OR 4 BOUGHT/GOT=getting
IF Q4=1, 2 OR 5 BOUGHT/GOT=buying

Q14. Now thinking about the smartphone you used before you #BOUGHT/GOT# your current personal smartphone, was that the same brand you have now or a different brand?

Same brand
Different brand
I didn't own a smartphone before my current one
Don't know

Q15. **IF Q14 = 2 (DIFFERENT BRAND) ASK:** Which of the following smartphone brands was your previous smartphone?

Apple
Samsung
Huawei
Google

Nokia
Sony
LG
Motorola
Blackberry
Honor
HTC
OnePlus
Alcatel
Xiaomi
Oppo
Asus
Other please specify
Don't know

Q15B How satisfied are you with your previous smartphone?

0 Very dissatisfied
1
2
3
4
5
6
7
8
9
10 very satisfied

OS SWITCHER FOR LAST PHONE:
IF Q9 = 1 AND Q15 <> 1 SWITCHED FROM ANDROID TO IOS = SWITCHER
IF Q9 <> 1 AND Q15 = 1 SWITCHED FROM IOS TO ANDROID = SWITCHER
IF Q9 = 1 AND Q15 = 1 NOT SWITCHED
IF Q9 <> 1 AND Q15 <> 1 NOT SWITCHED

Q16. **IF Q14=1 (DID NOT SWITCH BRAND FOR PREVIOUS PHONE) ASK:**
IF Q9=1 (APPLE) ASK: Have you ever owned an Android smartphoneⓘ as your personal smartphone?
IF Q9<>1 (Android) ASK: Have you ever owned an iPhone as your personal smartphone?

Yes
No
Don't know

ⓘeg Samsung, LG, Oppo, Google Pixel, OnePlus, Motorola etc

Other products used

Q17. Which of the following products do you **personally** own and use? **Please select all that apply**

Personal Windows laptop/desktop computer
Apple Macbook /Apple Mac
Chromebook
Android tablet (eg Samsung)
Amazon Fire tablet
iPad
Apple Watch
Smartwatch (not Apple Watch)

Google Smart home devices (eg Chromecast for TV, Nest, Google Home Hub)
Apple Smart home devices (eg HomePod, Apple TV)
Gaming console (eg Play Station, Xbox)
Airpods/Airpods Pro
Other wireless air buds/headphones
None of the above

Switching

Q18. **IF Q9 = 1 AND Q15 <> 1 (SWITCHED FROM ANDROID TO IOS) GO TO Q22**
IF Q9 <> 1 AND Q15 = 1 (SWITCHED FROM IOS TO ANDROID) GO TO Q22
IF Q9 = 1 (APPLE OWNER) ASK: When you #BOUGHT/GOT#your current #Q9# personal smartphone did you consider #BUYING/GETTING# an Androidⓘ smartphone?
IF Q9 <> 1 (ANDROID OWNER) ASK: When you #BOUGHT/GOT#your current #Q9# personal smartphone did you consider #BUYING/GETTING#an iPhone?

Yes
No
Don't know

ⓘeg Samsung, LG, Oppo, Google Pixel, OnePlus, Motorola etc

Q19. **IF Q18=1 CONSIDERED SWITCHING) ASK:**
IF Q9 = 1 (APPLE OWNER) ASK: How seriously, if at all, did you consider #BUYING/GETTING# an Android smartphone?
IF Q9 <> 1 (ANDROID OWNER) ASK: How seriously, if at all, did you consider #BUYING/GETTING#an iPhone?

Very seriously
Fairly seriously
Not very seriously
Not at all seriously
Don't know/not sure

Q20. **IF Q18=2 (DID NOT CONSIDER SWITCHING) ASK:**
IF Q9 = 1 (APPLE OWNER) ASK: Which of the following reasons explain why you didn't consider switching to an Android smartphone? **Please select all that apply**
IF Q9 <> 1 (ANDROID OWNER) ASK: Which of the following reasons explain why you didn't consider switching to an iPhone? **Please select all that apply**
IF Q18=1 (CONSIDERED SWITCHING) ASK:
IF Q9 = 1 (APPLE OWNER) ASK: Which of the following reasons explain why you didn't #BUY/GET# an Android smartphone? **Please select all that apply**
IF Q9 <> 1 (ANDROID OWNER) ASK: Which of the following reasons explain why you didn't #BUY/GET# an iPhone? **Please select all that apply**

OS
IF Q9 = 1 iOS
IF Q9<> 1 Android
ALTPHONE
IF Q9= 1 Android phone
IF Q9<> 1 iPhone
ALTOS
IF Q9= 1 Android
IF Q9<> 1 iOS

Too expensive

The #Altphone# is lower quality
I was concerned about losing data (eg photos, messages, videos) when transferring to an #ALTPHONE#
I didn't want to spend the time learning how to use an #ALTPHONE#
Because I have other devices linked to my phone/operating system (#OS#)
My friends/family use the same operating system (#OS#)
I identify more closely with #OS# than #ALTOS#
I am happy with/prefer my existing smartphone brand (eg Apple, Samsung)
I am happy with/prefer #OS#
I use apps not available on #ALTOS#
#OS# has access to mobile apps with better prices
#OS# has access to a wider range of mobile apps
I was concerned about losing paid-for subscriptions/content in apps on my phone
I felt it would be too much hassle to switch to an #ALTPHONE#
#OS# has better data security (malware protection etc)
#OS# has better privacy (protecting your personal data from unauthorised access)
Couldn't get one on my mobile provider (eg Vodaphone, O2 etc)/contract
I could not see any significant benefits from switching
Other (please type in)
Don't know

Q21. Which of the following was the most important reason?

ONLY SHOW THOSE MENTIONED IN Q20
Too expensive
The #Altphone# is lower quality
I was concerned about losing data (eg photos, messages, videos) when transferring to an #ALTPHONE#
I didn't want to spend the time learning how to use an #ALTPHONE#
Because I have other devices linked to my phone/operating system (#OS#)
My friends/family use the same operating system (#OS#)
I identify more closely with #OS# than #ALTOS#
I am happy with/prefer my existing smartphone brand (eg Apple, Samsung)
I am happy with/prefer #OS#
I use apps not available on #ALTOS#
#OS# has access to mobile apps with better prices
#OS# has access to a wider range of mobile apps
I was concerned about losing paid-for subscriptions/content in apps on my phone
I felt it would be too much hassle to switch to an #ALTPHONE#
#OS# has better data security (malware protection etc)
#OS# has better privacy (protecting your personal data from unauthorised access)
Couldn't get one on my mobile provider (eg Vodaphone, O2 etc)/contract
I could not see any significant benefits from switching
Other (please type in)
Don't know

Q21b. **IF 3 OR MORE MENTIONED IN Q20 ASK:** And which of the following was the second most important reason?

SAME LIST AS Q21 MINUS ONE SELECTED

Q21B **IF 4 OR MORE MENTIONED IN Q20 ASK:** And which of the following was the third most important reason?

SAME LIST AS Q21b MINUS ONE SELECTED

Q22. **IF Q9 = 1 AND Q15 <> 1 SWITCHED FROM ANDROID TO IOS ASK:** Which of the following reasons explain why you switched to an iPhone? **Please select all that apply**
IF Q9 <> 1 AND Q15 = 1 SWITCHED FROM IOS TO ANDROID ASK: Which of the following reasons explain why you switched to an Android phone? **Please select all that apply**

It was a good price
It has a better operating system
The brand is of higher quality (e.g. better camera, battery, other hardware features)
I prefer #OS#
It offers good value for money
I was confident about transfer of data (e.g. photos, messages, videos) when transferring to #OS#
My friends/family use #OS#
I identify more closely with #ALTOS# than #OS#
I was unhappy with my old smartphone brand
I was unhappy with my old operating system (#ALTOS#)/prefer #OS#
#OS# has access to a wider range of mobile apps
I don't use any apps not available on #OS#
#OS# access to mobile apps with better prices
I have other devices that connect to #OS#
#OS# has better data security (malware protection etc)
#OS# has better privacy (protecting your personal data from unauthorised access)
I was able to port any paid-for subscriptions/content in apps on my phone
It was what was available from my mobile provider (eg Vodaphone, O2 etc)/contract
I didn't feel it would be a hassle to switch to #OS#
I could see significant benefits from switching
Other (please type in)
Don't know

Q23. Which of the following was the most important reason?

SHOW ALL MENTIONED IN Q22

It was a good price
It has a better operating system
The brand is of higher quality (e.g. better camera, battery, other hardware features)
I prefer #OS#
It offers good value for money
I was confident about transfer of data (e.g. photos, messages, videos) when transferring to #ALTOS#
My friends /family use #OS#
I identify more closely with #OS# than #ALTOS#
I was unhappy with my old smartphone brand
I was unhappy with my old operating system (#ALTOS#)/prefer #OS#
#OS# has access to a wider range of mobile apps
I don't use any apps not available on #OS#
#OS# access to mobile apps with better prices
I have other devices that connect to #OS#
#OS# has better data security (malware protection etc)
#OS# has better privacy (protecting your personal data from unauthorised access)
I was able to port any paid-for subscriptions/content in apps on my phone
It was what was available from my mobile provider (eg Vodaphone, O2 etc)/contract
I didn't feel it would be a hassle to switch to #OS#
I could see significant benefits from switching
Other (please type in)
Don't know

Q23b. **IF 3 OR MORE MENTIONED IN Q22 ASK:** And which of the following was the second most important reason?

SAME LIST AS Q23 MINUS ONE SELECTED

Q23B **IF 4 OR MORE MENTIONED IN Q22 ASK:** And which of the following was the third most important reason?

SAME LIST AS Q23b MINUS ONE SELECTED

Q24. **IF Q9 = 1 AND Q15 <> 1 SWITCHED FROM ANDROID TO IOS ASK:** How easy or difficult did you find the experience of switching to an iPhone?
IF Q9 <> 1 AND Q15 = 1 SWITCHED FROM IOS TO ANDROID ASK: How easy or difficult did you find the experience of switching to an Android phone?

Very easy
Fairly easy
Neither
Fairly difficult
Very difficult
Don't know

Q25. **IF Q9 = 1 AND Q15 <> 1 SWITCHED FROM ANDROID TO IOS ASK:** Overall, how satisfied or dissatisfied were you with your experience of switching from a #Q9# smartphone to an iPhone?
IF Q9 <> 1 AND Q15 = 1 SWITCHED FROM IOS TO ANDROID ASK: Overall, how satisfied or dissatisfied were you with your experience of switching from an iPhone to a #Q15# phone?

Very satisfied
Fairly satisfied
Neither
Fairly dissatisfied
Very dissatisfied
Don't know

Q26. Why did you say that?

Q27. **IF Q9 = 1 AND Q15 <> 1 SWITCHED FROM ANDROID TO IOS ASK:** How satisfied or dissatisfied were you with the following when switching from a #Q9# to an iPhone?
IF Q9 <> 1 AND Q15 = 1 SWITCHED FROM IOS TO ANDROID ASK: How satisfied or dissatisfied were you with the following when switching from an iPhone to a #Q15# phone?

Very satisfied
Fairly satisfied
Neither
Fairly dissatisfied
Very dissatisfied
Don't know
Not applicable

- Accessing the apps (eg music, gaming, film/TV, dating apps) from my old phone
- Transferring data (eg photos, messages, videos) from my old phone
- Accessing paid-for subscriptions on my new phone (eg a subscription to a newspaper app) which were purchased on my old phone
- Managing subscriptions on my new phone (eg cancelling, upgrading or renewing the subscription to a newspaper app) which were purchased on my old phone
- Setting up or adding new email accounts
- Connecting to other devices
- Using a new operating system
- Transferring music from my old phone
- Using a new app store

Mobile apps behaviour and attitudes

Q29 Which of the following ways do you get apps onto your smartphone? **Please select all that apply**

IF Q9 = 1: Download through the Apple App Store
IF Q9 <> 1: Download through the Google Play Store
IF Q9 = 2: Download through the Samsung Galaxy Store
IF Q9 <> 1: Download through the Amazon App Store
IF Q9 = 3: Download through the Huawei App Gallery
IF Q9 <> 1: Download through Aptoide
IF Q9 <> 1: Download through APKpure
IF Q9 <> 1: Download through F-droid
I used my mobile browser to install a web app icon on my screen without using an app store
IF Q9 <> 1: Download an app directly from a website (also known as 'sideloading') without using an app store
Pre-installed when I purchased the device
Other (please type in)
Don't know

Q29b **IF 2 OR MORE OF Q29 CODES 1-10 TICKED ASK:** Which of these ways do you use most often?

