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Global Mobile Consumer Survey: UK cut

Plateauing at the peak

The state of the smartphone

Contents

Foreword

A dozen years since launch, the smartphone is now at an inflection point. Adoption rates are nearing their natural peak, with close to nine in ten adults owning one. While ownership rates may be approaching a ceiling, the smartphone economy is just getting started. The smartphone industry remains brimming with potential.

The smartphone's unparalleled ubiquity – tens of millions of devices in the UK, and billions globally – is a potent foundation for an ever-widening array of ancillary revenue streams. These comprise content (such as mobile advertising and apps), hardware (from wireless earbuds to selfie sticks) and services (including insurance and repairs).

This year's report examines some of the larger elements of the smartphone economy including a deep dive on mobile games, which are the most significant revenue generator in mobile app stores. While console games may generate the most headlines, mobile games win on revenue. Mobile games revenue in the UK alone is greater than for e-Sports globally.

The report also examines attitudes and behaviours to data privacy. Despite a continued stream of headlines focused on data breaches and GDPR's first year, the UK consumer is now sharing more data than ever and also remains nonchalant about reviewing terms and conditions for apps or Wi-Fi hotspots.

2019 is 5G's first year in the UK. The impact of 5G on consumers is likely to be less pronounced than with the 4G upgrade but should still be tangible. For consumers, 5G's benefit will be most noticeable in rush hour in major cities when 5G subscribers may be the sole users able to access their favourite apps. By contrast 4G users may be confronted and confounded by the spinning wheels that denote network congestion.

We do not foresee any challengers to the smartphone on the horizon: adoption rates should maintain at current levels and not decline. We believe the smartphone will consolidate its status as the number one device. It will be valued for its innate functionality, from camera to connectivity, and, increasingly, for the value it unlocks in ancillary, dependant devices, from smart watches to the smart home.

Some commentators have hypothesised that wearables, such as wireless ear buds, fitness trackers or augmented reality glasses, could collectively replicate the functionalities of the smartphone. But the reality is that most wearables need the smartphone: they will, for many years, depend on smartphones for a combination of processing power, connectivity or display. Wearables are not the smartphone's nemesis. And there do not appear to be any other imminent, existential threats to the smartphone.

While adoption of the smartphone device is mainstream in the UK, reliance is still patchy – and therein lies the potential. For example, in 2017, only five per cent of UK POS spend was through a mobile wallet. By contrast, in China, this was 36 per cent[1A].

The future trajectory for the smartphone is changing but remains positive. Indeed, the UK's smartphone revolution is far from complete: its power as a foundation for multiple associated revenue streams – hardware, content, advertising, and services – is growing apace.

Dan Adams
UK Lead Partner, Telecommunications

Paul Lee
Partner, Head of Global Research, Technology, Media & Telecommunications

Smartphone adoption: Plateauing at the peak

Smartphone adoption is nearing its natural plateau in the UK, and indeed in other developed markets. In the year since the 2018 survey, adoption nudged up a single percentage point, to 88 per cent – ranking the smartphone as the clear number one connected device (see Figure 1). Over the next 12 months, growth in adoption is likely to be immaterial, and it will be post-growth.

And so the smartphone will join the laptop computer and the tablet as having reached its natural plateau, but at the top of the pack, and it is unlikely to relinquish that position.

The smartphone is likely to remain the most ubiquitous device among UK adults for many years to come. There are no challengers on the horizon: in fact the device is likely to consolidate its primacy over the coming years, and become even more vital.

The smartphone has become integral to many people's lives both because of the ever-expanding array of applications on the device, the improvements in existing app and also because of the growing array of devices that it enables.

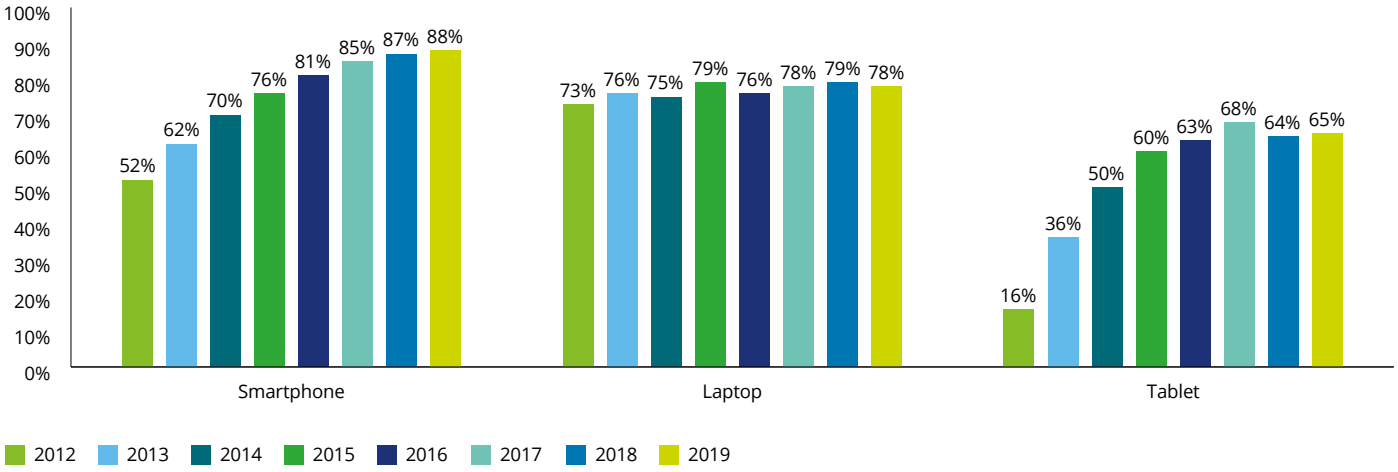
Its core functionality, including camera, screen, graphics processing, machine learning and biometric authentication, is iterated ambitiously and audaciously every year. Smartphone displays compete with the latest TV sets for colour range and brightness. Its cameras may soon be outperforming some models of digital SLR in capturing the stars at night, or even in capturing professional wedding shots[1B].

Smart speakers, fitness trackers, security cameras, smart watches, wireless ear buds and smart lighting are just some of the hardware products that rely on smartphones. Smartphones are used to configure smart speakers, display data collected by fitness trackers, relay images from security cameras, process the data shown on smartwatches, store data played on ear buds or to configure smart lights. The more ancillary devices acquired, the more vital, and the more used smartphones become.

The smartphone is also likely to remain the focus of investment budgets for many years to come. In 2019, over 1.4 billion smartphones will be shipped – far greater than any other device. The vastness of the market means that investments in new processors, machine learning capability, computational photography, display technology and connectivity are likely to be focused on the smartphone ahead of other device form factors. The smartphone has been steadily and resolutely edging out other devices. It has appropriated the MP3 player, usurped the compact digital camera, replicated the basic fitness tracker. It is the boarding pass, the cinema ticket, the metro pass.

Advances in components for smartphones will trickle down to other devices a year or two later. The latest smart TVs incorporate prior generation smartphone processors, further amortising investments made. The tens of billions of dollars spent on smartphone innovations are likely to help the smartphone retain its primacy among other devices for the foreseeable future.

Figure 1. Smartphone, laptop, tablet access (2012-19)
Question: Which, if any, of the following devices do you own or have ready access to?

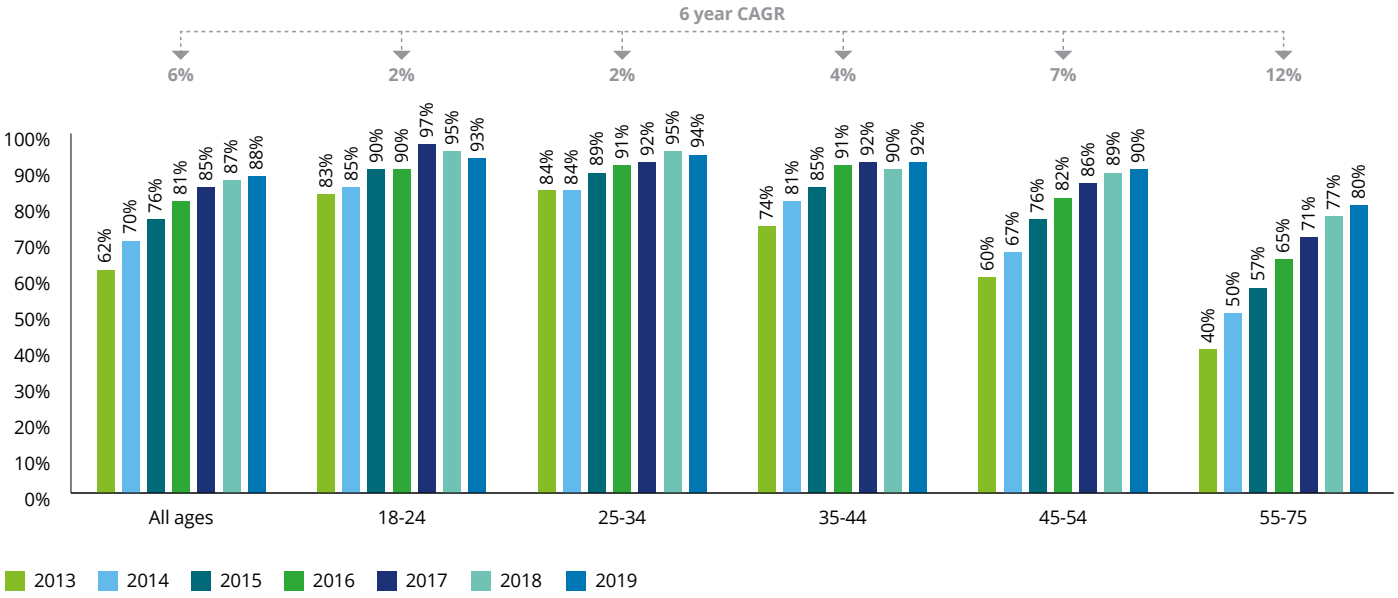


Weighted base: All respondents aged 18-75 years, 2012: 2,060, 2013: 4,020, 2014: 4,000, 2015: 4,000, 2016: 4,003, 2017: 4,002, 2018: 4,000, 2019: 4,000
Source: UK edition, Deloitte Global Mobile Consumer Survey, May-Jun 2012, May-Jun 2013, May-Jun 2014, May-Jun 2015, May-Jun 2016, May-Jun 2017, Jun 2018, May-Jun 2019

Smartphones have been adopted by all age groups, but adoption remains strongest among 18-24 and 25-34 year olds, among whom ownership is almost universal, with 93 and 94 per cent adoption respectively (see Figure 2). The biggest change in adoption since 2012 has been among 45+ adults, which had the lowest bases. Among 45-54 year olds, adoption has leapt from 60 to 90 per cent, and among 55-75 year olds has doubled to 80 per cent.

