



FEATURE

Build it and they will embrace it

Consumers are preparing for 5G connectivity in the home and on the go

Kevin Westcott, Jeff Loucks, Dan Littmann, Phil Wilson, Shashank Srivastava, and David Ciampa

With demand for bandwidth rising, consumers are eager for 5G connectivity for both smartphones and connected home devices. But our new survey suggests that people are concerned about cost—and data privacy.

AS US TELECOMMUNICATIONS companies establish fifth-generation (5G) wireless networks, executives are hoping consumers will embrace the faster, more reliable internet service 5G can deliver. They're unlikely to be disappointed: Deloitte's 2019 Connectivity and Mobile Trends (CMT) survey suggests that American consumers are ready for more when it comes to wireless connectivity, both on the go and in the home.

Almost two-thirds of consumers in our CMT survey are familiar with 5G, with awareness exceeding 70 percent among the youngest two generations; only 5 percent have never heard of it. The challenge for telecommunications providers and device vendors is to turn consumer awareness into adoption. There's certainly a market for the speed and reliability that 5G promises: Nearly half of consumers, and 62 percent of Gen Z, say they would find a wireless connection as fast as fiber broadband "very" or "extremely" valuable.

The advent of 5G could convince consumers to upgrade their smartphones. The first 5G-compatible smartphones hit the market in 2019, with more releases planned for 2020. As 5G coverage expands, demand for 5G smartphones will grow: Twenty-eight percent of consumers (and about 40 percent of Gen Z and millennials) said they would be "very likely" to buy a compatible smartphone when service is available in their area. Given smartphones' near ubiquity among US consumers—close to 90 percent either own or use a smartphone, and 52 percent of those consumers spend more than two hours on it daily—these upgrades could substantially boost sales.

The craving for fast connectivity does not end with mobile broadband—consumers are also ready for better home internet. Our survey shows that the average household has 11 connected devices, including seven different smart screens on which to view content. Twenty-eight percent of consumers are using smart home devices such as connected thermostats, cameras, and lighting. People who have multiple smart home devices tend to spend more on home internet to increase bandwidth. Whether their connected devices are for entertainment, control, or security, consumers want better home internet for all of them.

Even as consumers welcome more connected devices and online services into their lives and homes, they've become more aware of how their personal data is being collected and sold, and they want more control. Over 90 percent say they should be able to see and delete data that companies collect about them. They also want compensation: Eighty-four percent of consumers feel they should be paid by companies that profit from their data. In short, many consumers want a "new data deal."

Consumers are ready for better mobile connectivity, and smartphones that can take advantage of it. They're ready for better home internet to manage the growing number of connected devices competing for bandwidth. They are demanding more control over the data they create when they use all of these devices and online services. In what follows, we will show how smartphone manufacturers, mobile carriers, and applications providers can capitalize on consumers' desire for new connections and capabilities.

Mobile connectivity: Performance and price matter most

In recent years, telecom operators have launched a flurry of plans, bundled offerings, and other value-added services—and our data shows that consumers see value in these offerings.

But what they value most is simpler: a good connection and a good price. The CMT survey found that network performance and pricing are the two qualities that consumers like the most about their carrier (figure 1), suggesting that the huge investments carriers have made in their network infrastructure are yielding results. We also found that consumers are satisfied with their operators. In fact, 30 percent of CMT survey respondents said that there is *nothing* that they particularly dislike about their carrier.

ABOUT CONNECTIVITY AND MOBILE TRENDS

This first edition of the Connectivity and Mobile Trends Survey, conducted by Deloitte's Technology, Media & Telecommunications practice, was fielded by an independent research firm in September 2019. It employed an online methodology among 2,003 US consumers. All data is weighted back to the most recent US Census to arrive at a representative view of US consumers' opinions and actions, though respondents aged 54 and older reflect slightly higher smartphone ownership than the average US consumer.