RESPONSES TICKED IN Q29 BUT NOT: Pre-installed when I purchased the device

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Q28. Which, if any, of the following types of mobile apps do you use on your smartphone? **Please select all that apply**

Games (eg Candy Crush, Clash of Clans, Fortnite)
Entertainment/TV (eg Netflix, YouTube, TikTok, Disney+, Sky Sports)
Dating (eg Match, Tinder, Bumble)
Music (eg Spotify, Apple Music, Amazon Music)
Other apps
None of the above

Q30 **IF Q28=1, 2, 3 OR 4 ASK:** How else, if at all, do you access the mobile #[IF Q28=1] gaming#, #[IF Q28=2] entertainment/TV#, #[IF Q28=3] dating]# #[IF Q28=4 music#] services that you have an app for on your smartphone? **Please select all that apply**

	[IF Q28=1] gaming	IF Q28=2] entertainment/TV	IF Q28=3] dating	IF Q28=4 music
On the smartphone but through a website on a browser				
On a computer or laptop				
IF Q28=1: On a game console (eg Xbox, Play Station)				
On a tablet / iPad via the app				
On a tablet / iPad via the browser				
On a Smart TV				
Other (please type in)				
No other ways				
Don't know				

Q32 **IF Q28=1ASK:** How, if at all, have you spent money on **gaming** apps (eg levels, tokens) that are on your smartphone in the last 12 months? **Please select all that apply**

In the app on my smartphone or tablet/iPad
Through a website and then accessed in the app on my smartphone
On a games console (eg Xbox, Play Station) and then accessed in the app on my smartphone
Through a package of services bought outside of the app on my smartphone (eg Amazon Prime, Sky Sports)
Other (please type in)
I have not spent any money on these apps in the past 12 months
Don't know

Q33 **IF Q28=1 and IF 2 OR MORE CODES 1-5 IN Q32 ANSWERED ASK:** And which of these is the main way you pay for content in the **gaming** apps that are on your smartphone?

IF CODED IN Q32: In the app on my smartphone or tablet/iPad
IF CODED IN Q32: Through a website and then accessed in the app on my smartphone
IF CODED IN Q32: On a games console (eg Xbox, Play Station) and then accessed in the app on my smartphone
IF CODED IN Q32: Through a package of services bought outside of the app on my smartphone (eg Amazon Prime, Sky Sports)
IF CODED IN Q32: Other

Q32b **IF Q28=2ASK:** How, if at all, have you spent money on **entertainment** apps (eg films, TV series/programmes) that are on your smartphone in the last 12 months? **Please select all that apply**

In the app on my smartphone or tablet/iPad
Through a website and then accessed in the app on my smartphone
Through a package of services bought outside of the app on my smartphone (eg Amazon Prime, Sky Sports)
Other (please type in)
I have not spent any money on these apps in the past 12 months
Don't know

Q33b IF Q28=2 and IF 2 OR MORE CODES 1-4 IN Q32b ANSWERED ASK: And which of these is the main way you pay for content in the entertainment apps that are on your smartphone?

IF CODED IN Q32b: In the app on my smartphone or tablet/iPad
IF CODED IN Q32b: Through a website and then accessed in the app on my smartphone
IF CODED IN Q32b: Through a package of services bought outside of the app on my smartphone (eg Amazon Prime, Sky Sports)
IF CODED IN Q32b: Other

Q32c **IF Q28=3 ASK:** How, if at all, have you spent money on **dating** apps (eg likes, extra features) that are on your smartphone in the last 12 months? **Please select all that apply**

In the app on my smartphone or tablet/iPad
Through a website and then accessed in the app on my smartphone
Through a package of services bought outside of the app on my smartphone (eg Amazon Prime, Sky Sports)
Other (please type in)
I have not spent any money on these apps in the past 12 months
Don't know

Q33c IF Q28=3 and IF 2 OR MORE CODES 1-4 IN Q32c ANSWERED ASK: And which of these is the main way you pay for content in the dating apps that are on your smartphone?

IF CODED IN Q32c: In the app on my smartphone or tablet/iPad
IF CODED IN Q32c: Through a website and then accessed in the app on my smartphone
IF CODED IN Q32c: Through a package of services bought outside of the app on my smartphone (eg Amazon Prime, Sky Sports)
IF CODED IN Q32c: Other

Q32d IF Q28=4 ASK: How, if at all, have you spent money on music apps (eg subscriptions) that are on your smartphone in the last 12 months? Please select all that apply

In the app on my smartphone or tablet/iPad
Through a website and then accessed in the app on my smartphone
Through a package of services bought outside of the app on my smartphone (eg Amazon Prime, Sky Sports)
Other (please type in)
I have not spent any money on these apps in the past 12 months
Don't know

Q33d **IF Q28=4 and IF 2 OR MORE CODES 1-4 IN Q32d ANSWERED ASK:** And which of these is the main way you pay for content in the **music** apps that are on your smartphone?

IF CODED IN Q32d: In the app on my smartphone or tablet/iPad
IF CODED IN Q32d: Through a website and then accessed in the app on my smartphone
IF CODED IN Q32d: Through a package of services bought outside of the app on my smartphone (eg Amazon Prime, Sky Sports)
IF CODED IN Q32d: Other

Q31 **IF Q28=1, 2, 3 OR 4 ASK:** How much, if anything, did you spend **within the mobile #[IF Q28=1] gaming #, #[IF Q28=2] entertainment/TV#, #[IF Q28=3] dating]# #[IF Q28=4 music#] apps** on your smartphone on average per month in the last year including subscriptions, downloads and other in-app purchases? **Please select an option in each column below as your best estimate**

	[IF Q28=1] gaming (eg levels, tokens)	IF Q28=4] entertainment/TV (eg films/ TV series)	IF Q28=2] dating (eg likes, extra features)	IF Q28=3 music (eg sub-scriptions)
£0				
£1-10				
£11-20				
£21-30				
£31-40				
£41-50				
£51-70				
£71-100				
£101-£130				
£131-£150				
£151+				
Don't know				

Confidence in using smartphones

Q34 How confident, if at all, are you with smartphone technology and using the different applications that are available on smartphones?

Very confident
Fairly confident
Not very confident
Not at all confident
Don't know

Q35 How confident, if at all, are you with changing settings on smartphones (e.g. changing default settings)?

Very confident
Fairly confident
Not very confident
Not at all confident
Don't know

Classification Questions

We will now ask you a few questions about you. These will only be used to ensure we have spoken to a wide range of people. All responses you give will be kept strictly confidential.

Q36. Are you…?

Male
Female
Prefer to self-ascribe (please type in)
Prefer not to say

Q37. How much is your total household income per year from all sources, before tax and other deductions but including any benefits/allowances?

Up to £10,000
£10,001 to £20,000
£20,001 to £30,000
£30,001 to £40,000
£40,001 to £50,000
£50,001 to £60,000
£60,001 to £70,000
£70,001 to £80,000
£80,001 to £100,000
£100,001+
Prefer not to say

Q38. Which area do you live in?

London
South East
South West
East Midlands
West Midlands
East of England
North West
North East
Yorkshire and Humberside
Wales
Northern Ireland
Scotland

Q39. We mentioned that there would be a £10 incentive for completing this survey. This incentive will be administered by Accent, within 4 weeks of completion of fieldwork (currently estimated to be April 25 2022.

Alternatively we can donate your incentive to Macmillan Cancer Support. Which would you prefer?

Amazon voucher by email **EMAIL ADDRESS**
M&S Voucher by email **EMAIL ADDRESS**
Donation to Macmillan Cancer Support

If you have any queries about your incentive, please contact us on 0131 220 8770.

Q40A **IF IN SCOPE FOR QUAL:** The CMA are likely to be interested in exploring in greater detail, the views and opinions of a selection of smart phone users. This would involve a 30-45 minute in-depth telephone or Zoom interview with an Accent interviewer. Participants completing one of these interviews would be further financially compensated for their time. If selected, are you happy for us to approach you for inclusion in this next phase of the research? Interviews are likely to take place within the next 6 weeks.

Yes
No

Q40. Thank you. Would you be willing to be contacted again if we need to clarify any of the answers you have given today? And would you be willing to be invited to take part in other research for the CMA more generally?

Yes, for both clarification and further research generally
Yes, for clarification only
Yes, for further research generally only
No

Thank you. This research was conducted under the terms of the MRS code of conduct and is completely confidential.

SYSTEM INFORMATION
Time interview completed:

Appendix B

Depths Topic Guide

3538 Discussion Guide
CMA Mobile Ecosystems Market

Accent

Introduction and Warm-Up 5 mins (5)

- Moderator introductions
- Remind about independent and exploratory nature of research, no right or wrong answers, filming
- Explain that we are working for the CMA and not for any mobile phone provider
- Thank you for agreeing to participate in this study and for all you work on LiveMinds – we will be sharing the LiveMinds screens where appropriate in the session to remind you of your responses
- Remind that we are looking to understand more about smartphone choices
- Interview should last 20-30 minutes

- A bit about you
  - Name
  - Working
  - Hobbies
  - What was the last 3 things you used your phone for!
  - Find out who is living in the house – explore family and whether they also have phones

Current Mobile Phone 5 mins (10)

- Tell me a bit about your current mobile phone – show on screen
  - What do you have
  - When did you get it
  - What do you like about it
  - What don't you like about it
  - Why did you choose that phone
  - Why did you choose iPhone over Android (or vice versa)
  - Did you know what the operating system of the phone was – IOS or Android
  - How much did that impact on your choice of phone

- What about other people in the house
  - What phones do they have
  - Do you all have the same – iPhone or Android
  - Why/Why not

Mobile Phone timeline 5 mins (15)

- Let's explore your timeline and look at the last 3 mobile phones you bought
- Work through each phone
  - What
  - Why
  - When

- Where did you buy it from
- Who did you get advice from
- Where did you look for information – any websites, share screen if participant mentions a website to explore
- Is there a pattern to your purchase history e.g. Apple or Android
    - Have you ever bought a different type of phone e.g. Apple or Android
    - What made you do that/what made you switch in the past
    - Why haven't you done that before/what made you stay

Switching consideration 10 mins (25)

- As we mentioned in the LiveMinds task, people tend to stick with the same type of smartphone but you are one of the few that actually considered switching – and then didn't. So you are very interesting to us!!
- Can you tell us a bit more about that story
- Think about the last time you were buying or upgrading your smartphone
- What was going through your mind (time of year, other things going on in life that might jog memory)
- Why did you decide to upgrade or buy a different phone at that time
- How much looking around did you do
- What was it that made you begin to think about switching to iPhone or Android
- What was it about your current phone that made you think about moving to something different (push factors)
- What was it about the other phones that were 'out there' that made you think about moving to something different (pull factors)
- How close were you to switching
- What stopped you from switching
- At what point in that process did you decide that you didn't want to switch
- Was there anything that could have been done to encourage you to switch
- What about next time – what do you think you will do in the future
    - Switch/Consider/Stick
    - Why
- What would be your key message to iPhone or Android that might encourage you to switch next time

Thank and Close

Appendix C

Pilot Report

CMA Mobile Ecosystems Market Study – Pilot Report

Background

The Competition and Markets Authority (CMA) launched a market study over concerns that Apple and Google have too much control over operating systems (iOS and Android), app stores (App Store and Play Store), and web browsers (Safari and Chrome) that together form their 'ecosystems'.

Robust and rigorous research is required to develop a more in depth understanding of consumer purchasing behaviour in the UK mobile phone market, with a particular focus on switching behaviour across smartphone brand/operating system.

Method

For the quantitative research our method involved recruiting research participants via SMS message sent to a smartphone device following a Random Digit Dial (RDD) approach. This approach ensures that we engage with a representative cross section of smartphone users, though we will apply weights if necessary.

In the SMS messages, users were asked to complete an online survey by clicking on a survey link on their smartphone.

For the pilot we trialled a range of SMS text formats and 0, £5 and £10 incentives.

SMS Pilot 1

The initial efforts for the pilot centred around 4 varieties of invitation text. These were all sent out Friday 11 March at 11am. The display name shown to participants was 'Accent'. All participants of all initial SMS groups were then sent the same reminder on Saturday 12 March 11am.

The initial response rates (defined as being the number of valid delivered SMS messages, divided by the number of willing participants (i.e. Interviews + not in scope), varied widely. The effect of the reminder overall appeared to be influenced by the content of the initial text (i.e. the worst performing initial SMS also reacted less well to the reminder, whilst the better performing SMS texts responded better to the reminder). Combining the initial and reminder results, the various SMS performed as follows:

	Number delivered	Total Interviews	Total NIS	Overall Response rate	Overall Interview rate
1. Please help with Accent's survey, commissioned by the Competition and Market Authority (CMA), to feed into their investigation into the mobile phone market - £5 if you complete, FULL LINK	434	5	0	1.15%	1.15%
2. Please help with the CMA's investigation into the mobile phone market - £5 if you complete this survey, FULL LINK	446	3	0	0.67%	0.67%
3. Please help with Accent's survey for the CMA, a government body, into the mobile phone market - £5 if you complete, FULL LINK	452	5	1	1.33%	1.11%
4. Please help with Accent's survey, commissioned by the Competition and Market Authority (CMA), to feed into their investigation into the mobile phone market, FULL LINK	444	2	0	0.45%	0.45%
Totals	1776	15	1	0.90%	0.84%

The reminder text used for all pilot 1 participants was "Just a gentle reminder to please help us with the CMA's investigation if you can. Accent are a Market Research Society partner organisation, notified with the Information Commissioner's Office; please be assured this is not a scam or phishing exercise. £5 voucher for completing the survey."