As well as being the device most owned, the smartphone is also the device most used, as can be seen in Figure 3 which shows the extent to which a range of devices have been used in the last day. The smartphone leads by a clear margin. Five further devices are used by half of their owners daily; the remainder are used less frequently, suggesting a lower degree of utility.

Figure 2. Smartphone ownership by age group with 6 year CAGR (2013-19)
Question: Which, if any, of the following devices do you own or have ready access to?

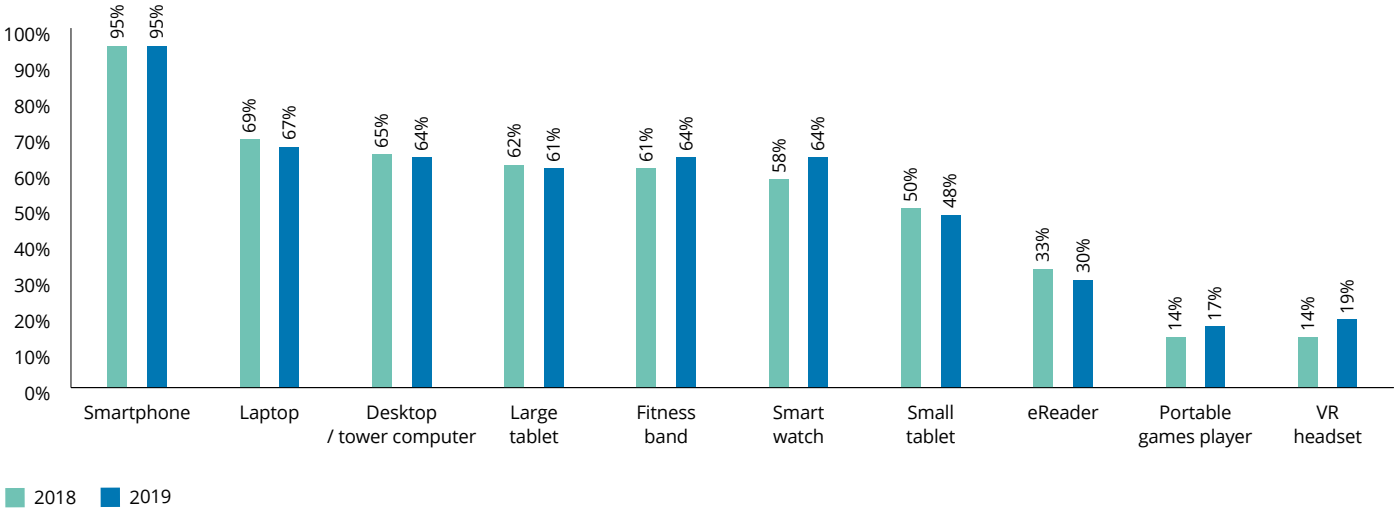


Weighted base: All respondents aged 18-75 years (2013/2014/2015/2016/2017/2018/2019): (4,020/4,000/4,000/4,003/4,002/4,000/4,000), 18-24: (482/518/510/510/493/487/478), 25-34: (675/762/760/761/758/762/760), 35-44: (708/730/720/720/708/704), 45-54: (705/779/782/783/785/780/770), 55-75: (1,450/1,211/1,228/1,230/1,258/1,266/1,289)
Source: UK edition, Deloitte Global Mobile Consumer Survey, May-Jun 2013, May-Jun 2014, May-Jun 2015, May-Jun 2016, May-Jun 2017, Jun 2018, May-Jun 2019

There has been little or no change in usage intensity for most of these devices over the past year (see Figure 3). The form factors that have seen the highest increments are the smart watch (used daily by 64 per cent of owners, up six percentage points over the year) and VR headset, up five percentage points, but still the second least used device on a daily basis, at just 19 per cent.

Usage patterns vary by age group. Younger generations, whose first computing device was a smartphone, are the most intense users of smartphones across multiple applications. Older age groups, whose first device may have been a laptop (the 35-44 year olds) may be more likely to use a computer. The 45+ group, whose first device may have been a desktop computer, may still be most comfortable with PCs in general.

Figure 3. Proportion of devices used in the last day (2018-19)
Question: When was the last time you used each device? Was it within the...?



Weighted base: All respondents aged 16-75 years during (2018/19) who used Standard mobile phone: (631/588), Smartphone: (3,637/3,679), Small tablet: (1,465/1,389), Large tablet: (1,600/1,703), Laptop: (3,281/3,238), Desktop/tower computer: (1,819/1,871), e-Reader: (1,134/1,083), Smart watch: (319/422), Fitness band: (744/859), Portable games player: (746/850), VR headset excluding cardboard versions: (206/272)
Source: UK edition, Deloitte Global Mobile Consumer Survey, Jun 2018, May-Jun 2019

Device preference by age group is evident from the grid in Figure 4. Across a range of applications, 18-34 year olds prefer the smartphone for most applications. For 35-44 year olds, the phone is preferred for browsing, but the PC is preferred for buying. Among 45-54 year olds, the laptop is preferred for browsing, buying and search.

For 55-75 year olds, the laptop is also preferred for online banking. This age group has lived through multiple banking migrations in their life: from branches to ATMs, from telephone banking to online banking on a PC. Moving yet again to smartphone banking may be one change too many. Furthermore mobile banking's use of relatively novel features, such as facial or fingerprint recognition, and the requirement to record a selfie-video as a form of authentication, may also be off-putting. Usage of fingerprint enabled smartphones has risen among 55+ users, but, at 74 per cent participation, it is eight percentage points lower than the UK average.

We expect usage patterns among UK consumers to remain broadly unchanged over the coming years. Many users will prefer to continue using the devices that they first used an application on. E-commerce veterans, who started in the 1990s, may prefer to continue using PCs, rather than smartphones. The UK is not likely to migrate to the comprehensive adoption of smartphones for a very wide range of apps, as has happened in China, simply because older age groups' first experiences of computers was on PCs, and learnt behaviours are often hard to shift.

Figure 4. Device preference for various activities by gender and age group (2018-19)
Question: Which, if any, is your preferred device for each of the following activities?

	Total	Male	Female	16-17	18-24	25-34	35-44	45-54	55-64	65+
Browse shopping websites	Laptop	Laptop	Laptop	Phone	Phone (was laptop)	Phone	Phone (was laptop)	Laptop	Laptop	Laptop
Make online purchases	Laptop	Laptop	Laptop	Phone (was laptop)	Phone/ Laptop (was laptop)	Phone	Laptop	Laptop	Laptop	Laptop
Online search	Phone (was laptop)	Laptop	Phone (was laptop)	Phone	Phone	Phone	Phone	Laptop	Laptop	Laptop
Watch short videos	Phone	Phone	Phone	Phone	Phone	Phone	Phone	Phone (was laptop)	Laptop	Laptop
Check bank balances	Phone	Phone	Phone	Phone	Phone	Phone	Phone	Phone (was laptop)	Laptop	Laptop
Video calls	Phone	Phone	Phone	Phone	Phone	Phone	Phone	Phone	Phone	Laptop
Check social networks	Phone	Phone	Phone	Phone	Phone	Phone	Phone	Phone	Phone	Phone
Read the news	Phone	Phone	Phone	Phone	Phone	Phone	Phone	Phone	Phone (was laptop)	Laptop (was tablet)
Play games	Phone	Gaming console	Phone	Phone	Gaming console	Phone	Phone	Phone	Tablet	Tablet
Voice calls using the Internet (VoIP)	Phone	Phone	Phone	Phone	Phone	Phone	Phone	Phone	Phone	Phone
Take photos	Phone	Phone	Phone	Phone	Phone	Phone	Phone	Phone	Phone	Phone
Record videos	Phone	Phone	Phone	Phone	Phone	Phone	Phone	Phone	Phone	Phone
Stream films and/ or TV series	TV	TV	TV	TV	TV	TV	TV	TV	TV	TV
Watch TV programs via catch-up services	TV	TV	TV	TV	TV	TV	TV	TV	TV	TV
Watch live TV	TV	TV	TV	TV	TV	TV	TV	TV	TV	TV

Weighted base: All smartphone owners aged 16-75 years, 2018: 3,637, 2019: 3,679
Source: UK edition, Deloitte Global Mobile Consumer Survey, Jun 2018, May-Jun 2019

The smartphone has no digital challengers on the horizon

There do not appear to be any devices that could challenge the smartphone's central role in our digital lives. No other existing or upcoming device can emulate the range of its capabilities. The smartphone may be one of a kind - at least in this generation - unlocked by a coalescence of technological advances.

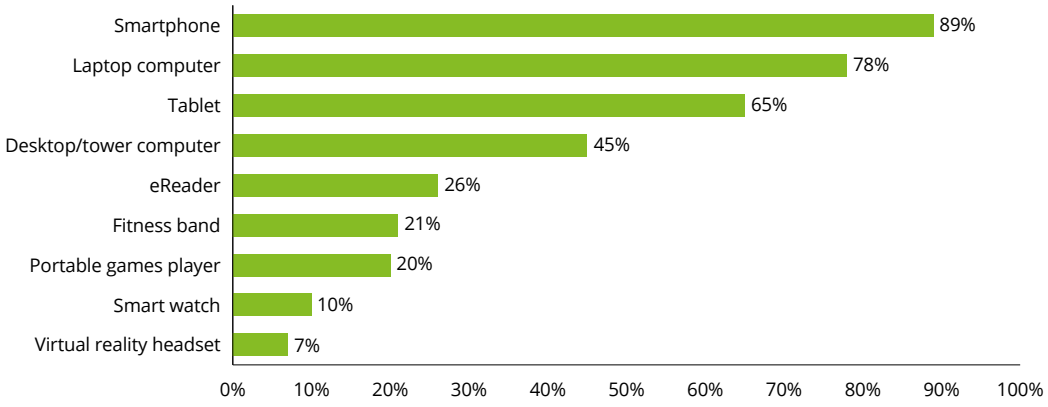
Smartphones are likely to remain dominant despite the ever-widening range of connected devices. While other devices are available, demand is far lower, (see Figure 5), in some case because their functionality is replicated in smartphones. Ownership of eReaders, which first launched in 2007, has declined from 31 per cent in 2015 to 26 per cent in 2019; as smartphone screens have grown in size, they have become better at reading from. The first consumer fitness bands, which enable users to quantify their fitness levels, were launched in 2009. A decade later, only 21 per cent of respondents had access to one. Smartphones have accelerators and gyroscopes, which also enable steps to be counted. The Pebble smart watch launched in 2013[1]; a tenth of respondents had one earlier this year. The VR headset, which some commentators foresaw as usurping the TV set, is owned or available to seven per cent of adults.