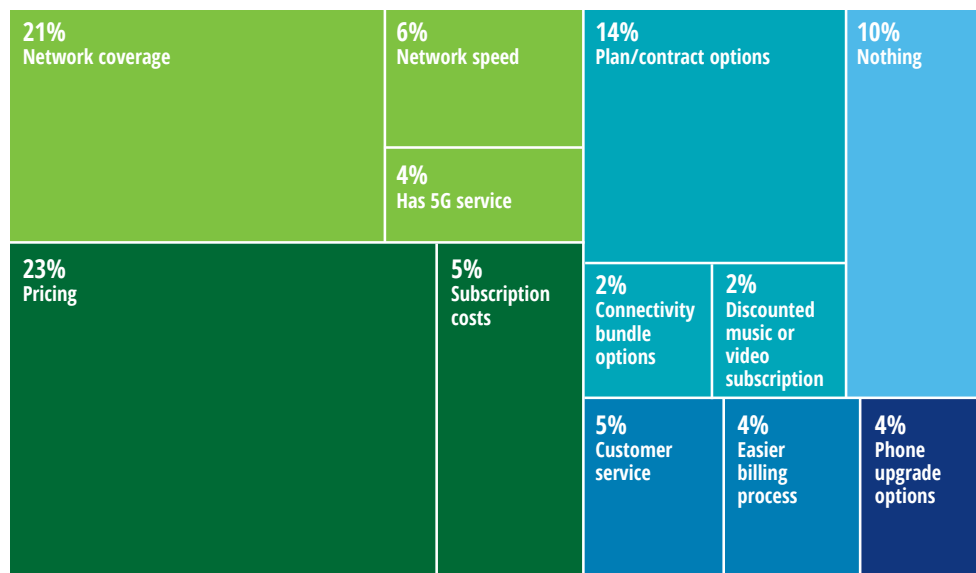
These findings don't mean that carriers can afford complacency. Forty-three percent of consumers face issues when watching videos on their smartphones; 41 percent feel that their mobile data

FIGURE 1

Network performance and pricing are the two things consumers like most about their carriers

What do you like most about your mobile carrier? (Percentage among mobile phone users)

■ Network performance ■ Cost-related ■ Plan-related ■ Customer service ■ Device-related ■ Nothing



Source: Deloitte Connectivity and Mobile Trends Survey, 2019.



(figure 2). Further, close to 60 percent of Gen Z and millennial consumers said that getting the fastest wired broadband speeds on their mobile would be either extremely or very valuable.

5G may hold the key to meeting these aspirations. As carriers invest in 5G and roll it out in the United States, a significant chunk of consumers will likely adopt the service quickly—if it delivers on its promise of faster speeds and better coverage.

5G could revolutionize digital entertainment

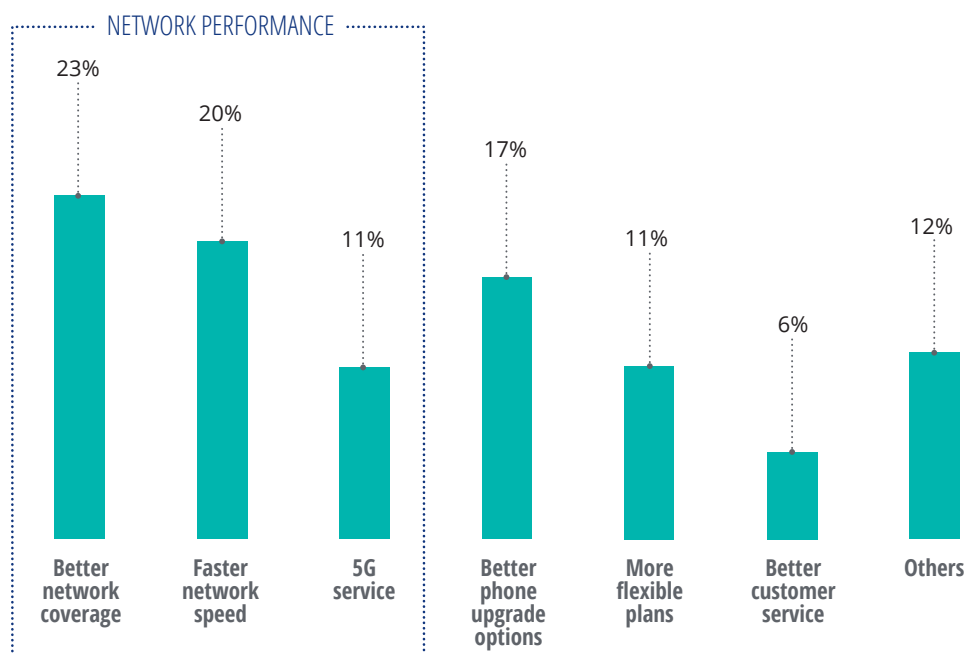
speeds are too slow. Close to a fifth of consumers (19 percent) plan to switch mobile carriers within the next year. Even those who intend to stick with their current carrier want stronger network performance in their next smartphone plan

The broader availability of 5G is expected to be foundational for the demand and growth of new services—and the enhancement of existing services—that particularly benefit from fast connections. The impact on digital entertainment

FIGURE 2

Network performance most important to consumers when selecting smartphone plan

Most important factor in selecting smartphone plan (Percentage among smartphone users)



Source: Deloitte Connectivity and Mobile Trends Survey, 2019.