The primary learnings from the SMS pilot 1 were that:

- not mentioning the incentive suppressed response rates
- not explaining who the CMA are suppressed response rates
- that brevity (which is frequently key to not "turning off" participants) was not a key driver of increasing response rates (in fact the opposite was observed- more information was generally better).

We consulted with the CMA and agreed to try again with a wider variety of SMS messages (changing various components), and to conduct a 'soft touch' qualitative exercise to try and explore with participants with varying levels of responsiveness (from interviews to those totally ignoring the approach) what the reasons driving their behaviour were.

SMS Pilot 2

Eight different SMS texts were agreed for the second SMS pilot – including the best performing of the Pilot 1 texts, to act as a control. General themes for the second SMS texts included:

- giving more information about the CMA
- moving away from mentioning Accent
- varying the incentive levels (specifically testing £10 as an initial offer)
- majoring on the incentive (mentioning twice in some cases, and/or leading with it)
- changing the SMS display to 'CMA' (this field is restricted in character length so it was not possible to use 'Competition and Markets Authority').

We also, in all cases, added an 'Opt Out' (similar to an unsubscribe link in an email).

As the SMS length increased, the number of characters became a factor to monitor – SMS messages are categorised and billed in increments of 160 characters. Moving from <320 characters (2 'credits') to >320 (but fewer than 480) characters (3 'credits'), has the impact of adding 50% to the cost of SMS messaging. Whilst we did not generally allow this factor to drive the SMS contents, we did ensure we did not trip over into the next band up for the sake of a character or two that could be removed without impact, and we logged and monitored the lengths of each SMS.

Response rates again varied quite widely, as follows:

Sender = CMA	SMS Sent	Ints	NIS	Initial resp. rate	Initial Int. Rate
5. £5 for your opinions as part of an important investigation by the UK Government's Competition and Markets Authority into the mobile phone market. £5 to complete this 10 minute survey LINK. This is a genuine UK Government survey and your opinions really matter to us. For more information about this case: https://www.gov.uk/cma-cases/mobile-ecosystems-market-study	906	9	1	1.10%	0.99%
6. £10 for your opinions as part of an important investigation by the UK Government's Competition and Markets Authority into the mobile phone market. £10 to complete this 10 minute survey LINK. This is a genuine UK Government survey and your opinions really matter to us. For more information about this case: https://www.gov.uk/cma-cases/mobile-ecosystems-market-study	895	16	4	2.23%	1.79%
7. £5 for your opinions as part of an important investigation by the UK Government's Competition and Markets Authority into the mobile phone market. £5 to complete this 10 minute survey LINK. This is a genuine UK Government survey and your opinions really matter to us.	911	8	1	0.99%	0.88%
8. £10 for your opinions as part of an important investigation by the UK Government's Competition and Markets Authority into the mobile phone market. £10 to complete this 10 minute survey LINK. This is a genuine UK Government survey and your opinions really matter to us.	894	8	4	1.34%	0.89%
9. £5 for your opinions as part of an important investigation by the UK Government's Competition and Markets Authority into the mobile phone market. £5 to complete this 10 minute survey LINK.	896	4		0.45%	0.45%
10. Please provide your opinions as part of an important investigation by the UK Government's Competition and Markets Authority into the mobile phone market. £5 to complete this 10 minute survey LINK. This is a genuine UK Government survey and your opinions really matter.	886	9	2	1.24%	1.02%
11. £5 for your opinions as part of an important investigation by the UK Government's Competition and Markets Authority into Apple and Google's position in the mobile phone market. 10 minute survey, £5 to complete. LINK	872	4	2	0.69%	0.46%
12. Please help with Accent's survey for the Competition & Markets Authority, into the mobile phone market - £5 if you complete, LINK	878	6	1	0.80%	0.68%
13. SAME BUT EVENING: Please help with Accent's survey for the Competition & Markets Authority, into the mobile phone market - £5 if you complete, LINK	876	5	2	0.80%	0.57%

5, 6, 7, 8 and 10 were 3 credits; 9, 11, 12, 13 were 2 credits

All Pilot 2 SMS texts were sent on Tuesday 15 March at 5pm, with the exception of SMS 13 (which was a control version of SMS 12, designed to test an evening response) which was sent at 7pm.

SMS Option 6 stood out as clearly the most effective SMS version (at 2.23% initial response rate), and it is tempting to identify the higher incentive level of £10 as being the driver to that – but it's important to observe that option 8 also offered £10, and only resulted in a response rate of 1.34%; there are clearly many moving parts.

Of the £5 offerings, SMS text 5 and 10 performed the best, with response rates significantly higher than those obtained using any pilot 1 SMS.

So as well as clearly continuing to explore the very successful (but more expensive) option 6, options 5 and 10 were carried forward into the reminder stage. Options 5 and 10 were split into two halves – one to which we would continue to offer £5, and one to which we would offer an increased incentive of £10 (to assess whether we could pull the response rate up to the sort of level option 6 had achieved, whilst saving some incentive spend).

The reminder texts were variations on the initial invite, with learnings from the pilot 1 reminders incorporated, as follows:

- Option 5, half each of
  - Just a gentle reminder to please help with this important Government investigation, if you possibly can. £5 voucher for completing the survey. Please be assured this is not a scam or phishing exercise. To opt out text RGXX to 88802 HTTPS://SECURE2.ACCENT-MR.COM/D8/3538.ASPX?URN=DUMMY3
  - Just a gentle reminder to please help with this important Government investigation, if you possibly can. Now £10 voucher for completing the survey. Please be assured this is not a scam or phishing exercise. To opt out text RGXX to 88802. HTTPS://SECURE2.ACCENT-MR.COM/D8/3538.ASPX?URN=DUMMY3

- Option 6
  - Just a gentle reminder to please help with this important Government investigation, if you possibly can. £10 voucher for completing the survey. Please be assured this is not a scam or phishing exercise. To opt out text RGXX to 88802. HTTPS://SECURE2.ACCENT-MR.COM/D8/3538.ASPX?URN=DUMMY3

- Option 10, half each of
  - Just a gentle reminder to please help with this important Government investigation, if you possibly can. £5 voucher for completing the survey. HTTPS://SECURE2.ACCENT-MR.COM/D8/3538.ASPX?URN=DUMMY3. Please be assured this is not a scam or phishing exercise. To opt out text RGXX to 88802.
  - Just a gentle reminder to please help with this important Government investigation, if you possibly can. Now £10 voucher for completing the survey. HTTPS://SECURE2.ACCENT-MR.COM/D8/3538.ASPX?URN=DUMMY3. Please be assured this is not a scam or phishing exercise. To opt out text RGXX to 88802.
  - All versions were 2 credits

Responses to the first reminder were as follows:

	Reminder					Running total			
	Sent	Ints	NIS	response rate	Int Rate	Ints	NIS	Response rate	Int rate
£5 reminder	433	2		0.46%	0.46%	13	2	1.15%	1.43%

Option 5 (£5)	£10 reminder	434	2	1	0.69%	0.46%				
Option 6 (£10)		877	14	3	1.94%	1.60%	30	7	4.13%	3.35%
Option 10 (£5)	£5 reminder	421	3		0.71%	0.71%	16	2	2.03%	1.81%
	£10 reminder	425	4		0.94%	0.94%				

Option 6 clearly continued to perform significantly better than the two other tested options – and we observe that upping the incentive to £10 at the reminder stage (the initially envisioned methodology for the project) was nowhere near effective enough to be viable. At this stage options 5 and 10 were discarded for this reason.

The final stage of the pilot was to send a third and final reminder SMS. It was judged that simply repeating the initial or reminder texts may not be hugely successful, and given the diminishing returns frequently seen at third reminded stage, we restricted the contents of the SMS to 160 characters (to reduce SMS spend, and to reduce impact to participants).

The SMS text for the third reminder was:

- **Final request to please assist with the CMA survey if you can. If not that's fine - we won't message again.** HTTPS://SECURE2.ACCENT-MR.COM/D8/3538.ASPX?URN=DUMM

This was 1 credit

This reminder was sent on 17 March at 16:50.

Despite our uncertainty over the effectiveness of this third reminder, in fact it was the single most effective SMS shot of the entire process (for any group, at any stage), with a 2.4% response:

	2nd Reminder					Running total			
	Sent	Ints	NIS	response rate	Int Rate	Ints	NIS	response rate	Int rate
Option 6	818	17	3	2.44%	2.08%	47	10	6.36%	5.25%

This third reminder upped the overall response rate to 6.36%, and the interview rate up to 5.25%.

Given the huge variety of response rates we observed over the course of the pilot (sometimes seemingly caused by fairly innocuous differences), we recommend sticking precisely to the SMS texts, and other it may be advisable to stick to a similarly short time span between initial texts and reminders primarily

The times of day the SMS are to be sent can be discussed, but given that we found mid-late afternoon to be the most effective, we would recommend proceeding on that basis.

The main recommendation from the pilot is therefore that all participants are sent the following initial SMS:

- £10 for your opinions as part of an important investigation by the UK Government's Competition and Markets Authority into the mobile phone market. £10 to complete this 10 minute survey HTTPS://SECURE2.ACCENT-MR.COM/D8/3538.ASPX?URN=DUMM. This is a genuine UK Government survey and your opinions really matter to us. For more information about this case: https://www.gov.uk/cma-cases/mobile-ecosystems-market-study

(413 Chars, 3 credits)

First reminder:

- Just a gentle reminder to please help with this important Government investigation, if you possibly can. £10 voucher for completing the survey. Please be assured this is not a scam or phishing exercise. To opt out text RGXX to 88802. HTTPS://SECURE2.ACCENT-MR.COM/D8/3538.ASPX?URN=DUMM

(285 Chars, 2 credits)

Second reminder:

- Final request to please assist with the CMA survey if you can. If not that's fine - we won't message again. HTTPS://SECURE2.ACCENT-MR.COM/D8/3538.ASPX?URN=DUMM

(159 chars, 1 credit)

Top Line Pilot Results

In this section we discuss the data from the questionnaire.

We proposed a pilot of 100 interviews and 126 were achieved. The average questionnaire length was 9:21 minutes and the median time was 8:13 minutes.

We highlight any recommended changes.

Scoping questions

In this section we report on the numbers who have entered the question and were excluded as out of scope as applicable.

- Q1 Any data collected over the course of this interview that could be used to identify you, such as your name, address, or other contact details, will be held securely and will not be shared with any third party unless you give permission (or unless we are legally required to do so). Our privacy statement is available at https://www.accent-mr.com/privacy-policy/.

  Do you agree to proceeding with the interview on this basis?

– Yes	165
– No	26

  Base: 191

The 26 who were not happy with the privacy policy were excluded. There is a relatively high proportion who say 'no' on this question (14%). This is much higher than we find in other surveys (typically 2%-5%). Perhaps, this is exacerbated by the sampling method and the survey subject matter. It is not clear whether there is anything that can be done here.

- Q2 How old are you?

– Under 18	8
– 18-24	30
– 25-34	22
– 35-44	30
– 45-54	30
– 55-64	28

- 65-74 13
- 75-79 2
- 80+ 0
- Prefer not to say 2

Base: 165

The 8 aged under 18 were excluded.