The smartphone remains predominant

The smartphone is likely to remain the most owned, most used, and most personal device among UK adults for many years to come. Its capability will be iterated significantly over the medium term: it will become faster, thanks to more powerful processors, it will become more intuitive, thanks to more native smartphone applications, it will become better connected, due to the roll out of the latest cellular standard (5G) and the latest Wi-Fi standard (Wi-Fi 6), it will become more secure, due to greater use of biometric (fingerprint, facial and iris) authentication.

As a result of these and other advances, investment in mobile first applications by business and government, is likely to grow. While adoption of smartphones has reached a peak, the role of these devices in our lives has plenty of scope for growth.

Figure 5. Device access (2019)
Question: Which, if any, of the following devices do you own or have ready access to?



Weighted base: All respondents aged 16-75 years : 4,150
Source: UK edition, Deloitte Global Mobile Consumer Survey, May-Jun 2019

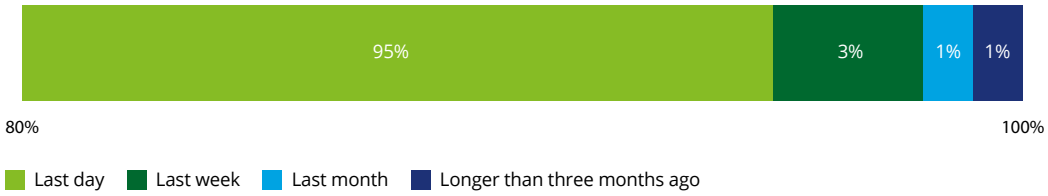
Smartphone behaviours: Steady as we go

As smartphones have become more integral to our lifestyles, their impacts have become comprehensively surveyed. Many people reach for their phones shortly after waking; younger age groups over-use their phones at night. The smartphone is a mere dozen years old, and in that time has become truly pervasive and ubiquitous in the UK. While adoption rates are reaching a plateau, at about 88 per cent of adults, usage rates and dependence should continue increasing in the short term.

Given this, it is not surprising that a large proportion of respondents to our surveys, perceive that they over-use their smartphones. This year two-fifths of smartphone users state that they over-use their phone (and three-fifths report the opposite). We did not quantify over-use, but left it to respondents to decide: as with all forms of consumption, perceptions of excessive use vary widely, and smartphones are used for a wide variety of applications.

Almost every (95 per cent) smartphone is used daily. Usage and utility are growing (see Figure 1). Over the last few years, the smartphone has become the preferred device for an increasing number of common processes, in-step with the optimisation of applications for smartphones. Banking, buying and browsing applications are all being designed for the six-inch screen, in preference to a 13-inch laptop screen, or a high street physical premise.

Figure 1. Frequency of smartphone usage
Question: When was the last time you used each device? Was it within the...?



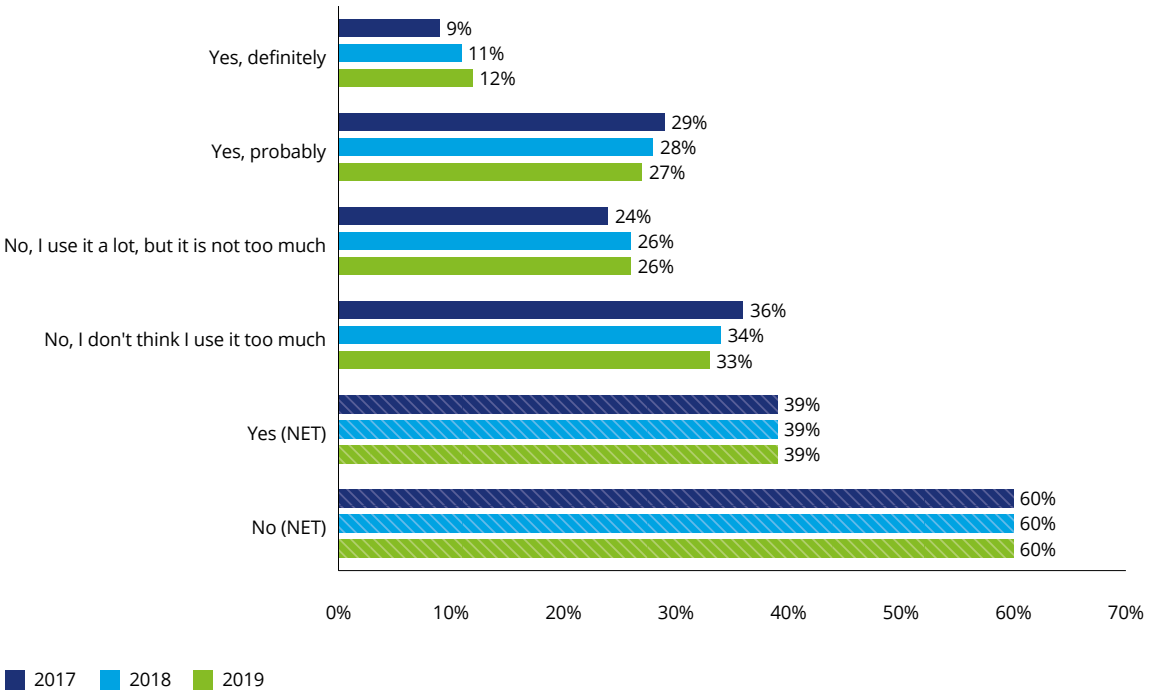
Weighted base: All smartphone owners aged 16-75 : 3,679
Source: UK edition, Deloitte Global Mobile Consumer Survey, May-Jun 2019

Arguably the UK consumer has yet to reach peak smartphone usage: intensity of usage of smartphones is nowhere close to that in China, the largest smartphone market, with 800 million mobile internet users and $15 trillion worth of mobile transactions per year.

Interestingly, the proportion of users who state that they over-use their phone (and three-fifths report the opposite) is exactly the same as the prior year, and the year before that.

And over-users appear to be apathetic about controlling their smartphone behaviour – despite the growing range of tools that have been made available to manage excessive usage (see Figure 2).

Figure 2. Perception of smartphone over-use (2017-19)
Question: Overall, do you think you use your mobile phone too much, or not?



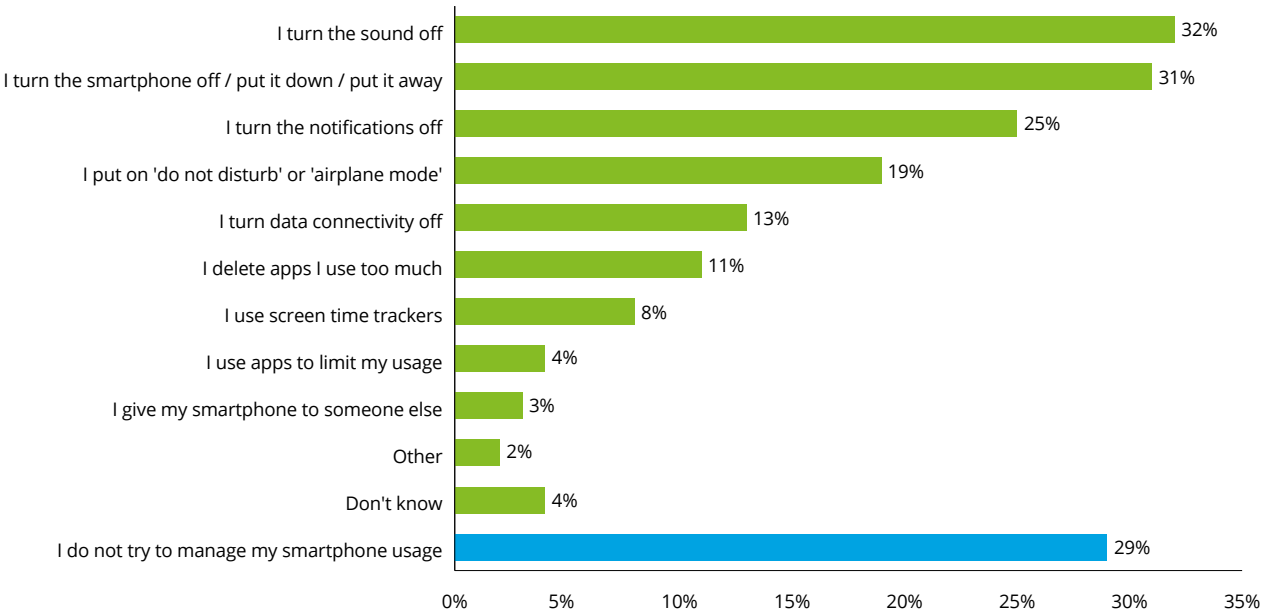
Weighted base: All smartphone owners aged 16-75, 2017: 3,525, 2018: 3,637, 2019: 3,679
Source: UK edition, Deloitte Global Mobile Consumer Survey, May-Jun 2017, Jun 2018, May-Jun 2019

Most smartphone users now have access to integrated, comprehensive screen time tools. Apple offers Screen Time as standard in its operating system. Google offers Digital Wellbeing to owners of its Pixel devices; there are multiple equivalent apps available to download for free, such as ActionDash.

These tools can be used to set multiple boundaries on usage. Access to apps can be limited to specific times of day; timed limits can be applied to specific genres of app, such as social networks. Some standard screen time apps, such as those within Apple's iOS, enable parents to set limits on their children's usage.

Screen time trackers are readily accessible, easily customisable yet rarely used, even among self-declared over-users. The overwhelming majority (92 per cent) of over-users do not use screen time tools (see Figure 3).

Figure 3. Steps taken to manage smartphone over-use
Question: How, if at all, do you try to manage your smartphone usage?



Weighted base: All smartphone owners aged 16-75 who think they use their mobile phone too much: 2,410
Source: UK edition, Deloitte Global Mobile Consumer Survey, May-Jun 2019

Other techniques for curbing usage are more widely used. But they are ad hoc, lack nuance and are likely less effective overall. A common approach to controlling usage levels among self-declared over-users is to make the phone inaudible (32 per cent of this group), presumably to mute acoustic alerts. Another frequent approach is to put the phone out of sight or out of reach (31 per cent).