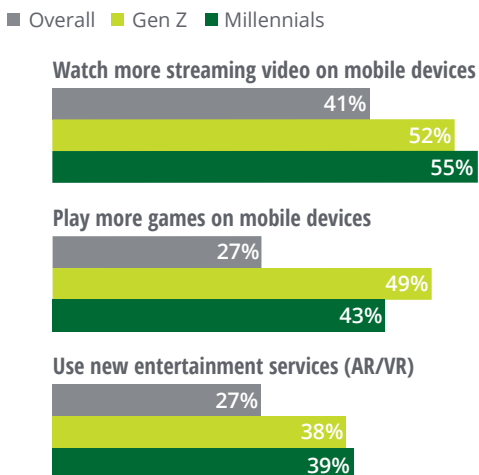
could be particularly great. In our survey, consumers—especially Gen Z and millennials—said that once they have 5G, they plan to consume data-intensive entertainment services such as augmented reality and virtual reality (AR and VR) that require high-speed, low-latency connections. Nearly half (49 percent) of 5G-familiar Gen Z consumers said that they would play more mobile video games using 5G, and nearly 40 percent of Gen Z and millennial respondents said that access to 5G will change how they use AR/VR (figure 3). Further, video consumption is already migrating from a traditional pay-TV model to over-the-top services, with the majority using WiFi to connect to over-the-top (OTT) services.

As carriers build their 5G networks, it will be important to note where—in what type of physical dwelling—consumers use 5G, as this will determine which 5G band is best for coverage.

FIGURE 3

5G could boost next-generation entertainment

How would having 5G service change the way you use technology? (Percentage among 5G-familiar consumers)



Source: Deloitte Connectivity and Mobile Trends Survey, 2019.

The battle for the home

A generational change in wireless technology has significant implications for mobile broadband, but there it also sets the stage for intense competition for home internet providers. Although cable companies have a significant lead over telecommunication carriers in terms of broadband household subscribers, the emergence of the new technology could embolden large carriers' chances of narrowing that gap, our survey results suggest.

Less than half of consumers are “very satisfied” with their home internet provider. Satisfaction levels are consistent across generations, ranging from 43 to 49 percent. To improve home internet performance, 35 percent of consumers report using devices such as multipoint Wi-Fi routers, range extenders, and mesh networks.

The source of consumers' dissatisfaction with their home internet service could be the number of devices they are connecting to the internet: An average of 11, including seven devices with screens. The largest of those screens is the biggest bandwidth user: Sixty-four percent of consumers say they connect their TV wirelessly.

The potential of 5G in the home is compelling. Some 62 percent of consumers who have home internet say that they will likely replace their service with 5G Wi-Fi service if it delivers speeds equivalent to those of fiber. The figure grows to 75 percent for people who say that their mobile data is faster than their home Wi-Fi. In addition, 63 percent of 5G-familiar consumers rank 5G's potential to offer better in-home connectivity/service as one of the top three capabilities likely to drive their usage of 5G (figure 4).

While consumers are enthusiastic about enhanced in-home connectivity, they may prove reluctant to pay much extra for it. In fact, consumers expect 5G in-home connectivity to provide a significant boost