- Q3 Do you have a smartphone for personal use? A smartphone is a phone on which you can send and receive emails, use apps, view websites and generally go online. Popular brands include iPhone and Samsung Galaxy.
  - Yes 154
  - No 3

  Base: 157

The 3 who did not have a smartphone for personal use were excluded

- Q4 How did you get your current personal smartphone. If you have more than one personal smartphone, please answer about the one you use most.
  - Purchased as new 122
  - Purchased as used 10
  - Gifted as new 8
  - Gifted as used 6
  - Provided by my employer 0
  - Other 6

  Base: 152

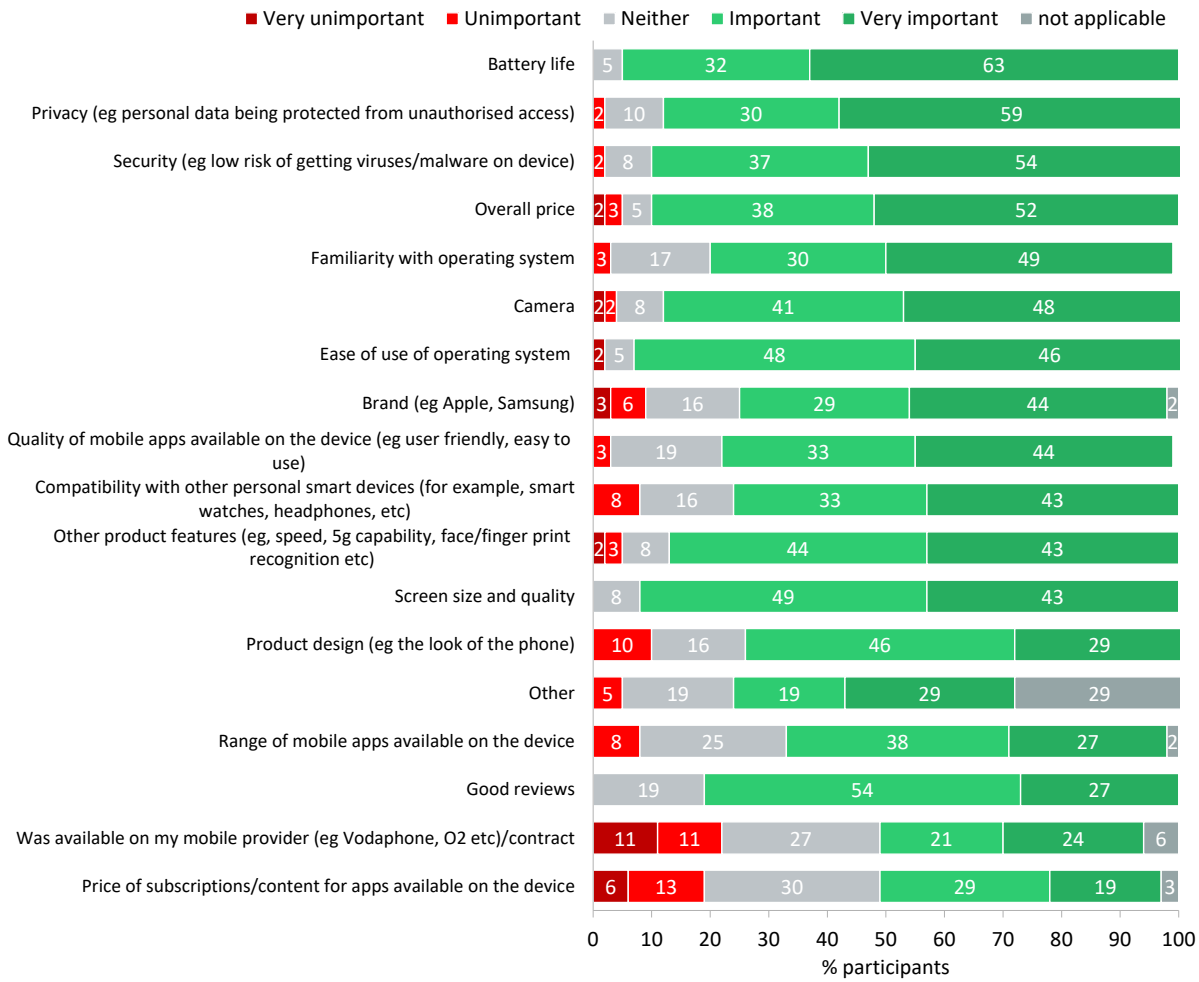
The 20 who did not purchase a smartphone were excluded

Factors that influence smartphone purchase

There were two versions of Q5 and which one was chosen was randomly allocated.

Version 1

- Q5 How important were each of the following in your decision to purchase your current smartphone?



Base: 63

The features with most saying they were very important were:

- Battery life
- Privacy (eg personal data being protected from unauthorised access)
- Security (eg low risk of getting viruses/malware on device)
- Overall price
- Familiarity with operating system
- Camera

The 'other' features mentioned were:

- After sales support and service
- Android Q0
- Compatibility with other smart devices
- Dual Sim Card
- Durability
- Lightweight and small
- Signal
- Small size
- Speaker quality
- Strength of body, glass

- Q6 You said these were all very important when purchasing your current personal smartphone. Which one of these was the most important?
  - Overall price 27
  - Brand (eg Apple, Samsung) 21

- Ease of use of operating system. 14
- Privacy (eg personal data being protected from unauthorised access) 6
- Familiarity with operating system 5
- Camera 5
- Battery life 5
- Security (eg low risk of getting viruses/malware on device) 5
- Compatibility with other personal smart devices 5
- Other 3
- Was available from my mobile provider 2
- Screen size and quality 2
- Good reviews 2

Base: 63

When asked to rate most important, price came out top followed by brand.

- Q7 And which was the second most important?
  - Screen size and quality 15
  - Battery life 14
  - Security (eg low risk of getting viruses/malware on device) 12
  - Ease of use of operating system. 10
  - Brand (eg Apple, Samsung) 8
  - Camera 7
  - Overall price 5
  - Familiarity with operating system 5
  - Product design (eg the look of the phone) 5
  - Other product features 3
  - Other 3
  - Compatibility with other personal smart devices 3
  - Good reviews 3
  - Quality of mobile apps available on the device 2
  - Was available from my mobile provider 2
  - Privacy (eg personal data being protected from unauthorised access) 2

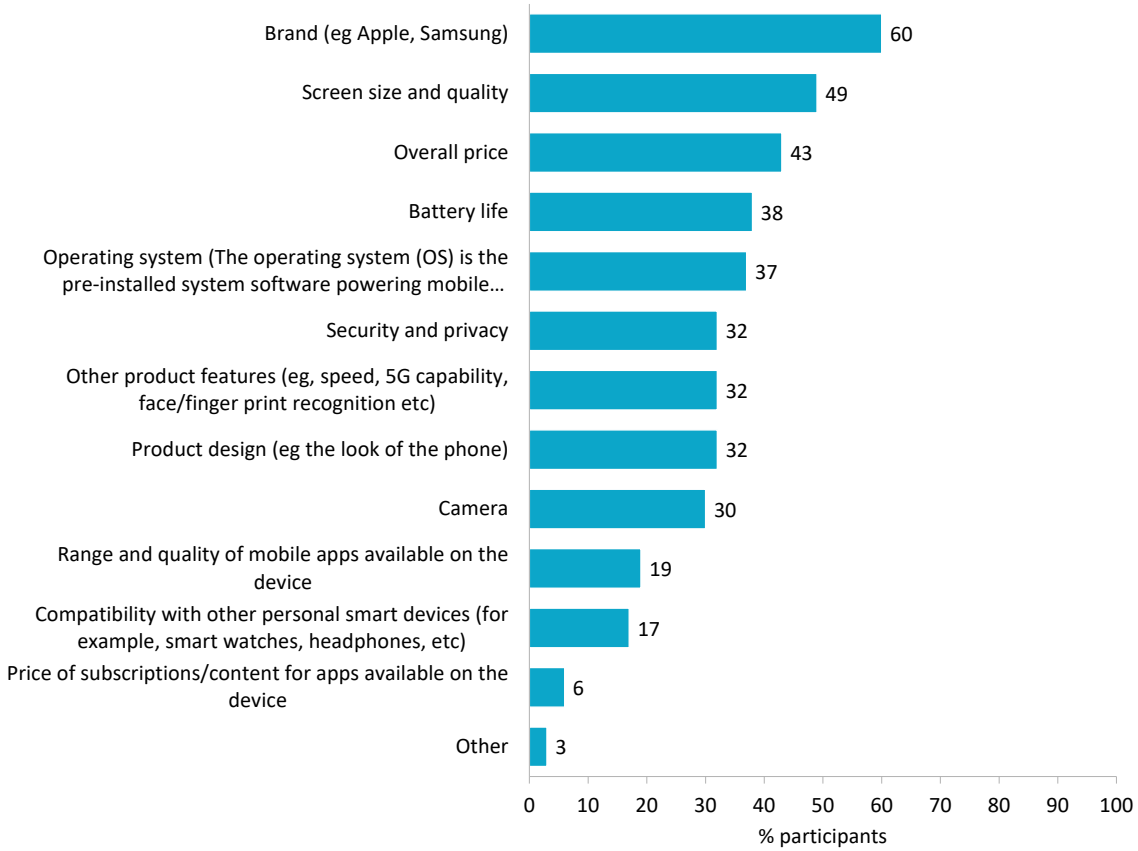
  Base: 59

- Q8 And which was the third most important?
  - Battery life 16
  - Other product features 12
  - Security (eg low risk of getting viruses/malware on device) 11
  - Screen size and quality 9
  - Privacy (eg personal data being protected from unauthorised access) 7
  - Overall price 7
  - Brand (eg Apple, Samsung) 7
  - Familiarity with operating system 7
  - Ease of use of operating system 5
  - Good reviews 5
  - Camera 5
  - Product design (eg the look of the phone) 4
  - Compatibility with other personal smart devices 2
  - Range of mobile apps available on the device 2
  - Quality of mobile apps available on the device 2

  Base: 57

Version 2

- Q5b What factors were important in your decision to purchase your current smartphone? Please select up to a maximum of 5 factors from the list below



Base: 63

Brand was chosen most followed by screen size and quality and then overall price.

The 'other' features mentioned were:

- Availability from my service provider
- Dual sim

- Q6b Which one of these was the most important?

– Brand (eg Apple, Samsung)	25
– Operating system	16
– Overall price	15
– Battery life	13
– Security and privacy	9
– Screen size and quality	7
– Camera	4
– Product design (eg the look of the phone)	4
– Other product features	4
– Compatibility with other personal smart devices	4

Base: 55

When asked to rate the most important, brand came out top followed by operating system and price.

- Q7b And which was the second most important?

- Overall price 27
- Screen size and quality 14
- Operating system 10
- Battery life 10
- Camera 8
- Other product features 8
- Security and privacy 6
- Compatibility with other personal smart devices 6
- Brand (eg Apple, Samsung) 4
- Product design (eg the look of the phone) 4
- Range and quality of mobile apps available on the device 2
- Price of subscriptions/content for apps available on the device 2

Base: 51

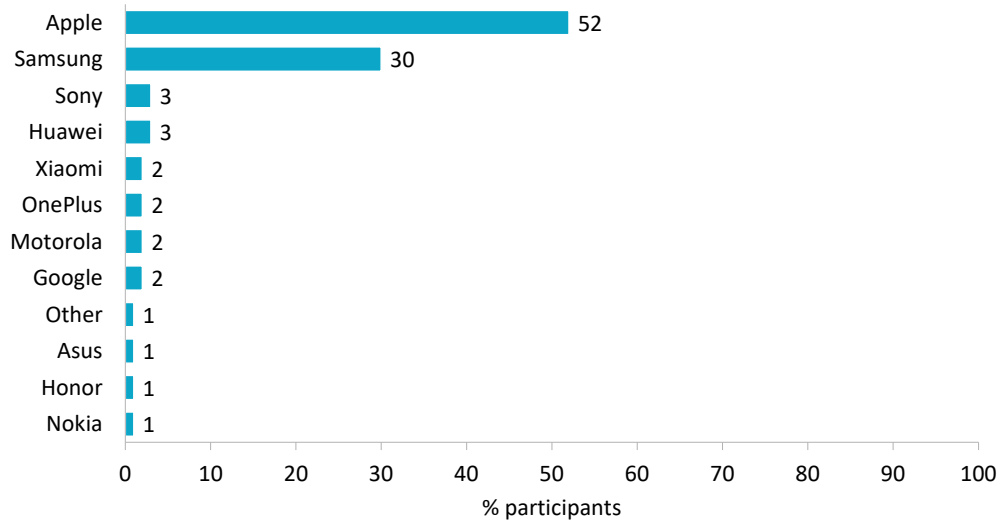
- Q8b And which was the third most important?
  - Brand (eg Apple, Samsung) 23
  - Screen size and quality 17
  - Battery life 13
  - Product design (eg the look of the phone) 11
  - Operating system 6
  - Camera 6
  - Compatibility with other personal smart devices 6
  - Overall price 4
  - Other product features 4
  - Security and privacy 4
  - Range and quality of mobile apps available on the device 4

Base: 47

Version 2 (Q5b) was selected for the mainstage fieldwork in advance of seeing the pattern of response from the pilot interviews. This decision was taken by the CMA in line with their wider survey guidance.

Device ownership and purchase

- Q9 Which of the following smartphone brands is your current personal smartphone? If you have more than one personal smartphone, please answer about the one you use most



Base: 126

Half the sample used Apple, half Android phones.

The 'other' brand mentioned was Realme.

- Q10 Do you know what the mobile operating system of your current personal smartphone is? iOS is the operating system for Apple iPhones and Android is the operating system for almost all other smartphones such as Samsung, LG, Oppo, Google Pixel, OnePlus and Motorola.

	Total	Apple	Android
– Yes, iOS	52	98	2
– Yes, Android	47	2	95
– No	2		3
Base	126	65	61

A small proportion chose the wrong OS or said they did not know which OS.