And almost a third (29 per cent) of over-users take no measures at all.

One interpretation of these results is that smartphone usage is simply not as onerous as was earlier feared. Many of those who readily state they over-use their phone are OK with it, and accepting of the consequences.

It may also be that the worries and assertions about over-exposure to smartphones or screens in general have been overblown.

Humans' ambivalent relationship with technology stretches back millennia. Every new technology, including writing words in the place of orating (Socrates' peeve, aired in 400 BC), has been perceived as malign. Socrates, a renowned orator, disliked writing, as he felt that it would dull the brain's ability for retention. This is perhaps analogous to the lament common to today's middle-aged that millennials cannot remember telephone numbers.

Humans have not always made the right call on the impacts of earlier, more basic technologies.

Reading, homework, crosswords and more recently watching TV and playing video games, have, in various eras, all been considered to be harmful to children.

In the 1790s reading was viewed as a diversion from children completing chores[2]. In the 1920s crosswords were considered a threat to diminish literacy levels as they focused on individual words[3]. Debates on the merits and recommended quantities of homework continue. It is quite possible that a large proportion of Socrates' followers may have fretted about their potential over-use of writing, back in 400 BC.

In recent years, it has become accepted as fact that screen time prior to bedtime was bad for kids. Guidance from the Royal College of Paediatrics and Child Health recommends that screens are avoided for an hour before planned sleep time[4]. Its guidance was informed by a survey of 109 11-24 year olds[5]. In Colorado, there is a move by the Parents Against Underage Smartphones to go further and ban sales of all smartphones for use by under 13 year olds[6].

A 2019 study, published by the University of Oxford, reached a different conclusion. Its study, based on a sample of 17,000 teenagers, found that use of screens two hours, one hour or half an hour before bed time had no clear associations with adolescent well-being[7]. This study, which used "best practice statistical and methodological techniques", built on prior research that found that technology use explains a mere 0.4 per cent of adolescent well-being[8].

Other studies have noted negative correlations between screen time and well-being. One study found that kids who spent more time on screens were less happy than kids who played sports, read traditional printed media or socialised face to face. As with all such studies, causation and correlation may be distinct.

Is smartphone over-use really a problem?

There is no one answer to this. Usage is nuanced, customised to the individual. One person's eight seconds on a smartphone may cause upset. They may see distressing news or images. Picking up a phone, however briefly, may darken the mood at a family gathering. Eight seconds is ample for malign trolling. Another person's eight hours may be dedicated to productivity – work or study related tasks; finessing language skills; completing a crossword.

Over time, the tools humans have created, from the first writing implements, to printing presses, to telegraph wires, have become ever more versatile and have always been applicable for benign or malign purposes.

Smartphones provide access to the vastness of the Web, in which misinformation crowds out facts. The Web has democratised access to educational resources and rekindled belief in flat earth theories. Smartphones can be uniquely configured in trillions of different combinations because of the availability of millions of potential applications. Smartphones can amplify the negativity (or positivity) in all of us. But they are not inherently negative.

The smartphone multiplier

Sales of smartphones are post-growth in the UK but the smartphone economy – sales of hardware, content and services for this ubiquitous device – is booming.

While new device sales are declining, the smartphone multiplier – direct revenues generated from the sale of smartphone accessories – should strengthen throughout 2019 and over the medium term. Instead of buying new devices, many consumers may choose to enhance their existing smartphones through accessories suited to their needs – whether that is better audio quality, a longer battery life or a more sophisticated camera lens. The UK smartphone multiplier market for hardware products is likely to reach around £1.9 billion in 2020, and £61.5 billion globally.

The aggregate value of the smartphone multiplier should grow in the medium term as some of the major categories – wireless headphones and wireless charging – remain in their relative infancy, with only a minority of smartphone owners having acquired these products thus far.

A dozen years of accumulated sales of smartphones have consolidated a vast base of smartphone users, each predisposed to spend on ancillary products and services, in addition to their voice and data costs. Not all smartphone owners are created equal, but we would expect tens of millions of owners, in younger age groups, and with a typically higher usage frequency of their devices, to spend over £100 per year on ancillaries, with the cost of premium headphones, for instance, at over £100 (see Figure 1). Others may choose to spend £10 or less on a new screen protector.

The three main categories of ancillary products are audio, power and protection. Of these, audio and power are likely to experience significant growth over the medium term.

Figure 1. Price ranges for smartphone accessories and adoption rates

Accessory	Ownership	Price Range
Cable charger	98%	£4 to £18
Phone case	76%	£5 to £26
Wired ear buds	64%	£6 to £30
Screen protector	53%	£4 to £16
Memory card	47%	£6 to £41
Power bank	38%	£8 to £33
Wired headphones	33%	£10 to £60
Portable speakers	30%	£8 to £170
Wireless headphones	24%	£12 to £183
Wireless charger	17%	£10 to £30
Wireless ear buds	17%	£20 to £169
Phone stand	14%	£5 to £16
Phone charging case	13%	£14 to £29

Note: Prices have been taken from Amazon.co.uk and provide a representative price range for these devices. Cheaper or more expensive models might be available

Audio

A key smartphone application is sound – listening to music, watching a film, or making a voice call. Headphones make smartphones useful; wireless amplifies this utility.

The principal benefit of going wireless is ease of use: there are no wires to untangle, and the ear buds have little chance of being yanked out by a stray arm or chair handle. Additionally, compatibility with the various audio jacks will no longer be an issue. Wireless ear buds may also offer better audio quality.

Currently wired headphones predominate among smartphone owners - 73 per cent have a pair (see Figure 2). In the majority of cases (64 per cent) they are the standard ear buds that came with the phone. In the after-market, simple wired, lightweight ear buds cost no more than £30 and often much less. Migrating to wireless may cost over £100 more than the wired equivalent.

As of mid-2019, only a minority of smartphone owners had acquired wireless headphones: 24 per cent of respondents had wireless headphones (fitting over the ear), and 17 per cent had wireless ear buds (fitting in the ear).

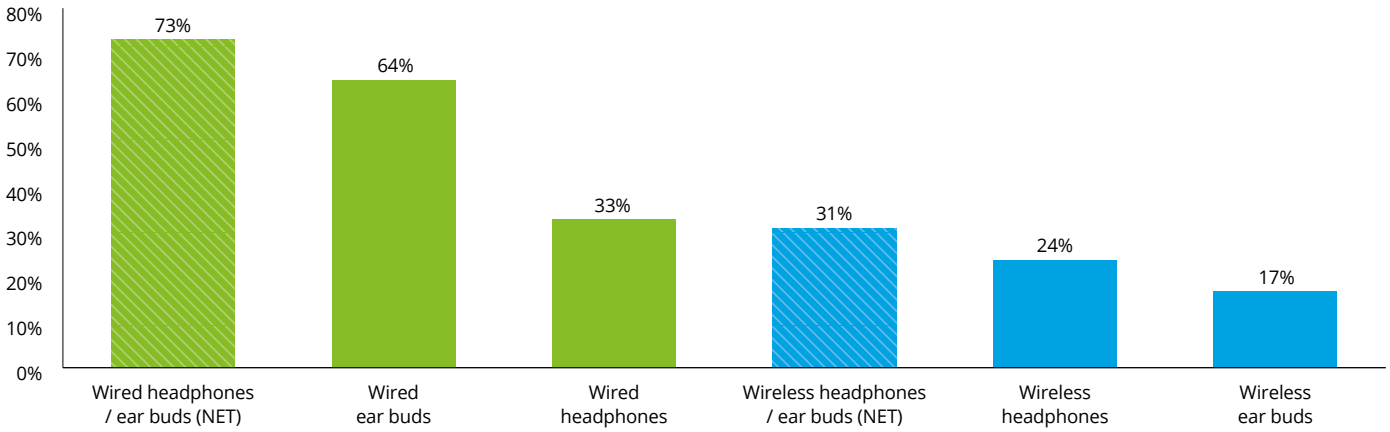
Over the medium term we expect the majority of smartphone owners to cut the cable. At a global level, sales have grown rapidly and are forecast to continue doing so. Sales of wireless ear buds are expected to reach 129 million units by 2020, up from 46 million in 2018[9].

Sales growth may be higher still if a more varied range of products were available, designed for different body shapes.

Adoption of wireless headphones is far higher for men. As of mid-2019, just under a third (30 per cent) of men, but only 17 per cent of women, had wireless over the ear headphones. While 22 per cent of men have wireless ear buds, only 13 per cent of women do. Some women may prefer smaller sizes of headphones and different designs[10].

We expect headphones and ear buds to be regularly upgraded over the coming decade as new functionality becomes available. Water and sweat resistance, battery life, audio quality and wireless charging are all potential upgrades to be integrated. Voice assistants may also become a widely available feature in headphones. They can enable these devices to be used for in-ear directions, search, text reading and translation.

Figure 2. Ownership of wired and wireless audio accessories
Question: Which of these accessories/services for your phone do you own?



Weighted base: All respondents aged 16-75 years who have a phone or smartphone: 3,952
Source: UK edition, Deloitte Global Mobile Consumer Survey, May-Jun 2019

A minority of smartphone owners will purchase multiple headphones, each suited to different contexts: office, exercise, commuting and high-fidelity.

Smartphones also drive demand for connected speakers, which are steadily displacing traditional speakers and radio sets in the home, as well as outside. These devices cost between ten and hundreds of pounds. Some connected speakers are made by smartphone brands. Some are by specialist audio brands. And recently, Ikea has brought out its first four connected speaker models in conjunction with specialist audio brand SONOS[11].

Power

A smartphone's usefulness is subject to available power. A heavily used smartphone that is several months old may not make it through the day. Every time a battery is charged, its capacity depletes by a miniscule amount. Multiple recharges lead to a notable shrinking in the battery's capacity.

Running out of battery while between charging points can make life difficult. It may mean not being able to make a payment, download a route, check social media or even make a call. The anxiety of running out of power means that the demand for power-related accessories is likely to remain healthy in 2019 and beyond.