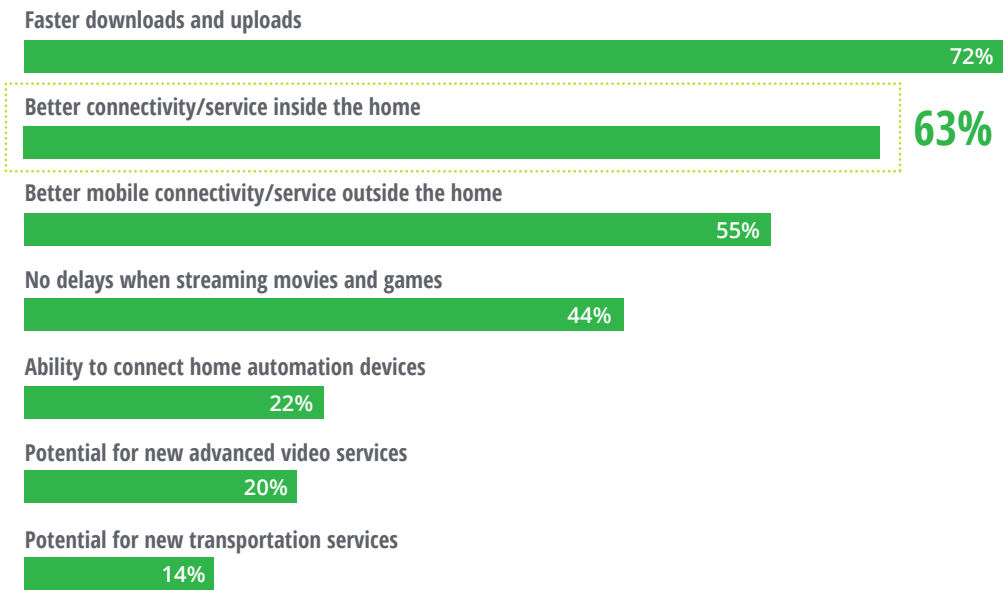
in speed and bandwidth without a sizable increase in their home internet cost. If it *does* substantially boost in-home connectivity costs, ardor may wane: Sixty-one percent of consumers (consumers who responded they would likely replace) say they can live with their existing service. Forty-nine percent of 5G-familiar consumers say they are “very

satisfied” with their home Wi-Fi; another 36 percent are “somewhat satisfied” (figure 5). For 5G in-home connectivity to convince these consumers to upgrade, it will have to live up to its promise of game-changing speeds and bandwidth in the home, at a cost that consumers find reasonable.

FIGURE 4

In-home connectivity is one of the main 5G benefits that consumers are expecting

Which of the following capabilities of 5G would be most likely to drive you to use 5G? (Percentage ranked top three among 5G-familiar consumers)



Source: Deloitte Connectivity and Mobile Trends Survey, 2019.

FIGURE 5

Consumers need a strong reason to leave their current in-home connectivity provider

How satisfied with you with your home Wi-Fi connectivity? (Percentage ranked top three among 5G-familiar consumers)

■ Very satisfied ■ Somewhat satisfied ■ Neutral ■ Somewhat dissatisfied ■ Extremely dissatisfied



Source: Deloitte Connectivity and Mobile Trends Survey, 2019.

Consumers want better smartphones, with 5G part of the package

Well into the second decade of the smartphone age, consumers are craving something better and faster for on-the-go internet access. While in-home connected devices are also proliferating, the smartphone is still the most important connected device for many consumers. CMT survey data suggests that 38 percent of US consumers are planning to buy a smartphone in the next 12 months. When we asked what factors would be most important to them when deciding on their next smartphone, display quality, brand, 5G capabilities, and data storage emerged as the top decision drivers (figure 6). The availability of 5G can be both a direct and an indirect encouragement to smartphone purchases. Even now, when 5G coverage is just being introduced, consumers listed

compatibility as one of their top three capabilities in a new smartphone. Further, 76 percent of 5G-familiar consumers said that they would be more likely to buy a 5G-compatible smartphone when the technology becomes available. Indirectly, 5G's ability to improve display quality—for instance, by facilitating 8K streams—may also prompt consumers who value display quality to buy a new, 5G-compatible phone.