- Q11: As it is a #Q5# we think it is Android. Do you agree?/ As it is an Apple phone we think it is iOS. Do you agree?
  - Yes 100
  - No 0

  Base: 4 who said no or chose 'wrong' brand

- Q12 When did you buy this smartphone?
  - In the last month 4
  - 2-3 months ago 9
  - 4-6 months ago 13
  - 7-11 months ago 11
  - 1-2 years ago 45
  - 3-4 years ago 15
  - 5-6 years ago 2
  - 7-8 years ago 0
  - 9-10 years ago 0
  - 10+ years ago 0
  - Don`t know 2

  Base: 126

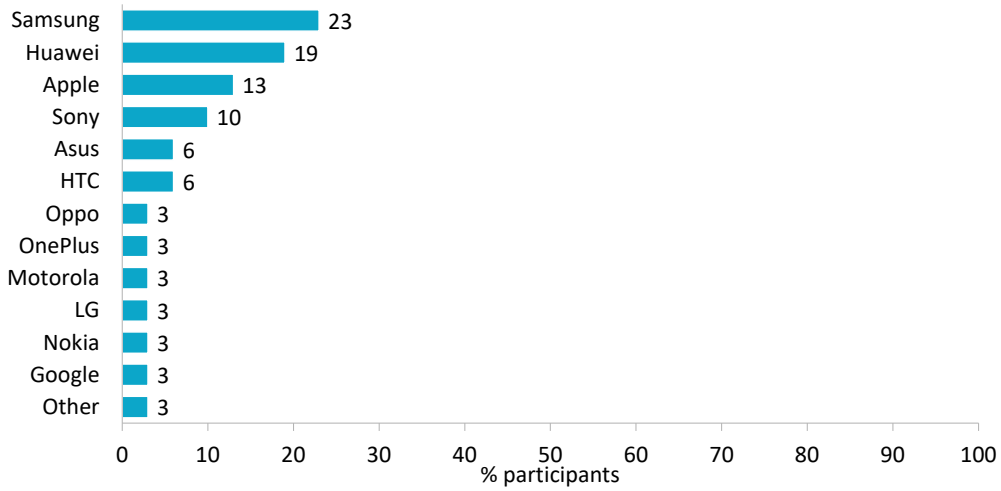
- Q13 What was the overall price of this smartphone when you got it? If you purchased it as part of a pay monthly contract, please estimate the cost of the smartphone if you are able to.
  - £0-100 2
  - £101-200 11
  - £201-300 13
  - £301-400 7
  - £401-500 7
  - £501-600 9
  - £601-700 12
  - £701-800 8
  - £801-900 4
  - £901-1000 9
  - £1000+ 9
  - Don't know 10

  Base: 126

- Q14 Now thinking about the smartphone you used before you bought your current personal smartphone, was that the same brand you have now or a different brand?
  - Same brand 73
  - Different brand 25
  - I didn't own a smartphone before my current one 2
  - Don't know 0

  Base: 126

- Q15 IF DIFFERENT BRAND ASK: Which of the following smartphone brands was your previous smartphone?



Base: 31 who bought different brand

The 'other' brand mentioned was Microsoft.

In summary

- 7% switched from Android to iOS
- 3% switched from iOS to Android
- 90% did not switch OS

- Q16 (DID NOT SWITCH BRAND FOR PREVIOUS PHONE) ASK:
  Have you ever owned an Android smartphone as your personal smartphone?
  Have you ever owned an iPhone as your personal smartphone?

	Total	Apple	Android
Yes	39	44	32
No	59	56	62
Don't know	2		5
Base	92	55	37

Other products used

- Q17 Which of the following products do you personally own and use? Please select all that apply

– Personal Windows laptop/desktop computer	58
– Apple Macbook /Apple Mac	21
– Chromebook	9
– Android tablet (eg Samsung)	25
– Amazon Fire tablet	14
– IPad	35
– Apple Watch	16
– Smartwatch (not Apple Watch)	24
– Google Smart home devices	19
– Apple Smart home devices (eg HomePod, Apple TV)	12
– Gaming console (eg Play station, Xbox)	32
– Airpods/Airpods Pro	20
– Other wireless air buds/headphones	35
– None of the above	6

Base: 126

Switching

- Q18 (APPLE OWNER) When you bought your current #Q9# personal smartphone did you consider buying an Android smartphone?
  (ANDROID OWNER) When you bought your current #Q9# personal smartphone did you consider buying an iPhone?

	Total	Apple	Android
– Yes	12	16	7
– No	86	82	89
– Don't know	3	2	4
Base	92	55	37

- Q19 CONSIDERED SWITCHING) ASK:
  (APPLE OWNER) How seriously, if at all, did you consider buying an Android smartphone?
  (ANDROID OWNER) How seriously, if at all, did you consider buying an iPhone?

	Total	Apple	Android
– Not at all seriously	8	11	0
– Not very seriously	23	11	50
– Fairly seriously	46	67	0
– Very seriously	23	11	50
– Don't know/not sure		0	0 0
Base	13	9	4

■ Q20 (DID NOT CONSIDER SWITCHING) ASK:
(APPLE OWNER) Which of the following reasons explain why you didn't consider switching to an Android smartphone? Please select all that apply
(ANDROID OWNER) ASK: Which of the following reasons explain why you didn't consider switching to an iPhone? Please select all that apply
(CONSIDERED SWITCHING) ASK:
(APPLE OWNER): Which of the following reasons explain why you didn't buy an Android smartphone? Please select all that apply
(ANDROID OWNER): Which of the following reasons explain why you didn't buy an iPhone? Please select all that apply

	Total	Apple	Android
I am happy with/prefer #OS#	55	55	55
I identify more closely with #OS# than #ALTOS#	43	44	42
Because I have other devices linked to my phone/operating system (#OS#)	41	58	24
I am happy with/prefer my existing smartphone brand (eg Apple, Samsung)	41	49	33
I could not see any significant benefits from switching	35	29	42
Too expensive	29		58
I didn`t want to spend the time learning how to use an #ALTPHONE#	29	40	18
The #ALTPHONE# is lower quality	24	27	20
I felt it would be too much hassle to switch to an #ALTPHONE#	17	20	15
I was concerned about losing data (eg photos, messages, videos) when transferring to an #ALTPHONE#	16	25	7
My friends/family use the same operating system (#OS#)	15	20	9
I use apps not available on #ALTOS#	14	9	18
#OS# has access to mobile apps with better prices	14	4	24
#OS# has access to a wider range of mobile apps	14	7	20
#OS# has better data security (malware protection etc)	11	13	9
#OS# has better privacy (protecting your personal data from unauthorised access)	11	13	9
Other	8	2	15
I was concerned about losing paid-for subscriptions/content in apps on my phone	4	4	4
Couldn't get one from my mobile provider (eg Vodaphone, O2 etc)/contract	2	2	2
Base	110	55	55

The 'other' reasons were:

- Apple build in elements to upgrades which ensure battery performance tails off rapidly over time ensuring the need to upgrade. This does not happen with Android phones
- Apple repair costs are too high and bad customer service
- Apple will not speak with my smart items at home.
- Didn't get along with it
- Didn't think about it
- Don't get on with the iPhone a operating system
- Integration with Microsoft Windows
- just didn't want to
- Slave labour in China

Q21 Which of the following was the most important reason?

	Total	Apple	Android
Because I have other devices linked to my phone/operating system (#OS#)	16	27	3
I am happy with/prefer my existing smartphone brand (eg Apple, Samsung)	14	18	9
I am happy with/prefer #OS#	14	11	17
Too expensive	10		23
The #ALTPHONE# is lower quality	10	9	11
I identify more closely with #OS# than #ALTOS#	8	7	9
I didn't want to spend the time learning how to use an #ALTPHONE#	6	7	6
I could not see any significant benefits from switching	6	5	9
My friends/family use the same operating system (#OS#)	4	7	
#OS# has access to mobile apps with better prices	3	2	3
#OS# has better privacy (protecting your personal data from unauthorised access)	3	5	
I was concerned about losing data (eg photos, messages, videos) when transferring to an #ALTPHONE#	1	2	
I use apps not available on #ALTOS#	1		3
Other	4		9
Base	79	44	35

Q21b. And which of the following was the second most important reason?

	Total	Apple	Android
I am happy with/prefer #OS#	18	21	15
I am happy with/prefer my existing smartphone brand (eg Apple, Samsung)	13	15	12
I identify more closely with #OS# than #ALTOS#	12	9	15
Too expensive	10		21
Because I have other devices linked to my phone/operating system (#OS#)	10	18	3
I could not see any significant benefits from switching	7	6	9
The #ALTPHONE# is lower quality	4	6	3
I was concerned about losing data (eg photos, messages, videos) when transferring to an #ALTPHONE#	4	9	
I felt it would be too much hassle to switch to an #ALTPHONE#	4	6	3
I didn't want to spend the time learning how to use an #ALTPHONE#	3	3	3
My friends/family use the same operating system (#OS#)	3	3	3
#OS# has access to a wider range of mobile apps	3	3	3
#OS# has better data security (malware protection etc)	3	3	3
I was concerned about losing paid-for subscriptions/content in apps on my phone	1		3
Other	1		3
Base	67	34	33

Q21B And which of the following was the third most important reason?

	Total	Apple	Android
I didn't want to spend the time learning how to use an #ALTPHONE#	16	20	11
I am happy with/prefer #OS#	14	13	15
I could not see any significant benefits from switching	14	10	19
I am happy with/prefer my existing smartphone brand (eg Apple, Samsung)	11	13	7
#OS# has better privacy (protecting your personal data from unauthorised access)	9	10	7
Too expensive	5		11
I was concerned about losing data (eg photos, messages, videos) when transferring to an #ALTPHONE#	5	7	4
My friends/family use the same operating system (#OS#)	5	7	4
I use apps not available on #ALTOS#	5	3	7
Because I have other devices linked to my phone/operating system (#OS#)	4	3	4

The #ALTPHONE# is lower quality	2	3	
I identify more closely with #OS# than #ALTOS#	2	3	
#OS# has access to mobile apps with better prices	2		4
#OS# has access to a wider range of mobile apps	2		4
I felt it would be too much hassle to switch to an #ALTPHONE#	2	3	
#OS# has better data security (malware protection etc)	2	3	
Couldn't get one from my mobile provider (eg Vodaphone, O2 etc)/contract	2		4
Base	57	30	27

Switchers

- Q22 IF SWITCHED FROM ANDROID TO IOS ASK: Which of the following reasons explain why you switched to an iPhone? Please select all that apply
  IF SWITCHED FROM IOS TO ANDROID ASK: Which of the following reasons explain why you switched to an Android phone? Please select all that apply

	Total	Apple	Android
It was a good price	38	33	50
It has a better operating system	31	33	25
I prefer #OS#	31	33	25
It has a better operating system	31	33	25
I was confident about transfer of data (e.g. photos, messages, videos) when transferring to #OS#	15	22	
My friends /family use #OS#	15	11	25
I was unhappy with my old smartphone brand	15	11	25
I was unhappy with my old operating system (#ALTOS#)/prefer #OS#	15	11	25
#OS# has access to a wider range of mobile apps	15	11	25
I didn't feel it would be a hassle to switch to #OS#	15	22	
The brand is of higher quality (e.g. better camera, battery, other hardware features)	8		25
It offers good value for money	8		25
I identify more closely with #OS# than #ALTOS#	8	11	
I have other devices that connect to #OS#	8	11	
Other	8	11	
The brand is of higher quality (e.g. better camera, battery, other hardware features)	8		25
Base (switchers)	13	9	4

- Q23 Which of the following was the most important reason?

	Total	Apple	Android
It was a good price	44	33	67
I prefer #OS#	22	33	
I was unhappy with my old smartphone brand	22	17	33
It has a better operating system	11	17	
Base (switchers)	9	6	3

- Q23b: And which of the following was the second most important reason?

	Total	Apple	Android
It was a good price	17	20	
I prefer #OS#	17	20	
It offers good value for money	17		100
I was confident about transfer of data (e.g. photos, messages, videos) when transferring to #OS#	17	20	
My friends /family use #OS#	17	20	
I identify more closely with #OS# than #ALTOS#	17	20	
Base (switchers)	6	5	1

- Q23B: And which of the following was the third most important reason?

	Total	Apple	Android
It has a better operating system	100		100
Base (switchers)	1		1

- Q24 SWITCHED FROM ANDROID TO IOS ASK: How easy or difficult did you find the experience of switching to an iPhone? SWITCHED FROM IOS TO ANDROID ASK: How easy or difficult did you find the experience of switching to an Android phone?

	Total	Apple	Android
– Very easy	46	56	25
– Fairly easy	54	44	75
– Neither	0	0	0
– Fairly difficult	0	0	0
– Very difficult	0	0	0
– Don't know	0	0	0
Base (switchers)	13	9	4

- Q25 SWITCHED FROM ANDROID TO IOS ASK: Overall, how satisfied or dissatisfied were you with your experience of switching from a #Q9# smartphone to an iPhone? SWITCHED FROM IOS TO ANDROID ASK: Overall, how satisfied or dissatisfied were you with your experience of switching from an iPhone to a #Q15# phone?