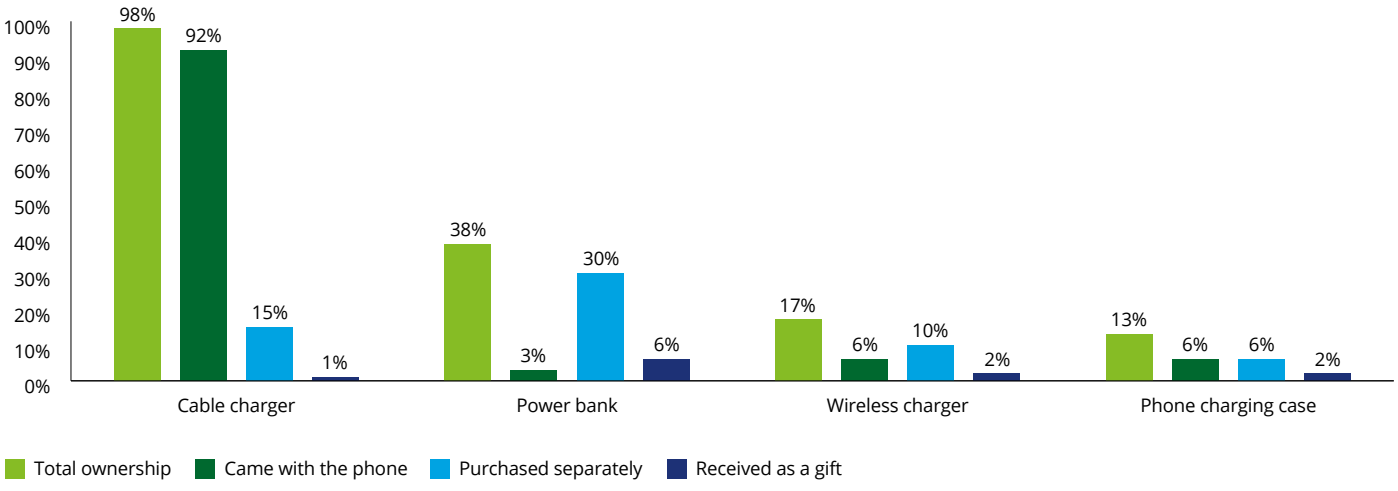
Almost all smartphone owners (98 per cent) have a cable charger – most devices ship with a basic charger. But 15 per cent have purchased an additional charger. A sixth (17 per cent) have a wireless charger, with the vast majority being purchased separately (see Figure 3).

As charging points are not always available, external, portable battery packs are popular - 38 per cent of smartphone owners have one. Six per cent have bought a phone charging case, an additional six per cent have one that came with the phone. The global power bank market alone was valued at $16.3 billion in 2017, rising to $19.4 billion by 2025[12].

Wireless chargers also offer scope for growth: as of mid-2019, one in six smartphone owners had one. Wireless charging offers a greater ease of use – you drop a device onto the pad, rather than plug it in. Ownership should increase over the coming years now that major smartphone vendors have agreed on the Qi standard, an agreement that is likely to catalyse the third-party accessory market into introducing a wider range of chargers[13]. Some chargers are now able to charge multiple devices wirelessly simultaneously[14].

In the medium term, the migration to USB-C is likely to prompt a further wave of charger and power pack upgrades. This migration will take many years to complete, implying multiple years of upgrades to come.

Figure 3. Ownership of power related accessories by type of ownership
Question: Which of these accessories/services for your phone do you own?



Weighted base: All respondents aged 16-75 years who have a phone or smartphone: 3,952
Source: UK edition, Deloitte Global Mobile Consumer Survey, May-Jun 2019

Protection

Smartphones are, for many of us, critical. We would struggle without them. Which is why 86 per cent of our respondents have a least one item of smartphone protection.

The most popular protector, owned by 76 per cent of respondents, is the case. These range in price from a few pounds for simple plastic cases to hundreds for high-end cases crafted from premium materials. The latter project, as well as protect; as with most accessories, cases are important visual signifiers. Extreme protection is also available: one vendor offers a case with integrated air pockets which act as micro springs for those who may drop their phones from a height of 45 feet[15].

The second most popular way to protect a phone is via a screen protector. More than half of respondents (53 per cent) own one. The range of screen protectors is vast. The cost, level of drop and/or scratch, and the way they look and feel are the main variables[16].

In addition to physical protection, 23 per cent of respondents have insurance. Some consumers may purchase a standalone phone insurance package, others may have their phones included in their home or contents insurance.

The smartphone multiplier span

There are various other revenue streams worth billions of pounds which are generated in conjunction with smartphone usage[17]. These include mobile advertising, software content such as games, music, video, repairs, insurance, cloud storage and business software. Revenues related to the sale of wearables and smart speakers can also be linked to smartphones. While these are distinct devices in their own right, their utility is highly reliant on smartphones.

Every smartphone is a retailer

The smartphone market is nearing its peak in terms of unit sales per year. But its power as a foundation for multiple associated revenue streams – hardware, content, advertising, and services – is growing apace.

Smartphone vendors and mobile operators are likely to put stronger emphasis on these categories to offset the decline in smartphone sales.

Content providers, financial service providers, high street retailers, central and local government and indeed every other sector will look at how to grow revenues from the vast base of smartphones owned by UK consumers.

5G adoption: More home than away?

By the end of 2020 all four operators in the UK will have launched their 5G services, a mere six years since the launch of 4G. This is a tremendous achievement, even if, inevitably, the rate of adoption of 5G smartphones will be slower than it was for 4G.

Launching early offers pros and cons. There is much to be learnt from offering a new technology as a commercial service, especially one as complex as 5G.

Operators are faced with a myriad of questions: which existing sites to upgrade, which new sites to commission, how to blend 5G with 4G spectrum, how to optimise indoor coverage, which devices to offer, which network vendors to use and which applications to promote.

Enterprises can experiment with new business processes that 5G may enable. With 4G, a major increment in capability was the deskilling of map-reading. 4G speeds enable maps and directions to be sent in real time to delivery staff who no longer need to have memorised local maps, or consult a physical atlas, or read a printed out set of directions from the Web, to be guided to their destination. 4G enabled the pool of delivery drivers to swell, and catalysed new services such as ride-sharing and food delivery, two services that previously operated at neighbourhood levels and on a per restaurant basis.

Companies such as Uber, Bolt and Deliveroo, whose services are now widely used in the UK and in many other countries, would all likely be smaller, were it not for the existence of 4G. E-commerce companies such as Amazon and Ocado and the online divisions of traditional retailers would also have been constrained without 4G.

Every new generation of fixed and mobile technology offers a platform for disruption; 5G will do the same. Commercial 5G networks are a foundation for innovation, and large companies as well as start-ups are likely to relish the opportunity to experiment with new business models on a live network.

Launching 5G early may offer fewer benefits for consumers. This is partly because the 5G offering is relatively immature.

First, there are far fewer handset models to choose from. As of the time of writing, in October 2019, half a dozen 5G premium-priced handsets were available. This compares to hundreds of 4G handsets at a range of price points. Next generation 5G phones, launching in 2020, are likely to have better designs, more integrated chipsets, leading to longer battery life.

Second, there is also relatively little network coverage: as of October 2019, this was mostly in major cities, with the focus on city centres, and with minimal indoor coverage.

Third, as of October 2019 there were few smartphone applications that had been updated to exploit 5G's full capability, and none which required 5G's full speed, latency or capacity to work.

In a year's time from now, consumers will have a much greater choice of smartphones, and network coverage should have expanded noticeably. There should also be more applications that are optimised for 5G's speed, capacity and latency. And by 2021, two years after 5G's launch, all smartphone brands are likely to have 5G phones, at premium and mid-range prices, and 5G subscriptions should grow strongly as a result.

5G offers yet higher speed connections to smartphones, but aside from network speed tests, there may be relatively few consumer apps that need 5G's network performance. The incremental benefit of 5G smartphones versus 4G models will be on a lesser scale to the 3G to 4G upgrade.

However, 5G is not just about smartphones: it may also prove to be a viable, disruptive alternative to fixed-line broadband. In the UK, the vast majority of home broadband connections are over fixed-line technologies: copper, coaxial cable or fibre. Only six per cent of respondents connected to the Web in their home solely via the mobile network (see Figure 1). In the US, 20 per cent of consumers do and in Finland the proportion is even higher.

5G could make cellular mobile more viable as an alternative for home broadband connections. It could offer equivalent or better connection speeds ranging between 100 Mbit/s to one Gbit/s. Pricing could be competitive with many fixed broadband networks, as 5G can transport data at a much lower cost per gigabyte than 4G. Installation can be next day (or even same day) as there are no wires to connect. By contrast, reconnecting a fixed-line connection could take days; installing a full fibre connection could take months.

The three operators that had launched 5G by September 2019 were all offering home broadband packages at rates competitive with wireline broadband services. Prices ranged from £35 per month (for service with a SIM-controlled hub), albeit with minimal 5G coverage available. However, for users in 5G coverage areas this means very fast speeds at prices competitive with basic fixed-line broadband packages.

5G home broadband may initially be low-cost, but with variable performance and limited geographical coverage. Over the coming months and years, as 5G roll-out continues, speeds should become more consistent, enabling 5G to take a growing share of home broadband connections. This would mirror the trend seen with voice calls which are now predominantly carried over cellular mobile, even for indoor calls.

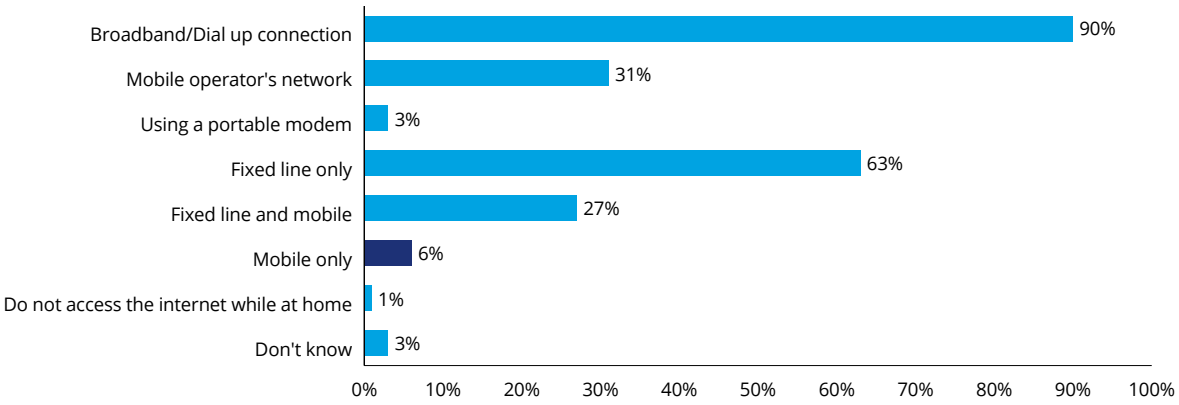
5G's biggest impact for consumers may be more home than away.