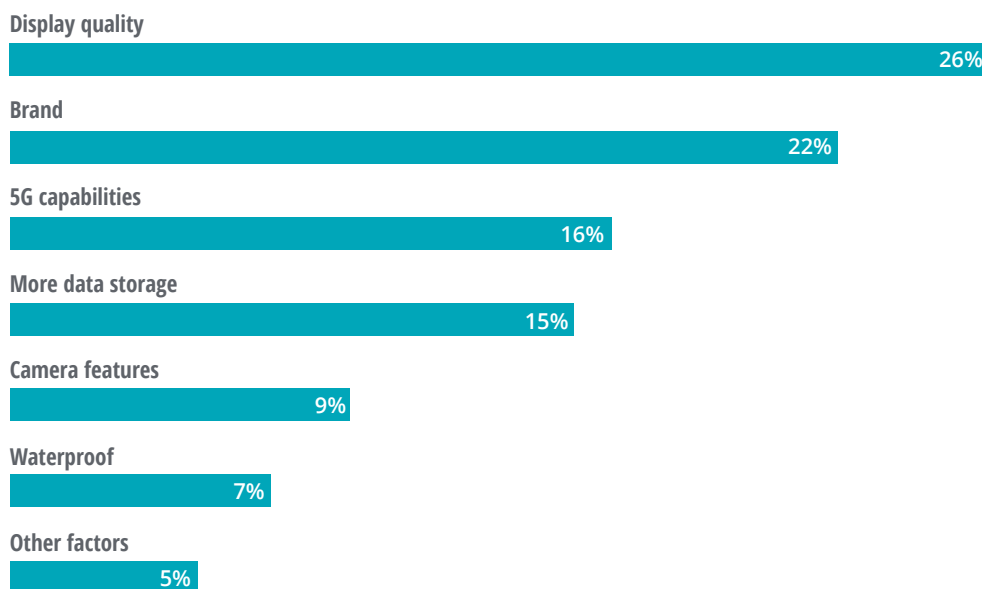
The smartphone refresh cycle is getting longer

5G's potential to boost smartphone sales should be welcome news to smartphone makers, as smartphone sales are expected to be flat in 2019 after more than a decade of innovation and development. One reason for this is that consumers are holding onto their phones for longer.¹ CMT

FIGURE 6

5G could spur smartphone sales

Factors most important to consumers when deciding on their next smartphone purchase (Percentage of smartphone users who rank each factor as "most important")



Source: Deloitte Connectivity and Mobile Trends Survey, 2019.

survey data suggests that the smartphone refresh cycle—currently at about two to three years—is lengthening (figure 7). Nearly a third of surveyed consumers have a smartphone that is two years or older, and fewer than 60 percent of consumers plan to buy a new smartphone in the next two years.

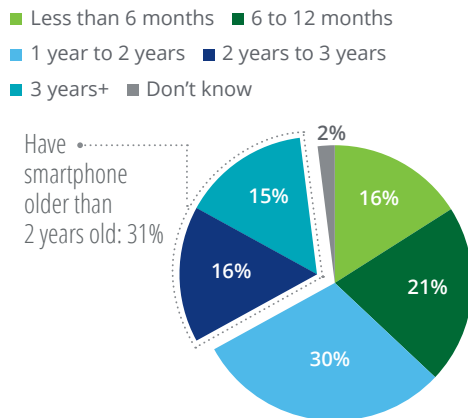
Why are consumers putting new smartphone purchases on hold? Our survey results point to the convergence of two major factors:

- **Incremental innovation:** More than half of surveyed consumers (52 percent) believe either

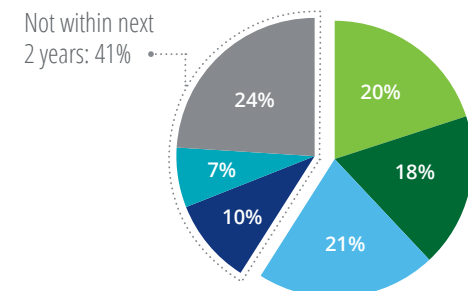
FIGURE 7

The smartphone upgrade cycle is lengthening

How long have you had your current smartphone (Percentage among smartphone owners)



When do you plan to buy or get a new smartphone?



Source: Deloitte Connectivity and Mobile Trends Survey, 2019.

that their current phone has the capabilities they need, or that the additional functionality they would get with a new phone would be insufficiently advanced to warrant an upgrade (figure 8). That's not to say that smartphone innovation is stagnating: New top-end phones have bigger screens and multiple cameras aided by artificial intelligence; they're more durable and water-resistant. But these improvements may not be enough to convince consumers to pay for a new phone, especially if their current phones are sufficient for most apps and tasks.