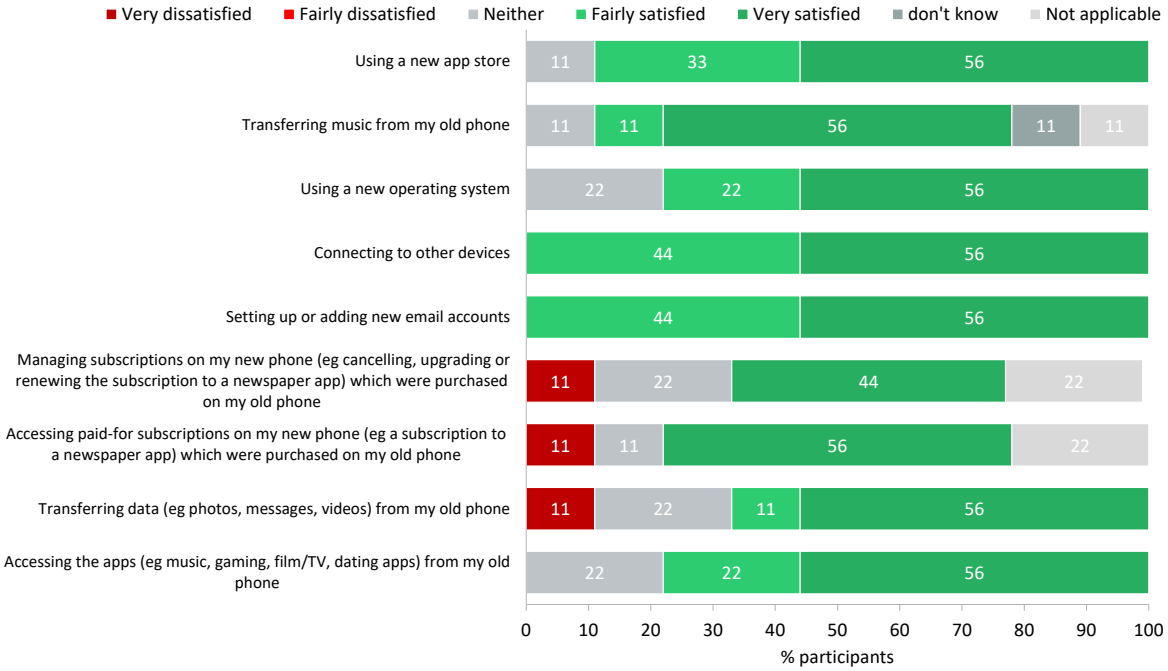
	Total	Apple	Android
– Very satisfied	54	67	25
– Fairly satisfied	38	22	75
– Neither	8	11	0
– Fairly dissatisfied	0	0	0
– Very dissatisfied	0	0	0
– Don't know	0	0	0
Base (switchers)	13	9	4

- Q26 Why did you say that?
  - Because it was
  - Did not have any problems
  - Easier to use
  - Easy to switch
  - I have used both brands before so I was aware of what to do
  - I thought I'd try changing brands I liked the look of my current phone
  - It completes all the functions I need it to complete
  - It moved everything over easily and after a day I could navigate my way around easily
  - it was a quick easy swap
  - It was easy to do
  - No thank you!

- Only switched because uk phone shops pretty much force you to either Samsung or iPhone and IPhone are an easier phone to navigate, but on the other hand I would stuck with Previous phone brand had they of produced a similar phone.
- There are a couple of minor features that are better in android but overall I prefer iO

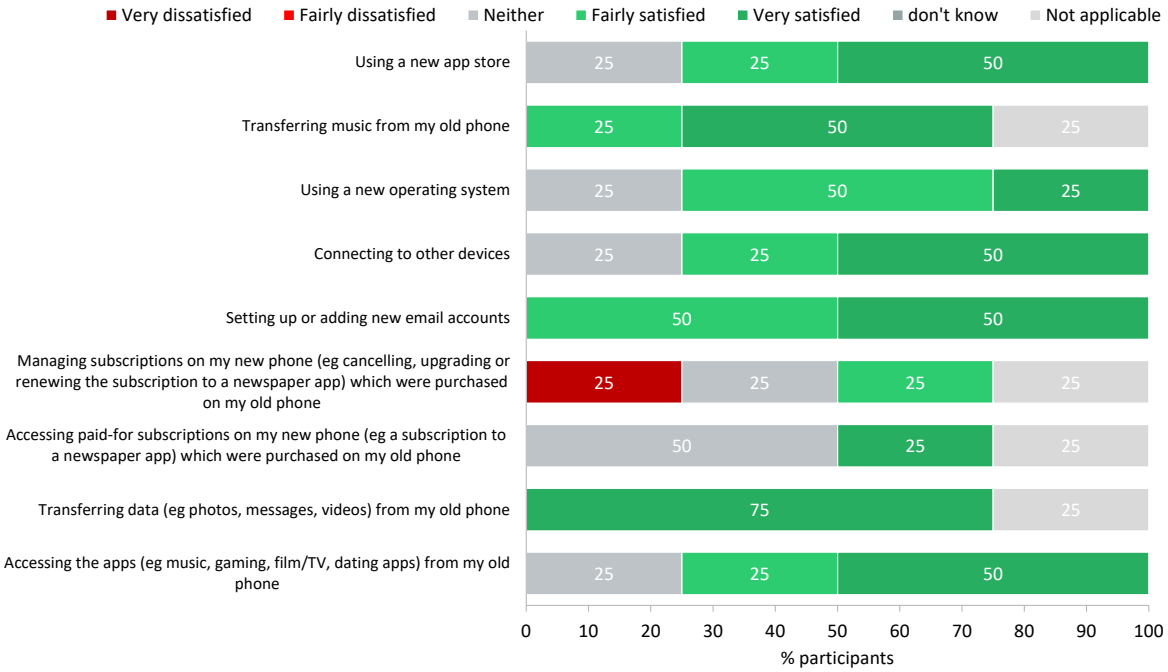
Base: 13 switchers

- Q27 SWITCHED FROM ANDROID TO IOS ASK: How satisfied or dissatisfied were you with the following when switching from a #Q9# to an iPhone?



Base 4 switchers from Android to iOS

- Q27 SWITCHED FROM IOS TO ANDROID ASK: How satisfied or dissatisfied were you with the following when switching from an iPhone to a #Q15# phone?



Base 9 switchers from iOS to Android

Mobile apps behaviour and attitudes

- Q29 Which of the following ways do you get apps onto your smartphone? Please select all that apply

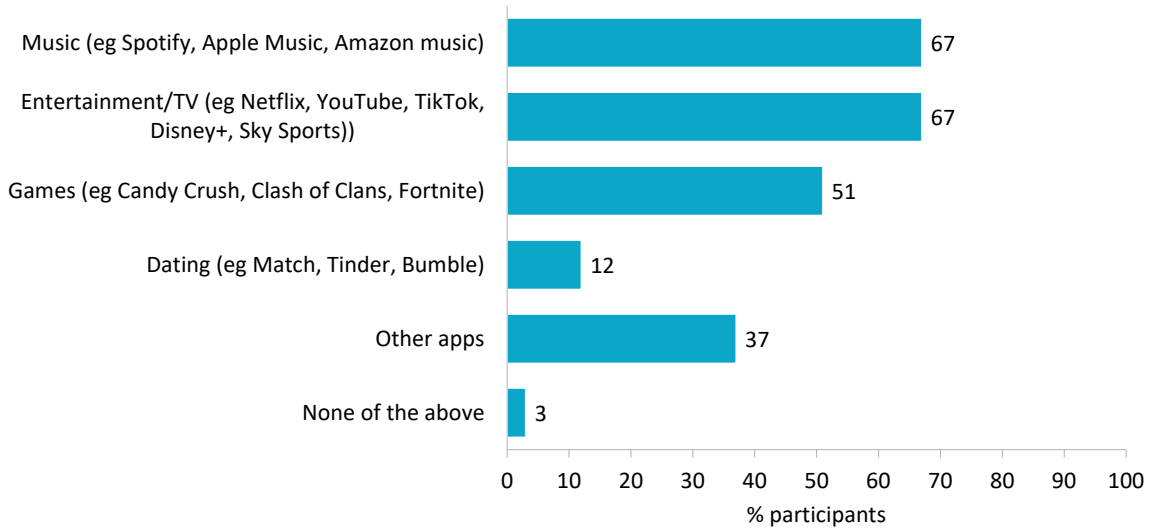
	Total	Apple	Android
Download through the Apple App Store	49	94	
Download through the Google Play Store	46		97
Download through the Samsung Galaxy Store	7		14
Download through the Amazon App Store	1		2
Download through the Huawei App Gallery			
Download through Aptoide	1		2
Download through APKpure	2		5
Download through F-droid	2		5
I used my mobile browser to install a web app icon on my screen without using an app store	11	14	8
Download an app directly from a website (also known as 'sideloading') without using an app store	9		19
Pre-installed when I purchased the device	11	14	8
Other			
Don't know			
Base	123	64	59

Recommendation
It appears 3 of the 126 were not asked this question. We will check correct.

- Which of these ways do you use most often

	Total	Apple	Android
Download through the Apple App Store	35	92	
Download through the Google Play Store	58		95
Download an app directly from a website (also known as 'sideloading') without using an app store	3		5
Don't know	3	8	
Base	31	12	19

- Q28 Which, if any, of the following types of mobile apps do you use on your smartphone? Please select all that apply



Base 126

- Q30 How else, if at all, do you access the mobile gaming, entertainment/TV, dating, music services that you have an app for on your smartphone? Please select all that apply

	gaming	Entertain-ment/TV	dating	music
On the smartphone but through a browser	22	36	27	32
On a computer or laptop	22	51	27	34
On a game console (eg Xbox, Playstation)	38	15	13	9
On a tablet / iPad via the app	30	39	47	36
On a tablet / iPad via the browser	14	15	20	12
On a Smart TV	6	63	13	32
Other	5	10	27	16
No other ways		11	47	16
Don't know		8	20	6
Base	64	84	15	85

The 'other' responses for gaming was:

- internet

The 'other' responses for entertainment/TV were:

- Internet
- iPad Pro
- Through sky box
- TV

The 'other' responses for dating were:

- tablet
- internet

The 'other' responses for music were:

- Internet
- iPad Pro

Gaming

- Q32 How, if at all, have you spent money on gaming apps (eg levels, tokens) that are on your smartphone in the last 12 months? Please select all that apply
  - In the app on my smartphone or tablet/iPad 42
  - Through a website and then accessed in the app on my smartphone 5
  - On a games console (eg Xbox, Playstation) and then accessed in the app on my smartphone 13
  - Through a package of services bought outside of the app on my smartphone 5
  - Other 0
  - I have not spent any money on these apps in the past 12 months 42
  - Don't know 6

  Base: 64 who used gaming apps

- Q33 And which of these is the main way you pay for content in the gaming apps that are on your smartphone?
  - In the app on my smartphone or tablet/iPad 86
  - On a games console (eg Xbox, Playstation) and then accessed in the app on my smartphone 14

  Base: 7 who chose more than one

Entertainment/TV

- Q32b How, if at all, have you spent money on entertainment apps (eg films, TV series/programmes) that are on your smartphone in the last 12 months? Please select all that apply
  - In the app on my smartphone or tablet/iPad 27
  - Through a website and then accessed in the app on my smartphone 18
  - Through a package of services bought outside of the app on my smartphone 33
  - Other 1
  - I have not spent any money on these apps in the past 12 months 33
  - Don't know 6

  Base: 84 who used entertainment/TV apps

- Q33b And which of these is the main way you pay for content in the entertainment apps that are on your smartphone?
  - In the app on my smartphone or tablet/iPad 36
  - Through a website and then accessed in the app on my smartphone 29
  - Through a package of services bought outside of the app on my smartphone 36

  Base: 14 who chose more than one

Dating

- Q32c How, if at all, have you spent money on dating apps (eg likes, extra features) that are on your smartphone in the last 12 months? Please select all that apply
  - In the app on my smartphone or tablet/iPad 27
  - Through a website and then accessed in the app on my smartphone 20
  - Through a package of services bought outside of the app on my smartphone 0
  - Other 0
  - I have not spent any money on these apps in the past 12 months 60
  - Don't know 0

  Base: 15 who used dating apps

- Q33c And which of these is the main way you pay for content in the dating apps that are on your smartphone?
  - In the app on my smartphone or tablet/iPad 100

  Base: 1 who chose more than one

Music

- Q32d How, if at all, have you spent money on music apps (eg subscriptions) that are on your smartphone in the last 12 months? Please select all that apply
  - In the app on my smartphone or tablet/iPad 35
  - Through a website and then accessed in the app on my smartphone 15
  - Through a package of services bought outside of the app on my smartphone 21
  - Other 4
  - I have not spent any money on these apps in the past 12 months 32
  - Don't know 7

  Base: 85 who used music apps

The 'other' responses were:

- iTunes via mac
- Spotify
- through EE

- Q33d And which of these is the main way you pay for content in the music apps that are on your smartphone?
  - In the app on my smartphone or tablet/iPad 50
  - Through a package of services bought outside of the app on my smartphone 20
  - Other 30

  Base: 10 who chose more than one

- Q31 How much, if anything, did you spend **within the mobile gaming, entertainment/TV, dating music** apps on your smartphone on average per month in the last year including subscriptions, downloads and other in-app purchases? Please select an option in each column below as your best estimate

	Gaming (eg levels. Tokens)	Entertain-ment/TV (eg films. TV series)	Dating (eg likes, extra features)	Music (eg subscrip-tions)
£0	47	35	67	31
£1-10	25	18		26
£11-20	16	27	7	22
£21-30	6	8	20	
£31-40				
£41-50	2	2	7	
£51-70				1
£71-100		1		4
£101-£130		1		2
£131-£150				
£151+	2	2		1
Don't know	3	5		2
Base	64	84	15	85

Confidence in using smartphones

- Q34 How confident, if at all, are you with smartphone technology and using the different applications that are available on smartphones?
  - Very confident 56
  - Fairly confident 36
  - Not very confident 7
  - Not at all confident 0
  - Don't know 2

  Base: 126

- Q35 How confident, if at all, are you with changing settings on smartphones (e.g. changing default settings)?
  - Very confident 53
  - Fairly confident 32
  - Not very confident 12
  - Not at all confident 2
  - Don't know 1

  Base: 126

Classification Questions

- Q36 Are you…?
  - Male 56
  - Female 44
  - Prefer to self-ascribe 1
  - Prefer not to say 0

  Base: 126

- Q37 How much is your total household income per year from all sources, before tax and other deductions but including any benefits/allowances?
  - Up to £10,000 8
  - £10,001 to £20,000 10
  - £20,001 to £30,000 16
  - £30,001 to £40,000 14
  - £40,001 to £50,000 9
  - £50,001 to £60,000 7
  - £60,001 to £70,000 7
  - £70,001 to £80,000 2
  - £80,001 to £100,000 3
  - £100,001+ 7
  - Prefer not to say 17

  Base: 126

- Q38 Which area do you live in?
  - London 13
  - South East 17
  - South West 11
  - East Midlands 6
  - West Midlands 10
  - East of England 9
  - North West 9
  - North East 2
  - Yorkshire and Humberside 10
  - Wales 5
  - Northern Ireland 2
  - Scotland 6

  Base: 126

Conclusions

Overall the questionnaire has worked well with one minor routeing error (three participants were not asked Q29 and Q29b).