The best is yet to come

It is still very early days for 5G in the UK – and indeed in the rest of the world. The coming years will see multiple, fast advances in the 5G offer.

The most exciting elements of 5G for consumers are the unknowns, which are mostly around the applications that 5G will unlock, indirectly, for consumers. 4G enabled disruption in the logistics industry, enabling delivery services to thrive – be this delivering books or burgers. 5G is likely to not just enable faster access to social networks at rush hour, but also enable brand new business models benefiting the UK's consumers.

Figure 1. Ways of accessing the internet while at home
Question: Thinking about the Internet in general, in which of the following ways do you and other members of your household access the internet while at home?



Weighted base: All respondents aged 16-75 years: 4,150
Source: UK edition, Deloitte Global Mobile Consumer Survey, May-Jun 2019

Mobile games: A billion pound blockbuster

Mobile phones and games have always been a compelling pairing. Even in the era of 'candy bar' GSM phones, with their monochrome screens and numeric keyboards, the preloaded game was a differentiator. Games mattered, and continue to matter, as our phones never leave our side, and games are a welcome distraction.

The smartphone has enabled the app store. In-app payments have enabled the freemium model. Full-size colour screens have enabled an ever-widening array of genres to thrive, from puzzles to driving, from augmented reality Pokémon chasing to infinity runners.

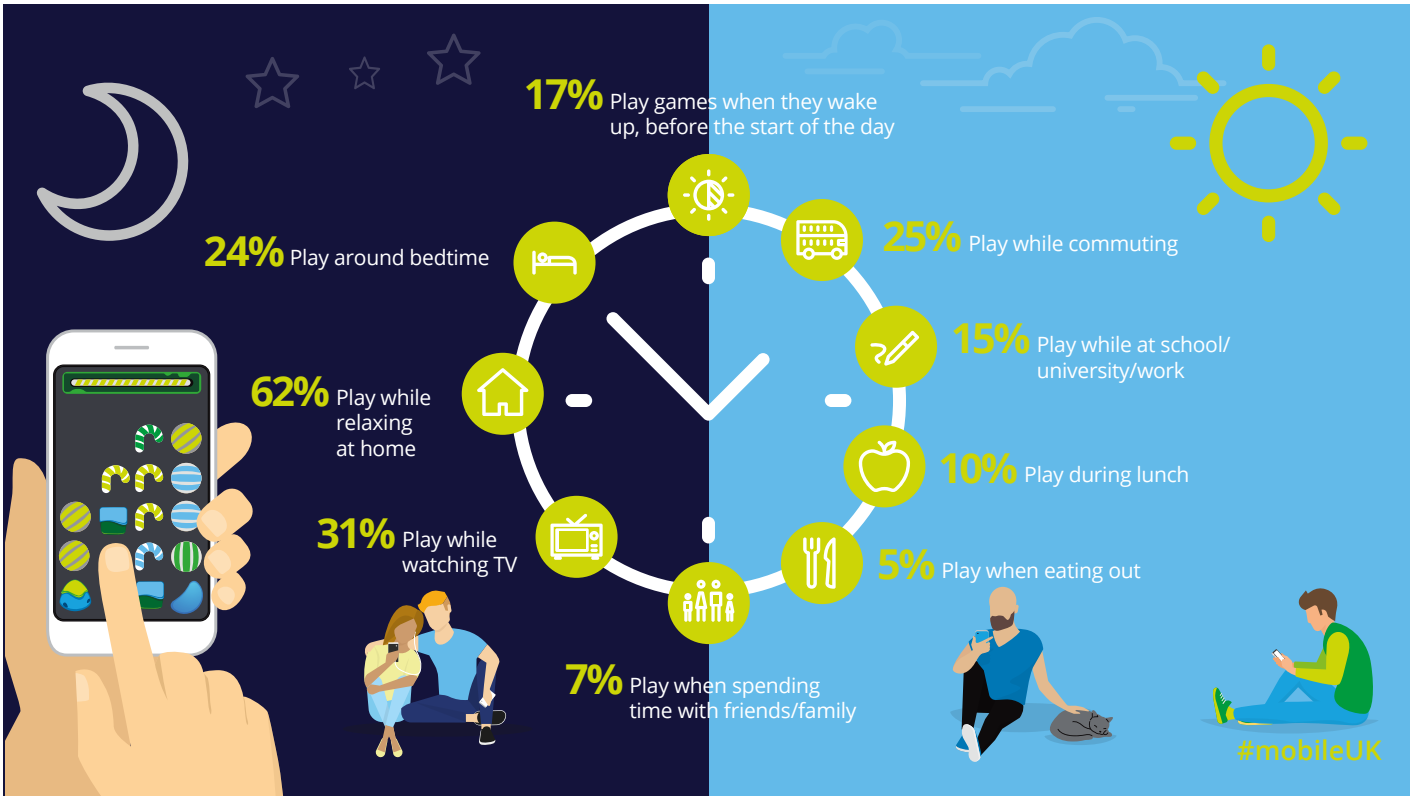
Revenues from mobile games have steadily risen. Consumer spend on smartphone and tablet games is forecast to reach £1.2 billion in 2019, just for the UK, growing nearly 20 per cent year on year, according to App Annie. Deloitte estimates that the mobile phone's share of the revenue will reach close to one billion pounds. This number contrasts favourably with the forecast for e-Sports revenue of £0.9 billion globally, for the same period[18].

In the 1990s we never let our candy-bar phones out of our sight, and as we approach the 2020s we are keeping our smartphones even closer. One benefit of this is that we can play mobile games at all times of the day. Of UK respondents who play video games, 17 per cent play as soon as they wake up; a quarter play while commuting; 62 per cent play while relaxing at home (see Figure 1). In 2018, Android users spent 1.4 billion hours playing mobile games, a 15 per cent increase on the prior year[19].

Just over half of smartphone owners surveyed, equivalent to about 25 million UK citizens, report that they play games. But the *real* number may be higher. Some users may not consider their game – a word puzzle, or a sports game (such as pool) to be a proper game and, as such report that they do *not* play games.

Our survey data shows that younger smartphone owners are more avid games users. However, other data suggests that older age groups can also be among the most fervent users. Candy Crush's core user group is women aged 35 and over[20].

Figure 1. A day in the life of a mobile gamer
Question: When do you tend to play games on your mobile phone?

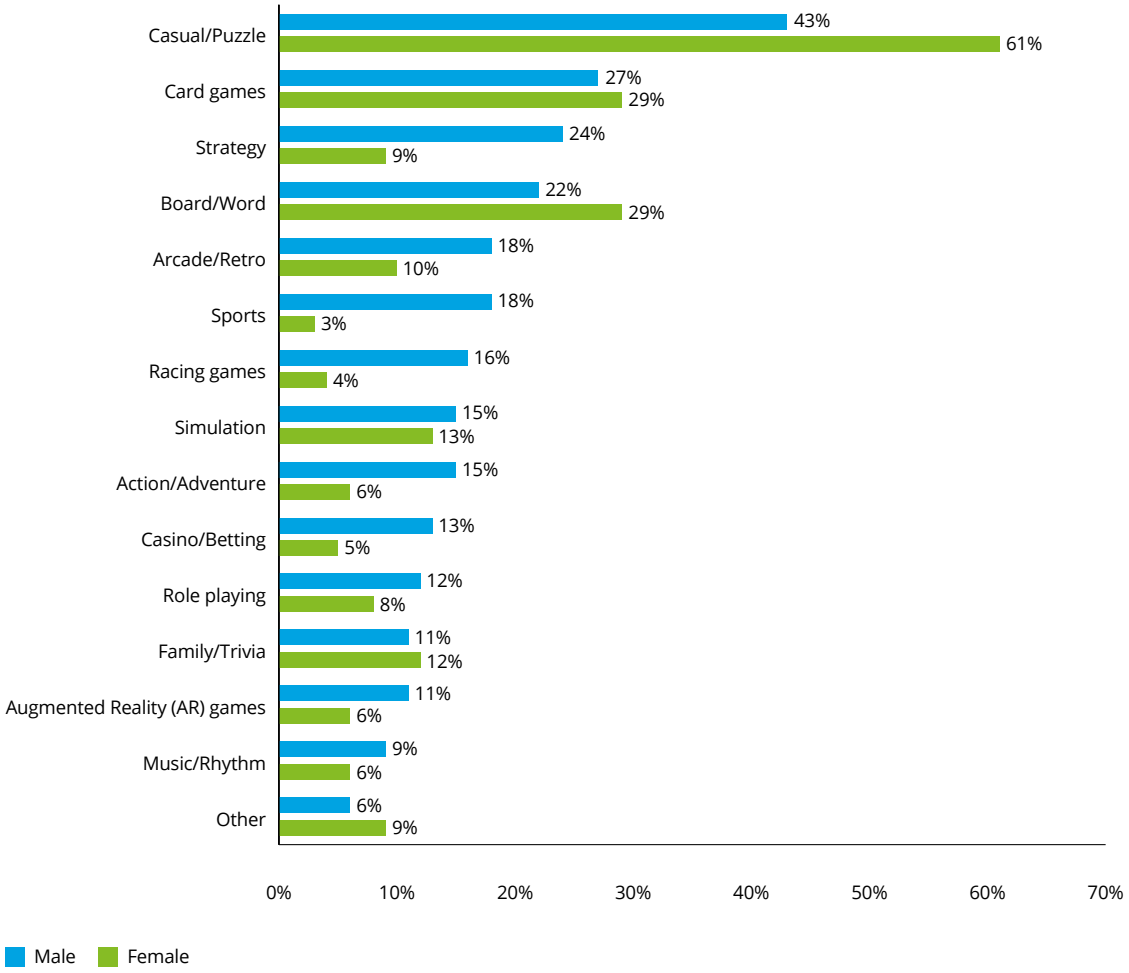


Weighted base: All respondents who play games on their smartphone: 1,893
Source: UK edition, Deloitte Global Mobile Consumer Survey, May–Jun 2019

Men and women play video games in equal numbers but the type of game varies (see Figure 2). Women much prefer casual games, such as Candy Crush, with 61 per cent playing, versus 43 per cent of men. There is also a notable cleft for word and board games (such as Words with Friends), with 29 per cent of women playing and 22 per cent of men. In other genres, men predominate. For sports games, such as FIFA, 18 per cent of men play and only 3 per cent of women, and for car racing games, e.g. Asphalt 9, 16 per cent of males play, versus 4 per cent of women.