- **Economic factors:** More than 40 percent of surveyed consumers cited economic factors as the main reason for putting off a smartphone purchase. Twenty percent said that new phones are too expensive; 12 percent responded that they can't afford to buy a new phone, and 11 percent mentioned that they are still paying off their current phone. The decline of device subsidies and the higher prices of newly launched smartphones both contribute to these financial difficulties. The average selling price of top-end smartphone models rose from around US\$600 in 2015 to more than US\$1,000 in 2018, and the number of midrange options is shrinking. Many consumers can't afford to spend that much on an unsubsidized device, even when their lease plans allow for upgrades. However, some device makers are planning to address cost pressure by offering smartphones at lower price points.²

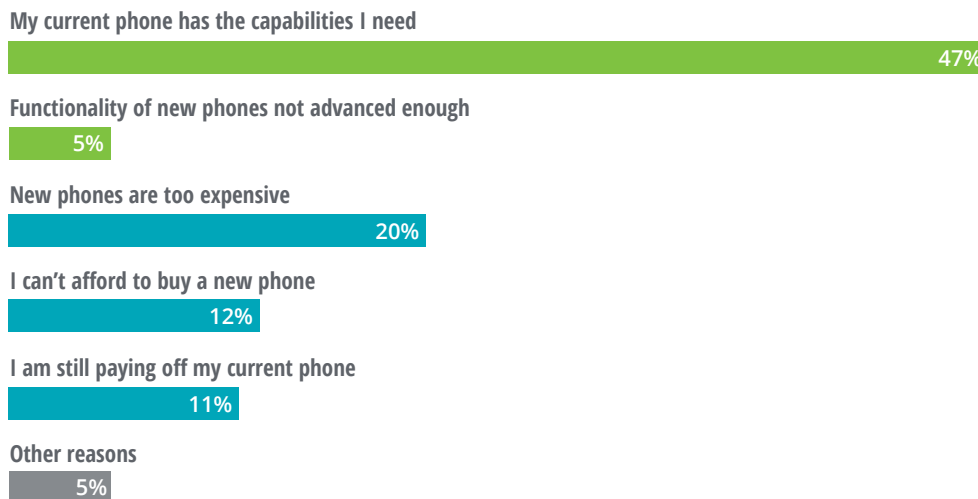
Taken as a whole, our survey results on smartphones suggest that the functionality threshold for buying a new smartphone may be rising, with consumers demanding a bigger jump in capabilities before they are willing to spend the money to upgrade. For many consumers, the prospect of 5G connectivity may be what pushes them to finally replace their smartphones. If so, then 5G could become a catalyst for the next wave of smartphone sales growth.

FIGURE 8

Incremental innovation and economic factors are slowing the refresh cycle

Reasons consumers are not planning to buy a phone sooner (Percentage of smartphone users not planning to upgrade within two years)

■ Incremental innovation (52%) ■ Economic factors (43%)



Source: Deloitte Connectivity and Mobile Trends Survey, 2019.

Boomers or bust: Older consumers should be brought into the upgrade cycle

Although younger consumers are most likely to demand 5G, advanced functionality, and the latest smartphone, carriers and device makers might be concerned about behavioral trends among the wealthiest group: boomers. CMT survey data shows that most boomers (ages 54–72) are on a mobile platform, and 92 percent of them use smartphones—almost equal to the overall average (94 percent). However, boomers lag behind when it comes to smartphone upgrades: Forty-three percent haven't changed their phones in the last two years. Moreover, 58 percent of boomers do not plan to buy a smartphone within the next two years (figure 9). This could have significant implications for the smartphone refresh cycle, since boomers account for 30 percent of all smartphone users.

Further, as the wealthiest generation in the United States, boomers are hardly lacking in purchasing power: They will continue to be the nation's wealthiest generation until at least 2030. Their share of net household wealth is forecast to peak at 50.2 percent by 2020, decline to 44.5 percent by 2030, and then quickly taper off thereafter as mortality rates escalate.³

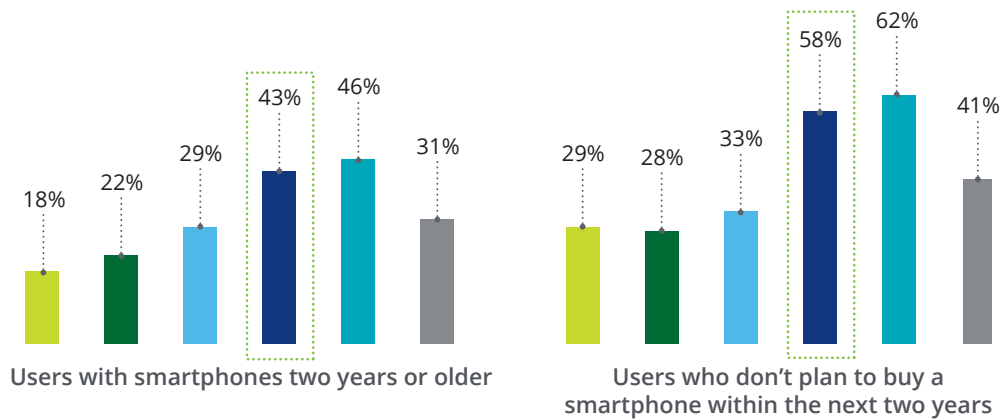
Boomers lead demographic groups in household income as well, with 52 percent having an annual income of more than US\$80,000, while 29 percent boast an annual household income above US\$125,000. CMT survey data suggests that the primary smartphone factor for boomers is utility: Fifty-five percent of boomers who do not plan to upgrade their phones within the next two years said that their current phone has all the capabilities they need. The figure was close to 36 percent for “MilleXZials” (a group that combines Gen Z, millennials, and Gen X).