One of the variants for Q5 will be dropped. Other than that we recommend proceeding to the main stage with the questionnaire as it is.

We recommend the version 6 SMS message with £10 incentive and two reminders.

Appendix D

Report on Cognitive depths

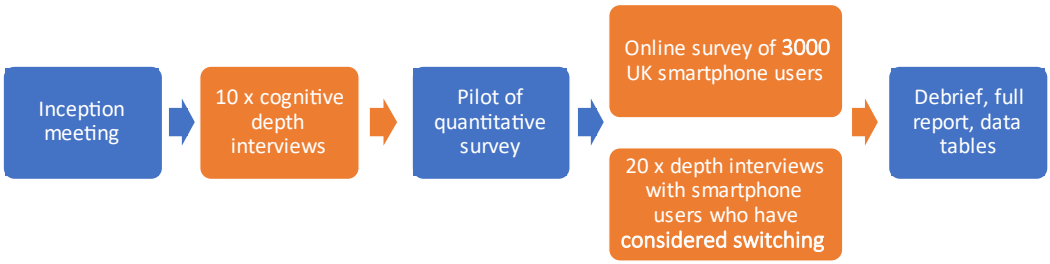
Introduction

Background

Context	Competition and Markets Authority (CMA) launched a market study over concerns that Apple and Google have too much control over operating systems (iOS and Android), app stores (App Store and Play Store), and web browsers (Safari and Chrome) that together form their 'ecosystems'.
Core objective	Robust and rigorous research is required to develop a more in depth understanding of consumer purchasing behaviour in the UK mobile phone market, with a particular focus on switching behaviour across smartphone brand/operating system.

Overview of approach

The study involves a multi-method approach with a fully tested quantitative survey among a representative audience of UK mobile phone users, recruited via SMS text messaging. This will be supplemented with in depth interviews among users who have switched mobile operating provider.



This report outlines the findings from the cognitive depth interviews.

Cognitive testing ensures that the questionnaire we develop fully reflects the drivers of choice and factors that users consider in their smartphone purchase decision.

Ten cognitive interviews were conducted using an online platform (eg Microsoft Teams or Zoom) allowing for screen sharing between interviewer and participant. The interviewer opened the programmed survey and then shared their screen with the interview participant to allow interviewer and participant to view the same screen at the same time. The interviewer handed over control of the screen to the participant, so they could complete the survey as if they were completing it for real. This mimics the survey mode to ensure it is tested effectively, including ease of navigating through the survey, use of 'more information' buttons etc.

A cognitive interview discussion guide was agreed with the CMA in advance of the interviews and the interviewer followed up on key sections of the survey to probe how the participant made certain choices, what they understood the question was asking and clarification of supporting information where required. The questionnaire was programmed in a way that the interviewer could easily navigate back to a specific question to follow up with the participant. We used a 'read

aloud' approach whereby participants were asked to verbalise their thought process as they reviewed and responded to the survey questions. This helped uncover areas of misunderstanding or uncertainty as well as further context behind users' decision-making.

The sample for the cognitive interviews was as follows:

Gender		Social Grade		Age			
Male	Female	ABC1	C2DE	18-24	25-34	35-44	45+
5	5	5	5	2	2	3	3

For six their current smartphone operating system was iOS and for four Android.

FINDINGS

Overall observations

Overall, participants perceived the survey as easy to complete and an acceptable length. However, some additional explanations were required during the cognitive interviews, which are detailed below. While these usually would not have prevented the participant from completing the interview they could potentially affect the quality of the responses (ie the response selected may be for a different reason that that intended by the survey design).

We have also included some observations about the thought process behind some of the responses participants selected.

Scoping questions

- *Q3: Do you have a smartphone for personal use?*
  - Participants claimed they did not need the definition of 'smartphone' and there were no difficulties with understanding the definition. Highlighting the definition in a different colour was appreciated.

- *Q4: How did you get your current personal smartphone?*
  - One participant attempted to select both 'purchased as new' and 'provided by employer'. When prompted to revisit the question it was suggested to place 'personal' in bold to assist comprehension.

Factors that influence smartphone purchase

- *Q5: How important are each of the following smartphone attributes in your decision to purchase the smartphone you did?*
  - Some participants did not fully understand the phrase *'smart phone attributes'*. It may be advisable to reword this question without that phrase to ensure inclusivity. Also, the

question is currently phrased in mixed tense and needs to be past tense to ensure the participant is in the mindset of when they purchased the smartphone in question.

- Most of the attributes were easy to understand and score for importance. However, further explanation and some de-grouping may be required as follows:
  - *Brand:* may be useful to add examples, eg Apple, Samsung etc, as some participants checked to make sure they were assuming correctly and one assumed this was referring to his network O2.
  - *The definition of OS '(The operating system (OS) is the pre-installed system software powering mobile devices. Examples are Apple iOS and Google Android OS)'* may require further simplification. While most participants know which OS their phone uses they are not always aware of the alternative. Also, the repetition of 'OS' in the explanation makes it somewhat difficult to read. It may be best at this stage to place the examples only in brackets and expand on the definition at Q10 (eg iOS for Apple/iPhones or Android OS for most other brands). The justification for this is that if the OS were particularly important in the selection process for a participant that participant would not have an issue in understanding what it is. This explanation needs to accompany any attribute which mention OS, due to randomisation.
  - *Other product features (eg screen size and quality, speed, battery life, 5g capability, face/finger print recognition etc):* Some participants felt that this group was too broad. For example, battery life may be very important to them and other attributes in this group were not, so they were unsure how best to score the attribute. Also, due to the randomised order, 'other' confuses when it appears as the first attribute.
  - *Security (eg low risk of getting viruses/malware on device):* This is easily understood and there were some comments from iPhone users about Apple in particular having promoted their security heavily in the past. However, some selected this as being important generally, but on prompting did not consider this at the time.
  - *Privacy (eg personal data being protected from unauthorised access):* Again, this is easily understood and there were some comments about Apple in particular having promoted this heavily in the past. However, some selected this as being important generally, but on prompting did not consider this at the time.
  - *Range of mobile apps available on the device:* Most participants were unaware of any difference here by device, though some iPhone users felt that Apple were more restricted here due to security issues.
  - *Quality of mobile apps available on the device (eg user friendly, easy to use):* Again most participants were unaware of any differences here by device
  - NB participants often had to re-read these two attributes to as they thought they had already scored them. May be useful to use bold font for 'quality' and 'range'
  - *Price of subscriptions/content for apps available on the device:* Again most participants were unaware of any differences here by device
  - *Was available on my mobile carrier/contract:* There was some confusion over terminology here: may need revising to include the word network or provider, eg 'I could get this smartphone on my existing network/contract'
  - *Other (please type in):* participants added: colour. They did not always immediately select the level of importance for their addition.

- *Q6-8: Which of the following smartphone attributes was the most/second most/third most important in your decision to purchase the smartphone you did?*

  Most participants did not recognise that these were attributes they had already selected, so it felt that they were being offered another list of additional attributes. Consider highlighting this as a continuation in the question text: eg 'You said these were all very important when purchasing your current personal smartphone Which one of these was most important'.

  - Some felt these questions were repetitive and had to re-read them. They asked if they could have 1st, 2nd, 3rd columns in one question

Device ownership and purchase

- *Q13: What was the price of this smartphone when you got it? If you got it under contract, please estimate the cost of the smartphone if you are able to.*

  - Some were able to remember the price of the smartphone if they purchased it outright. However, some found this difficult, as they pay monthly. May be useful to reword the second part of the question: 'If you purchased it as part of a pay monthly contract, please estimate the cost if you can'. This may prompt participants as to how they might estimate the cost of the device. Those who bought used were not sure whether the price should be the estimated retail price or the price they paid for the used smartphone.

- *Q16: Have you ever owned an Android smartphone as your personal smartphone?*

  - No iPhone users needed to access the explanation of Android at this point (note Moto needs changing to Motorola in the information text)

Other products used

- *Q17: Which of the following products do you own and use? Please select all that apply*

  - Some participants were unsure whether to include a device that belongs to another member of the household, but that they personally use occasionally. May require clarification with the addition of 'you personally own and use'.

Switching

- *Q20: Which of the following reasons explain why you didn't consider switching to/buy an iPhone/Android?*

  Participants here felt that the list of reasons was quite long. They missed some of the options at first and revisited them when talking through their choices. However, they understood most of the options and were able to select from them. There are some slight tweaks needed to some of the reasons offered:

  - *I am happy with/prefer my existing smartphone brand:* Consider placing brand in bold to distinguish from operating system
  - *I am happy with/prefer my existing operating system:* Consider placing operating system in bold to distinguish from brand
  - The words *'too much' in the Q20 code: 'I felt it would be too much too much hassle to switch to an #ALTPHONE#'* are repeated

  - The option *'#OS# access to mobile apps with better prices' is missing the word 'has' in the script eg 'Android has access to…'*
- *Other*: participants added the following:
  - 'product design is not as good'
  - 'Android [or Apple] phones are advancing more quickly than [the other]'
  - 'I simply fancied a change'

- *Q24 How easy or difficult did you find it to switch to an Android phone/iPhone?*
  - One participant interpreted this as 'how easy was it to make the decision to switch'. May require amending to highlight that this is about the process/experience of switching

- *Q27: How satisfied or dissatisfied were you with the following when switching from a XXX to a XXX?*
  - There was some confusion regarding *Accessing paid-for subscriptions for apps on my old* phone and *Managing in-app content purchased on my old phone (eg cancelling or upgrading subscriptions purchased on old phone)*. Switchers were not sure of the difference between these, or how these differed from *Accessing the apps from my old phone*. Participants asked for clarification here by way of examples.

Mobile apps behaviour and attitudes

- *Q28: Which, if any, of the following types of mobile apps do you use on your smartphone? Please select all that apply*
  - Participants tended to have some difficulties working out which options to select here. They asked for examples under each category and sometimes they checked their phones for apps and tried to guess or asked the interviewer for guidance on the relevant category. Main areas of uncertainty were as follows:
    - *Finance:* sometimes thought of this as shares etc rather than including personal banking
    - *Education:* some were unsure what would come here and whether educational audiobooks would come here or under 'entertainment'
    - *Entertainment (eg music, TV, film, video and sports)*: repetition of 'sports' elsewhere in the list confused and some were unsure what type of sport would be included here and whether this included Netflix, Amazon Prime, YouTube etc and audiobooks. It was also felt that there is a crossover between 'entertainment' and 'gaming'. For example, in order to download a free episode of a visual novel users have to play a game.
    - *Business:* Some questioned what this category would include and asked for examples
    - *Food and drink:* This was sometimes missed at first (thinking it refers to recipes etc) and then added when participants looked at 'deliveroo' etc on their smartphones
    - *Health and fitness:* Understood, but some crossover with 'Medical' therefore examples would help to clarify
    - *Medical:* See 'health and fitness'
    - *Sports:* Some uncertainty here and examples requested (especially due to potential overlap with 'entertainment')

- *Social messaging/networks:* Those using WhatsApp or similar, but not Facebook, Instagram etc felt that social messaging should be separated from social networks
- *Travel:* Sometimes needed prompting with train apps etc
- *Utilities:* Confused by some (especially younger) with apps for looking after a device (such as defrag or antivirus), rather than apps from utility companies
- *Other (please type in):* Participants were unsure which category would incorporate parking apps, apps related to booking desks at work and general information apps, so added them here

- *Q29: Which of the following best describes the source of mobile apps that you use on your smartphone?*
  - Some participants found this question somewhat complex. To some extent the answer options helped to clarify the question, but suggestions were that it be simplified: eg 'How do you tend to get apps onto your smartphone?' This should alleviate some potential issues, such as one participant who buys things via Amazon Prime and was not sure if he should select *Amazon App Store* here.
  - One participant was unsure whether she used Google Play Store, or the Samsung Galaxy Store (since she has a Galaxy). She was able to ascertain this only when the interviewer showed her the icon from the relevant store, suggesting that visual prompts may be useful here.
  - None of the participants interviewed in this stage who answered this question had heard of Aptoide, APKpure or F-droid
  - *I used my mobile browser to install a web app icon on my screen* was confusing to most, who asked for examples. iPhone users observed that this would still take them to the Apple app store
  - *Downloaded an app directly from a website (also known as 'sideloading')* was understood by some, but still somewhat confusing as they stated that this would usually take them to one of the stores, such as Apple Store or Google Play Store to download the app.
  - *The app was pre-installed when I purchased the device:* For most, this is true of some of their apps (such as maps etc), but not all, so they were unsure which option to select. It may be useful to have an option that reads 'I have not downloaded or purchased any apps. All of the apps I use were pre-installed on my device'
  - If no gaming, dating or entertainment apps were used the column was headed 'all other apps', which confused some participants, who were not sure what type of apps this was referring to. 'all other apps option' needs defining in the script stating it means 'not gaming/entertainment/dating apps' as appropriate
  - It is not clear why 'entertainment' was separated from 'all other apps' where these were the only app types that applied. This did not affect responses as such but may be worth referring to in the question text.