There are also variations in preferred genre by age. The bottom line, however, is that there are games for all tastes, and this is a key part of mobile games' commercial success. Use of games consoles is, by contrast, far narrower, with participation skewed towards young males.

Figure 2. Types of games played on smartphones by gender
Question: Which, if any, of the following types of games do you play on a smartphone?

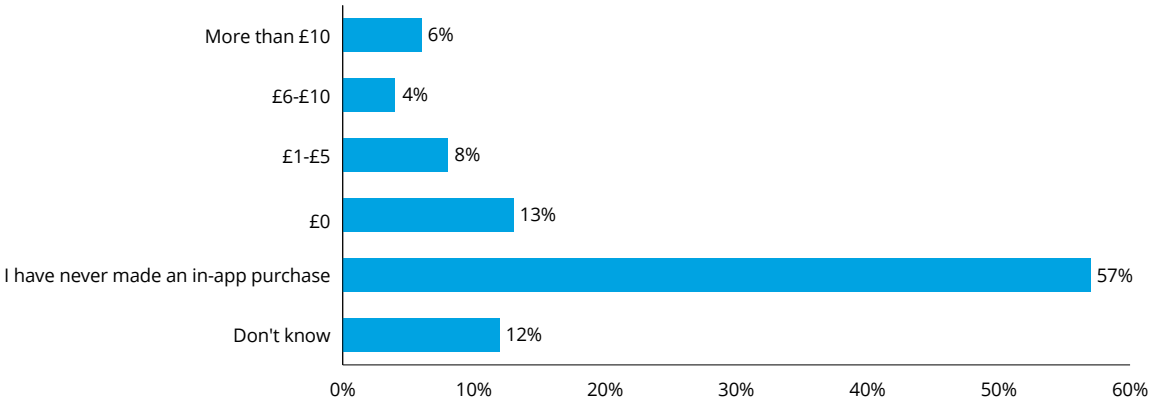


Weighted base: All smartphone owners aged 16-75 years who play games on their smartphone and are male: 935, female: 958
Source: UK edition, Deloitte Global Mobile Consumer Survey, May–Jun 2019

Mobile games continue to monetise mostly via in-app payments, although subscription models are now (late 2019) starting to become available. A minority pay directly as part of their games play, typically purchasing games currency. Among mobile games players in our survey, just 31 per cent have ever made in-app purchases. And the vast majority rarely spend on mobile games. For example, in our survey, 70 per cent of those who play games have not spent any money in the last month (see Figure 3). Only a small proportion, six per cent, have spent more than £10.

But the small minority that play account for the majority of revenues: the minority nine per cent represent 90 per cent of spend. Average spend per paying player is just under £20 per month. Across all games players, the self-declared average spend was £3.59 per month.

Figure 3. Monthly spend on in-app purchases for mobile games
Question: Typically how much, if anything, do you spend on in-app purchases for mobile games each month?



Weighted base: All smartphone owners aged 16-75 years who play games on their smartphone: 1,893
Source: UK edition, Deloitte Global Mobile Consumer Survey, May–Jun 2019

Mobile games players can also pay indirectly, by watching adverts, which are typically for other apps. These ads are an increasingly critical source of revenue for apps owners. According to one analysis of the global market, the percentage of mobile games titles that generate over 80 per cent of revenue from ads surged by nearly 30 per cent in the year to 2018[21].

UK consumers continue to download new apps, but in recent years, growth has slowed. In the last year, according to data from App Annie, games app downloads increased by six per cent in the UK, but are down eight per cent relative to 2013. Rising consumer spend and time spent on downloaded apps is driving the revenue growth.

Download growth rates in emerging markets such as India are significantly higher, growing at 785 per cent between 2013 to 2018[22]. This growth is driven particularly by new smartphone owners discovering and experimenting with new apps.

Existing games titles are constantly expanding and evolving, enticing players to stay engaged. Themes change with the seasons and join in with popular celebrations like Halloween. Leading titles refresh or expand content weekly. Candy Crush had 65 levels in 2012[23]. As of September 2019, it had over 5,000 levels.

So where next for the mobile games market? One possible trend is a growth in mobile games subscriptions, which offer access to premium games, some with few or no ads, and a few of which would be exclusive. Some games may have all the content (e.g. games chapters or levels) already unlocked for subscribers; those accessing via freemium would have to play or pay separately. Apple's Arcade subscription service launched 19 September, with access to over 100 games[24]. The fee is £4.99 per month per household. Google has announced a similar offering for Android users called Play Pass.

A further development may be the offer of massive online games for mobile, with dozens of people playing the same game. This may require games to be streamed to the user, with the games play processed in the cloud, rather than locally. The faster data rates and lower latency of 5G should enable collective games play. At present most mobile games players prefer to play single player games: 90 per cent play single player; 18 per cent do multiplayer with friends and family, and only 12 per cent play multiplayer in public arenas. A downside of multiplayer games is the possibility of losing to other humans; but the computer can always be programmed to lose.

Smartphones and games: the continuation of a beautiful friendship

The smartphone and games have long been the best of companions, and this relationship looks set to consolidate over the coming years.

The quality of mobile games will evolve in step with the calibre of the underlying hardware, which improves markedly year on year, with manufacturers competing to offer more powerful processors and brighter screens with higher refresh rates. The most powerful smartphones now support 120Hz games. This permits the screen to refresh 120 times per second, delivering smooth motion graphics ideal for fast-moving games[25]. As of May 2019, more than 100 titles supported this frame rate[26].

The vitality of the mobile games market is down to its variety: there is a genre for everyone, regardless of gender, age or culture. Brains can be teased, puzzles solved and races run. Games can last seconds or evolve over months. Consumers can play as individuals, in the company of friends, or against unknown competitors around the world. The dawning of the subscription age may well also enable a new generation of games titles, that do not rely on advertising or in-app payments to flourish[27].

Data privacy: UK users get more generous with their data

The last year has seen an increase in the number and gravity of negative stories about data privacy. The UK has also had its first year of the GDPR (General Data Protection Regulation), one of whose main purposes is to make it easier for citizens to understand how their data is being used.

Neither the news flow nor the introduction of GDPR appear to have affected consumer behaviours. In the last 12 months, according to our research, the volume and range of data being shared by the UK public has grown. People own more connected devices, the vast majority of which share data with third parties. Usage of social networks is up, albeit marginally. Scrutiny of terms and conditions associated with apps or devices remains scant: about 80 per cent of adults rarely, if ever, read them. The majority of people who state they never share their name use at least one social network. Similarly most of those who state they never share their phone number online use at least one instant messaging app.

However, a rise in data sharing is not necessarily a negative. News coverage tends to focus primarily on the downsides of data sharing; the benefits are not always reported on. Every application of technology can be benign, malign or anything in between. A smart watch that can relay health data to medical staff in the case of a heart attack can help save a life. A hijacked smartphone or PC camera can harm a life. A smart watch could also be used for covert surveillance. A web cam can enable office workers to see and even talk to their pets during the day. All rely on data sharing, but with opposing intents.

Data sharing is a sensitive topic, full of nuances, and merits more informed debate, even if the temptation to make a snap judgement is strong.

More data is being shared; more data will likely be shared in future

A key reason why more data is being shared is that collectively the UK public owns more devices than a year ago, and, most likely, less than they will in 2020. Connected devices tend to rely on data sharing to function optimally. They may work less well if they can only function on a standalone basis.

The UK consumer is likely to continue accumulating devices which rely on data sharing for the foreseeable future. As an example, one of the device categories that has seen the fastest growth in adoption in the last year is the smart speaker. In 2019, a fifth of respondents had a smart speaker, up from 12 per cent the previous year.

Smart speakers rely on voice recognition, which is a challenging computational feat. Most smart speakers work by continuously listening out for a trigger phrase; once this is picked up, a voice sample is recorded and uploaded. Voice recognition remains a work in progress; the quality is steadily improving, but there is plenty of scope for further refinement. The task is challenging because there are multiple ways of phrasing a command and myriad accents to interpret. The calibre of intonation varies by person, by time of day, and according to how tired they may be. There is also the confusion of background noise, which might include other conversations.

Interpretation of voice commands is typically done remotely, in the cloud, where much greater computational power is available relative to that in the speaker – basic smart speaker models incorporate an array of microphones, basic processors, a speaker, connectivity and power.

In the cloud, analysis of the command is undertaken mechanically in the vast majority of cases. Pattern recognition is used to isolate and interpret what was said. The algorithms used to interpret the voice sample are not always successful, and sometimes human agents are used to decipher the more challenging recordings. Humans can listen not just to the question asked, but anything else picked up by the device's microphones: be this other conversations or background noises. The use of humans was not well known, and the revelation that multiple tech companies have used people to assist has been reported in the press in recent months.

We do not expect that the negative news stories, or the requirement for audio clips to be shared for smart speakers to work, will have much impact on sales or usage. For the majority of consumers, purchase price and utility will be much more significant factors. The more useful they are, the more they will be adopted, and the more they will be used.

For smart speakers to improve, they will need to become better at interpreting voice commands. For this to happen, the underlying algorithms will need more content – more voice samples, from real-life situations – to be trained on.

For some, smart speakers may represent overbearing surveillance. For others, perhaps the majority of current and potential users, there are many tangible benefits from the existence of better speech recognition, and data sharing is an acceptable prerequisite of higher accuracy rates.

While the early adopters of smart speakers are often the technologically literate, voice interfaces make computing accessible to the linguistically less literate, as well as those with partial or no sight. Smart speakers can also be applied in environments such as hospital wards, where their ability to interpret an immobile patient's need is a massive upgrade to a call button.

It is not just portable, digital devices that are growing in popularity. Larger, fixed location devices, such as smart TVs are also growing in adoption, with 51 per cent of respondents having access to one, as of mid-2019.

Smart TVs rely on connectivity and are frequently sharing data. Users may not be aware of how much data is being shared. Existing TV sets can also be connected via peripherals, such as video streaming devices, which incorporate Wi-Fi connectivity. These devices may require data sharing to be competitive on price.

Historically, TV sets were not connected and as such could not share viewing data. However now that TV sets are increasingly connected, viewing habits and other data sets can be tracked and shared.

A number of recent analyses have quantified the volume of data sharing that any type of connected TV set may undertake. One study of the US market analysed the 1,000 most popular apps for connected TV sets and streaming devices. The study found that the top three news apps contacted close to 60 tracker domains each. Some of the channels shared the titles of videos watched with third parties; these data were not always sent encrypted.