FIGURE 9

Boomers are affecting the smartphone refresh cycle

Percentage among smartphone users

■ Gen Z ■ Millennials ■ Gen X ■ Boomers ■ Matures ■ Overall



Source: Deloitte Connectivity and Mobile Trends Survey, 2019.

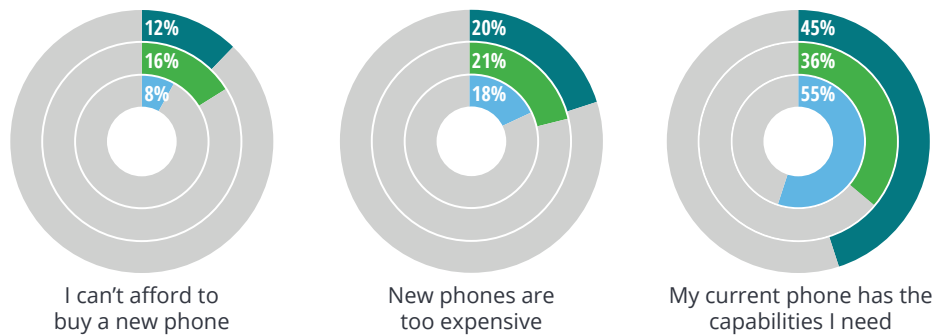
FIGURE 10

Boomers care more about utility than price

Which of the following best explains why you don't plan to buy a new phone sooner?

■ Overall ■ MilleXZials ■ Boomers

Percentage of smartphone users who are not planning to buy a smartphone within the next two years



Source: Deloitte Connectivity and Mobile Trends Survey, 2019.

5G: A smart choice for a smart home

Smartphones and connected TVs may be the most common devices that 5G can boost, but smart homes have plenty more that might benefit. Today, 28 percent of consumers have at least one smart device, while 11 percent employ three or more

devices for home automation and control—such as a thermostat, security camera, or lighting system connected to the internet, either directly or through a home automation hub. Although Wi-Fi or LTE can handle most home automation functions, the availability of next-generation technology could ease congestion and provide more energy efficiency. The home is becoming an

increasingly dense environment (figure 11) requiring ever-higher performance and coverage from connectivity infrastructure to serve a greater number of connected devices (including IoT-linked devices) in the home.

After a slow climb, home automation and control devices are poised to cross over into mass adoption—and 5G could provide the push they need. Around a quarter of consumers who use home automation spend extra to augment their home Wi-Fi or mobile service with additional speed and bandwidth, and consumers who have more home automation devices are more likely to pay for additional speed and bandwidth to support their setup (figure 12). Overall, 64 percent of consumers with home automation and control devices spend on additional services and products to augment their devices. The figure grows to 79 percent for consumers with three or more home automation devices—strong evidence of “throughput” that can benefit the entire ecosystem.

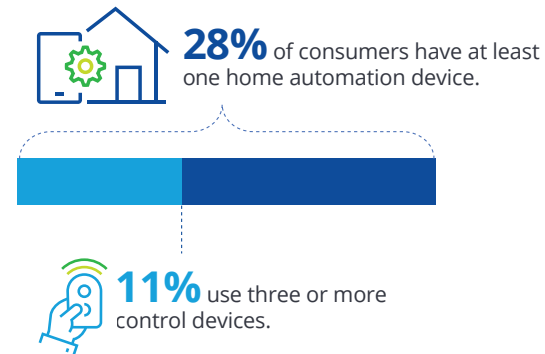
Privacy: Customers demand a better deal

Given the high utilization of data-intensive devices such as smartphones and the number of connected devices in the home, it’s easy to grasp the significance of consumer-based data flow. And due to major news events and controversies, consumers are more aware than ever about the realities of data economy—and it is being reflected in attitudes and behavior.