- *Q30: Which of the following methods do you use to access the mobile #[IF ⍰=1] gaming#, #[IF ⍰=5] entertainment#, #[IF ⍰=3] dating]# service that you use on your smartphone?*
  - Participants were often unsure what was required here and once again asked the interviewers for clarification and examples.
    - 'methods' was not always understood. Consider replacing with 'how do you…'

- Including the word 'mobile' here confused some, as they tend to relate this to smartphone only and it was not always an accurate descriptor of the app they were considering (eg is Netflix a mobile entertainment service?)
- They did not always retain a clear view of 'entertainment', suggesting that it may be best to provide the definition from Q28
- They were often using various apps that may be described as 'entertainment', so it may be advisable to include a plural alternative here in the question.
- Q30OTHER2: *"Please type in Other for Entertainment"* risks participants adding in the name of an entertainment app, for example. May need rewording to clarify that this is about any other ways of accessing entertainment apps.

- *Q31: How much, if anything, did you spend on mobile gaming/ entertainment/dating apps on your smartphone in the last 12 months including subscriptions, downloads, and in-app purchases (eg purchasing additional levels within a gaming app)? Please select an option in each column below as your best estimate*
  - Participants tended to initially think of monthly amounts rather than annual: may need clarifying as the total for the last year
  - There was some uncertainty as to what should be included here (eg should Netflix subscription be included, even though it is mainly used on the smart TV or laptop).
  - In-app purchases for categories other than gaming was not always understood. It is likely that further clarification and examples will be needed to ensure meaningful responses here.
  - Consider whether to simplify by separating out ongoing subscriptions and ask for spend on a monthly basis (and then have a separate question asking for annual spend on app purchases and in-app spend).

- *Q32: What methods have you used to buy content for use in your mobile #[IF Q28=1] gaming#, #[IF Q28=5] entertainment#, #[IF Q28=3] dating]# apps that are on your smartphone in the last 12 months?*
  - Some confusion over what buying content means here: may need further clarification
  - Those who use consoles felt that content bought on a console would not then be able to be used on their smartphone, so were slightly confused by this option.

- *Q33: When you use #[IF Q28=1] gaming#, #[IF Q28=5] entertainment#, #[IF Q28=3] dating]# apps on your smartphone, how often do you access paid-for content in the app that you have purchased somewhere else first (eg on a website or on a console etc)?*
  - Some uncertainty here as to what counts as 'paid for content'. For example, 'if I pay for films via my Amazon prime subscription is that paid for content?

Recommendations

In this section we make specific recommendations for the different questions.

Consider replacing 'carrier' with provider/network throughout, as this is consumer language.

- Q4

- Place **'personal'** in bold to ensure comprehension.

- Q5
  - Rephrase the question to read 'How important were each of the following in your decision to purchase your current smartphone?'
  - Consider placing examples next to *'Brand'* to avoid confusion with network or OS.
  - Reduce the repetition of 'OS' in the definition of OS: suggest *'(The operating system (OS) is the pre-installed system software powering mobile devices. Examples are Apple iOS and Google Android ~~OS~~)'* Alternatively, use the shorter explanation from Q10 here *(iOS for Apple/iPhones or Android OS for most other brands)*
  - Ensure *'other product features…'* does not come first in randomisation and consider separating out *'battery life'*.
  - Place ***Range*** and ***Quality*** in bold in the attributes *Quality of mobile apps available on the device* and *Range of mobile apps available on the device*

- Q6-8
  - Reword the question to highlight this as a continuation, rather than a 'new' list: eg 'You said these were all very important when purchasing your current personal smartphone. Which one of these was most important'. *'And which was the second/third most important.*

- Q13
  - May be useful to reword the second part of the question: *'If you purchased it as part of a pay monthly contract, please estimate the cost if you can'*.

- Q17
  - Consider rewording to *'…you **personally** own and use'*

- Q20
  - *I am happy with/prefer my existing smartphone **brand***: Consider placing brand in bold to distinguish from operating system
  - *I am happy with/prefer my existing **operating system***: Consider placing operating system in bold to distinguish from brand
  - Remove the repetition of the words 'too much' in the Q20 code: 'I felt it would be too much too much hassle to switch to an #ALTPHONE#' are repeated
  - The option *'#OS# access to mobile apps with better prices' is missing the word 'has' in the script eg 'Android has access to…'*

- Q24
  - Consider rewording to *How easy or difficult did you find the 'experience' of switching to an Android phone/iPhone?*

- Q27
  - Include further clarification or examples for *'Accessing paid-for subscriptions for apps on my old phone*' and *'Managing in-app content purchased on my old phone (eg cancelling or upgrading subscriptions purchased on old phone)'* and *'Accessing the apps from my old phone'*. Participants asked for clarification here by way of examples.

- Q28

- Consider the inclusion of longer explanations and/or examples for some of the categories of apps, as described above.
- Remove the inclusion of 'sports' within 'entertainment'.

- Q29
  - Simplify the question to something like 'How do you tend to get apps onto your smartphone?'
  - Consider including visual prompts to help clarify which app store participants are using.
  - It may be useful to have an option that reads *'I have not downloaded or purchased any apps. All the apps I use were pre-installed on my device'* instead of including 'it was pre-installed on my device' as one of the options.
  - Remove 'all other' so this question makes sense to those who do not use gaming, dating or entertainment apps.
  - Amend the question text to explain that responses are required for 'dating', 'entertainment' gaming' separately from 'apps which are not entertainment, gaming or dating'.

- Q30
  - Simplify the question. For example, change 'Which of the following methods do you use to access the…' to 'How do you access the…'
  - Consider whether describing the services as 'mobile' services is useful here, as this could move participants to think only of their smartphone.
  - Include the previous definition (Q28) of 'entertainment' here and make services plural
  - Q30OTHER2: *"Please type in Other for Entertainment"* Ideally reword to state '*please type in other ways you access…'*

- Q31
  - Consider adding 'in **total over** the last 12 months'
  - Provide an example of 'in-app content' for dating and entertainment to help participants understand what they should be including.

- Q32
  - Explain more fully what is meant by 'content' here, ideally with examples.

- Q33
  - Explain more fully what is meant by 'paid for content' here, ideally with examples.

3538/CMA Mobile Ecosystems Market Cognitive interview Topic Guide: v2

Participant Name	
Date / time	
Telephone Number	
URN	

Introduction 3 mins (3)

Good morning/afternoon/evening. My name is … and I work for an independent market research company called Accent. We are conducting research for the Competition and Markets Authority, a government body.

The research is about the purchase of your smartphone. Specifically, we want to get your feedback on a questionnaire that we plan to use to ask a large number of people to share their views on smartphone purchasing and usage. Your feedback while completing the questionnaire, along with feedback from others, will allow us to understand how well the questionnaire works and how it might be improved. With this in mind, we will be asking you to share your thoughts on the questionnaire as you work through it.

Thank you very much for agreeing to help us with this research.

The research is being conducted in accordance with the Code of Conduct of the Market Research Society (MRS) and also with the Data Protection Act. This means that everything you say is confidential and will not be attributed to you personally unless you give your permission for us to pass your comments on in named format.

Our discussion is being recorded. This is standard market research procedure and is to ensure accuracy – so I do not have to try to remember what you have said – and for analysis purposes only. The recordings will not be passed to any third party not associated with the research project, and in reporting the findings from this research everything that you say will be confidential and will be reported in anonymised form only.

Our discussion will last around 45 minutes.

I'd like to stress that we are interested in your views. There are no right or wrong answers today; and this is not a test of your ability to complete the questionnaire. Instead, it is a test of how well the questionnaire has been designed to make it easy to complete. I haven't been involved in the design and development of the questionnaire, which means you can be open and honest when sharing your views on completing it.

In a moment, I will hand over control of my screen to you so you can complete the survey.

As you are answering questions and deciding between different options, I want to understand how you are making those choices. Please talk me through as you are making your choices and I might prompt

you with some additional questions as you work your way through the questionnaire. If there is a word or question you don't understand or you think is unclear, please tell me as this means we know we need to improve the question. Also, if you come across anything which you don't understand or need further clarification in order to complete the survey please ask me as we go along.

Interviewer instructions NA (3)

- Share window with Accis questionnaire and allow participant to control your screen to complete questionnaire.
- As participants complete each question (or section of questions where this flows easier) make a note of and probe on:
  - Any significant pauses or delays in responding
  - Participants re-reading questions/text or changing their response
  - Mentions of any question or section of text being confusing/complicated/unclear/long, or missing important information
  - Response options that they struggle to choose between
  - Questions they ask about elements of the survey
- As well as the above, ask the specific questions outlined below, unless these come up spontaneously.

Scoping and smartphone purchase 10 mins (13)

- Q3 smartphone definition
  - How clear was the definition of a smartphone here? Was anything unclear or difficult to understand?
- Q5 importance of attributes
  - Did all the attributes/features listed make sense
    - Were any of them unclear? Which ones? Why? **[interviewer: if any difficulties in understanding note if there are wording changes/additions needed - e.g. understanding of 'operating system' quality of apps – what does this mean to them? understanding of malware/viruses]**
    - Were any important ones missing?
- Q6 - Q8 most important attributes
  - How easy was it to choose the most/2nd/3rd most important attribute? Why was this?
- Q10 How helpful is the explanation of 'operating systems' here? What would you add/improve?

Device ownership, purchase and switching 15 mins (28)

- Q13 estimated cost
  - How easy was it for you to estimate the cost of your smartphone? Why was this?
  - How accurate do you think your estimate is? What is it based on?
- Q20 [if answered] factors affecting not purchasing/switching to IOS or Android
  - What do you think of the list of options here?
  - Any difficulties with understanding?
  - Are there any missing?
  - **[Note if put anything under 'other']** – please explain this
- Q21 how easy was it to pick your top (up to 3) reasons? Why is this?
- Q22 [if answered] factors affecting switching to IOS/Android
  - What do you think of the list of options here?
  - Any difficulties with understanding?
  - Are there any missing?
  - **[Note if put anything under 'other']** – please explain this
- Q23 how easy was it to pick your top (up to 3) reasons? Why is this?
- Q24 ease of switching
  - What were you considering when you answered this question?
- Q27 reasons for satisfaction/dissatisfaction
  - How clear were each of the options? Was anything unclear/confusing?
  - Is the list of options provided comprehensive? Are there any aspects of the switching process that we have not captured?

Mobile apps behaviour and attitude 12 mins (40)

- Q29 [if answered] source of mobile apps
  - How easy was it to answer this question and why?
  - How easy were each of the options to understand – anything here that you were unsure about/found confusing?
- **Q30 [if answered] methods for accessing apps**
  - How easy was it to answer this question and why?
  - What is actually being asked here? How could this question be made easier to answer?
  - **How easy were each of the options to understand – anything here that you were unsure about/found confusing?**
- Q31 [if answered] amount spent on apps
  - How easy or difficult did you find it to estimate your spend? Why?
  - How accurate do you think your estimates are? What are they based on?
  - Were all sources of potential **in-app** spend (eg from subscription, download, in app purchase) clear? Did you consider all of these when providing your estimate? **[Probe fully]**
- Q32 [if answered] method of accessing content

  - How clear was this question? Did you have any difficulties answering it and if so why?
- Q33 [if answered] frequency of accessing content purchased elsewhere
  - How clear was this question? Did you have any difficulties answering it and if so why?
- Q34 and Q35 confidence
  - What were you basing your answers on here?

Wrap and close 0 min (30)

- Record BACS details for incentive payment, if not already captured by Riteangle, and add to profile sheet.
- Thank and close