Restrictions on data sharing from TV sets would likely increase pricing. Connected TV sets enabled TV sets to be sold at modest margins, with additional monetisation happening post-purchase[28]. Tracking viewing behaviour is arguably little different from cookies on online news sites sharing information on readers' browsing habits and other data[29].

Many consumers are likely to favour a new TV at a lower price. The trade-off – data sharing – for the majority of consumers who are on a tight budget may be acceptable.

Usage of facial recognition is becoming significant

The use of biometrics on devices is relatively recent, but take-up has been rapid. The first mainstream phone to incorporate a fingerprint reader was launched a mere six years ago. Now there are tens of millions of devices with biometric sensors in the UK, and billions globally. Nearly half (44 per cent) of respondents with a smartphone now use fingerprint recognition, and 11 per cent now use facial recognition, over double the proportion last year.

In recent months the use of facial recognition in public spaces has been frequently in the news, and is commonly characterised as sinister[30].

The approach to facial recognition varies by application. On many smartphone models, the biometric data used to authenticate the user is private and kept on the phone. And, if it is stored in a secure enclave in the phone's memory, the data is extremely hard to compromise. On a smartphone, biometric authentication is used as an alternative to passwords.

In the context of a public space, facial recognition is often used as a means of policing an area with a greater efficiency than in-person policing or having humans review video footage. For the police and private security forces, the need to keep people safe, as well as cost pressures, could catalyse ever greater usage of facial recognition.

We expect usage of biometrics on smartphones will continue to grow, continuing recent trends. Of smartphone owners who use biometric readers, 48 per cent have used this authentication method to authorise payments, up from 35 per cent in 2017, and 32 per cent have used them to authorise money transfers to other people/organisations, up from 20 per cent in 2017. For consumers the application is convenience. For banks the benefit is a lower risk profile[31].

Terms and conditions remain overly long and rarely read

Usage of most devices and most apps are underpinned by a set of terms and conditions, which are the contract between supplier and user.

A small minority of respondents (nine per cent) claim to always read terms and conditions; an even smaller subset may actually do so on a regular basis.

There are many reasons why terms and conditions are not read. One reason is pragmatism – the contract tends to be overlong, arguably as it is easier for terms and conditions to become elongated than to be shortened. The introduction of GDPR, for example, has tended to make contracts longer, with additional GDPR-specific clauses being added to existing terms and conditions. When someone is frantically trying to connect to a Wi-Fi network he or she may be disinclined to spend 15 minutes scrutinising the underlying contract. Furthermore, individuals have varying views on the value of their personal data. Some may guard their data very closely; others may be happy to share.

Arguably, governments should consider incentivising companies to make their terms and conditions readily legible and comprehensible by all members of the public. Or, a trusted third party could institute a kitemark scheme to vet contracts on behalf of the general public.

However, if terms and conditions remain similar to how they are today, in a year's time attitudes to reading them are likely to be broadly similar.

Social networks still have many friends

Daily usage of social networks on smartphones has reached an all-time high. In 2019, 52 per cent of phone owners accessed a social network daily. This compares to 48 per cent in 2017. Usage is steady or growing across most age groups, with substantive rises among 45-64 year olds. The proportion of daily users among 45-54 year olds rose by eight percentage points to 48 per cent in the two years to mid-2019. Among 55-64 year olds the increase was six percentage points, to 32 per cent.

Social networks have rarely been out of the news over the last year, but this has evidently had little impact on usage levels.

Consumers remain confounded by data sharing concepts

Understanding how and what data is being shared may still flummox many users. Figure 1 shows the proportions of respondents to our survey who share various types of data. What is evident is that a large minority or even a majority of respondents are unaware of the extent of data sharing that is taking place.

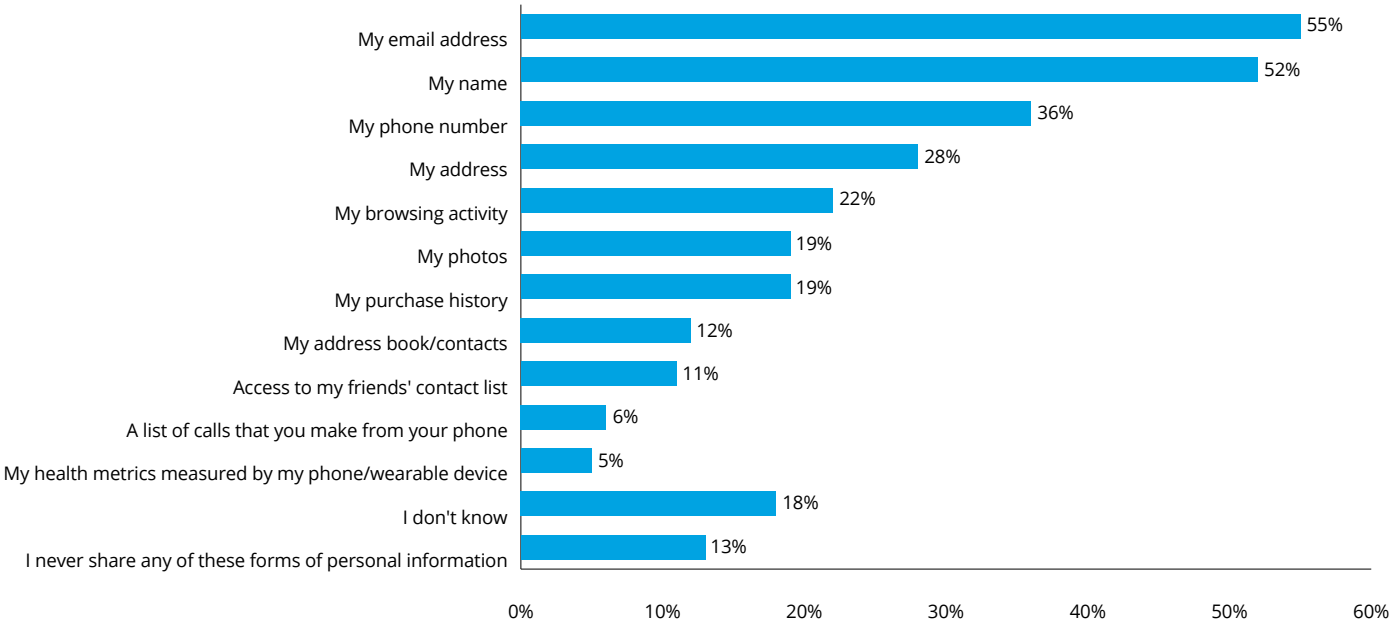
Most respondents will have at least one email address. Most online sites require an email address, but only 55 per cent believe they share this data. Most social networks require an individual's name. Half of all respondents report they never share this. Only 36 per cent note that they share their phone number. Yet of those who claim they do not, the majority report using instant messaging services which use a mobile number as a personal identifier. Browsing activity is frequently shared, but only 22 per cent are aware that this happens.

Should consumers be aware of how and why data is shared? There are arguably few places that people can go to understand better how online privacy works. Adults who attend tech classes are often taught how to use word processors, or how to go online. But the mechanics or the business model for online sites are not always explained. They may not understand how a free news site is funded. Schools often focus on coding, and overlook the funding of online businesses.

Data sharing can be benign and malign

The data sharing genie is out of the bottle, and is likely to remain so forever. Devices, apps, e-commerce sites and content providers all depend on data sharing. There are many potential pitfalls to data sharing, all of which need controls, but the multiple benefits should not be overlooked. Over the decades, economies have grown through regulated, measured data sharing. The telephone directory helped people stay in touch, but also enabled cold calling, which in turned required regulation. The Internet provides a degree of conscious and automated communication never previously known: regulators as well as tech platforms should work together to enable positive outcomes.

Figure 1.Type of information shared with organisations online
Question: Thinking abut the companies which you may interact with online, as far as you are aware, which, if any of the following types of information do you already share with them?



Weighted base: All phone or smartphone owners aged 16-75 years: 3,952
Source: UK edition, Deloitte Global Mobile Consumer Survey, May–Jun 2019

Contacts

Dan Adams
UK Lead Partner
Telecommunications
+44 (0) 20 7303 3560
danadams@deloitte.co.uk

Researched and written by

Paul Lee
Partner
Head of Global Research, Technology, Media & Telecommunications
+44 (0) 20 7303 0197
paullee@deloitte.co.uk

Cornelia Calugar-Pop
Insight Manager
for Technology, Media & Telecommunications
+44 (0) 20 7007 8386
ccalugarpop@deloitte.co.uk

Marketing and PR

Selina Newstead
Marketing Lead
for Technology, Media & Telecommunications
+44 (0) 20 7303 7601
snewstead@deloitte.co.uk

Rosie Shepherd
Marketing Account Manager
Technology, Media & Telecommunications
+44 20 7007 9028
rshepherd@deloitte.co.uk

Nauria Khan
Marketing Campaign Manager
+44 20 7303 7824
naurkhan@deloitte.co.uk

George Parratt
Press Officer
Technology, Media & Telecommunications
+44 (0) 20 7007 7285
gparrett@deloitte.co.uk

Contributors

Anil Tarigoppula
Assistant Manager for TMT Insights
antarigoppula@deloitte.com

Suhas Raviprakash
Analyst for TMT Insights
sraviprakash@deloitte.com

Amrita Ranchhod
Manager, AI Insights & Engagement, Analytics & Cognitive
aranchhod@deloitte.co.uk

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About the research

The UK data cut is part of Deloitte's Global Mobile Consumer Survey, a multi-country study of mobile phone users around the world. The 2019 study comprises approximately 44,150 respondents across 28 countries and six continents.

Data cited in this report are based on a nationally representative sample of 4,150 UK consumers aged 16-75. The sample follows a country specific quota on age, gender, region and socio-economic status. Fieldwork took place during May-June 2019 and was carried out online by Ipsos MORI, an independent research firm, based on a question set provided by Deloitte.

The themes presented on the website provide a snapshot of some of the insights that the survey has revealed. Additional analyses such as: smartphone purchasing and replacement cycles, usage of operator customer points (stores, call centres, digital) for different types of reasons (billing, technical, etc.), ownership and usage of connected home devices, smartphone usage to control other devices, usage of smartphones to consume media (music, video, social media, news), usage of smartphones in the customer purchasing journey, etc. are available upon request.

Results for other countries are also available on request.

For further information about this research, please contact:
mobileconsumer@deloitte.co.uk

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