The CMT survey suggests that consumers are ready for better when it comes to devices and how they connect them. They *demand* better when it comes to their privacy and security. People have awakened to the ways that companies routinely collect and monetize their personal data—the “digital exhaust” people generate when they use apps, search engines, websites, and social networks.

FIGURE 11

Use of home automation devices in households is growing

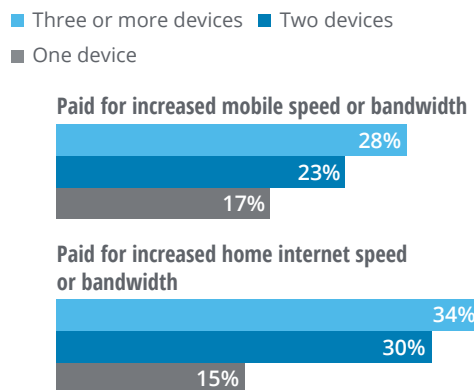


Source: Deloitte Connectivity and Mobile Trends Survey, 2019.

FIGURE 12

Home automation users spend on additional services and products to augment their devices

Which of the following, if any, have you done due to using home automation? (Percentage among home automation users)



Source: Deloitte Connectivity and Mobile Trends Survey, 2019.

Consumers are just as concerned about the privacy of their data (how it’s collected, used, and sold by companies they’ve authorized to access it through user agreements) as they are about its security (the risk of unauthorized parties accessing their data).

Consumers have brought online services and connected devices into every aspect of their lives and find value in them. But they are increasingly aware of the deal they are making—the exchange of their personal data for valuable, often free services—and want to renegotiate the terms of this deal.

- Seventy-two percent agree with the statement, “I’m more aware now of how my data is collected and used than a year ago.”
- Yet just over half (52 percent) agree that the value they get from these services overrides their privacy and security concerns.

In part, it’s because they fear that their personal data on smartphones is vulnerable. Fifty-eight percent of consumers are “very” or “extremely” concerned about the privacy of their smartphone data, and 59 percent feel the same about its security. They feel even stronger about the risks posed by smart speakers and home automation devices, with 73 percent “very” or “extremely” concerned about the privacy and security of smart



speakers, and 72 percent worried about the privacy of home automation devices.

More than ever, consumers feel that they should have more control over how their personal data is used, and who gets to monetize it. If data is the new oil, consumers are awakening to the fact that each of them is an oil well: They want to regulate what is pumped out, and they want royalty checks. Ninety-one percent believe they should be able to control, edit, and delete their personal data, and 84 percent say they should get paid by companies that monetize their data (figure 13).

FIGURE 13

Consumers demand a better deal for their personal data

Please indicate how much you agree or disagree with each of the following statements about 5G (Top five most agreed-upon statements among consumers, strongly agree + somewhat agree)

	% of consumers
I should be able to view and delete the data companies collect from the online services I use.	91%
I should be paid by companies that profit from my data.	84%
The government must do more to regulate the way companies collect and use consumer data.	84%
I’m more aware now of how my data is collected and used than a year ago.	72%
I have decided not to download an app because of security/privacy concerns.	71%

Source: Deloitte Connectivity and Mobile Trends Survey, 2019.

Perhaps the biggest threat to companies that rely on monetizing data comes from the role consumers think government should play. Consumers see platform and online services companies that collect their data as “most responsible” for protecting it (35 percent), followed by consumers themselves (26 percent) and the government (15 percent).

Yet because they feel that platforms and online services are making it harder for them to understand how their data is used (61 percent) and because they have less trust in these companies than a year ago (56 percent), they are turning to the government for protection. Eighty-four percent of consumers agree with the statement: “The government must do more to regulate the way companies collect and use consumer data.”

Conclusion

Clearly, there is a tremendous opportunity for technology and telecommunications companies. Consumers are *ready for better*: better connectivity and better smartphones. Users see value in their home automation and connectivity devices, but nonusers should see more clearly what those devices can do for them. Finally, consumers want to rewrite the contract with online platforms and services: They value these services but want more control and transparency for the revenue their data provides. Who is ready to give it to them?

Endnotes

1. Deloitte, “On hold: More US consumers are delaying their smartphone upgrades”, February 7, 2019.
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