ERICSSON

# SHIFTING MOBILE DATA PLANS

EXTRACT FROM THE
ERICSSON MOBILITY REPORT

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**The most popular mobile broadband data plans are those with limits ranging from 2 to 5 GigaBytes (GB) per month. As mobile data consumption continues to increase globally, there is a consistent shift towards ever larger plans. However, there are steady customer segments at both ends of the scale, suggesting a demand for a broad mix of plans. Smartphone user data, collected through on-device measurements, reveals the latest mobile plan, usage and traffic trends[1]**

### An evolving mix of data plans

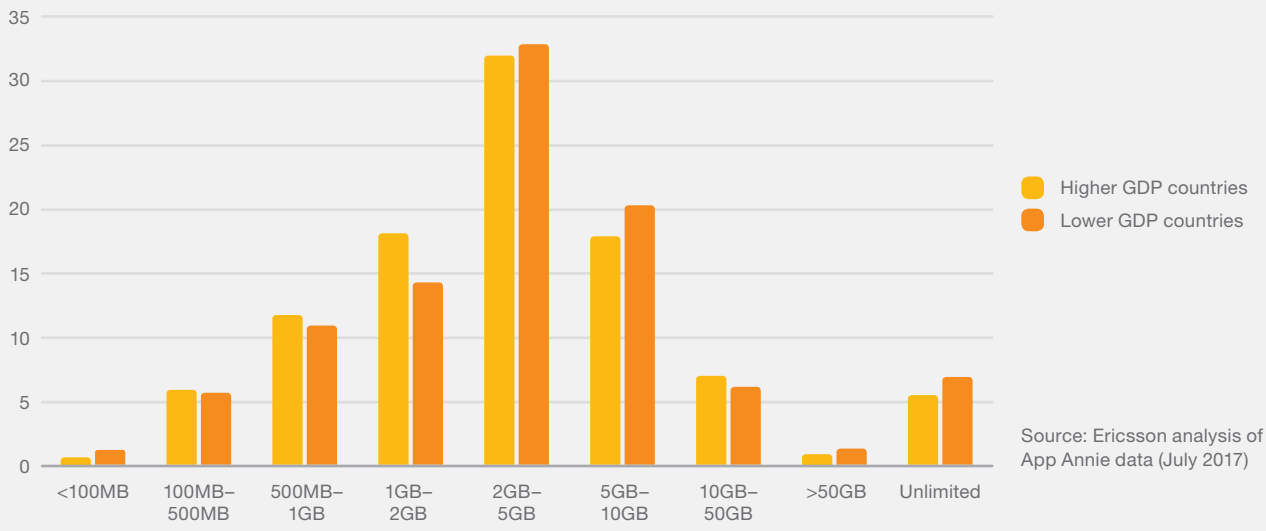
Analysis of the available data indicates a general and long-term pattern of larger data plans attracting an increasing proportion of the customer base. Over the last year, 6 to 7 percent of users have moved from a smaller plan to a plan with a data bucket larger than 5GB. Driving this shift is customers' growing demand for more data, in combination with competition among operators to offer the most attractive packages. The trend also follows the incessant growth in smartphone capabilities and the continuous increase in network performance.

On the other hand, the 2 ends of the scale – plans with an allowance lower than 100 MegaBytes (MB) per month and plans with an allowance greater than 50GB per month (including unlimited plans) – have stable proportions of the user base, representing 1 and 7 percent of users, respectively. These are likely customer segments with specific requirements: one price-sensitive group preferring small data buckets, and the other group paying a premium for an all-you-can-use price model. This highlights the need to provide subscriptions with a range of data plans to meet customer demands.

**Over a 12-month period, 6 to 7% of users moved to a data plan larger than 5GB**

As a further basis for comparison, the study split the world into two market groups based on income – countries with gross domestic product (GDP) per capita higher than the world average ("higher GDP countries"), and those countries with below average GDP per capita ("lower GDP countries"). Analysis shows that there is little difference in preference patterns between the two market groups.

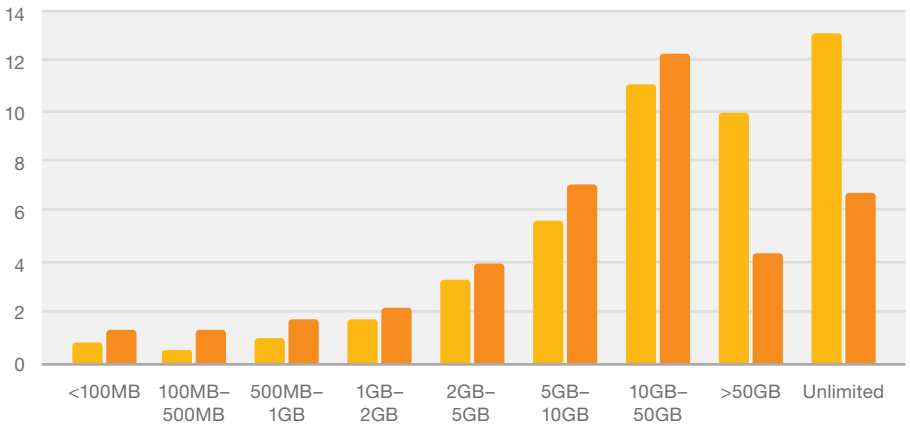
Distribution of mobile data plans in July 2017 – share of users (percent)




Source: Ericsson analysis of App Annie data (July 2017)

[1] Data for the study includes consumption, traffic and plan size data from App Annie, and GDP per capita data from the World Bank

Monthly mobile data consumption per plan in July 2017 (GB)




Source: Ericsson analysis of App Annie data (July 2017)

## Usage patterns within data plans

The choice of mobile plan usually reflects customers' estimated needs for mobile data over the month. However, this does not always match their actual usage, as can be seen in the graph above.

On average, users on the smallest plans (lower than 100MB) go well beyond their limits. More than 60 percent of users in this group exceed their data allowance by over 200 percent, consuming data almost in parity with users of medium-sized plans (up to 1GB). Users of small plans do not seem to feel bound by their small data bucket, but rather consume data on a "pay-as-you-go" basis.

At the other end of the scale, unlimited users cannot consume an infinite amount of data, and here the two economic groups differ in their behavior.

In higher GDP countries, unlimited users consume around 20 percent more data than the users of very large but limited plans (10 to 50GB). However, those from lower GDP countries demonstrate an interesting behavior – consuming 40 to 45 percent less data on average per month than customers on very large but limited plans.

Despite these differences, people in both groups buy unlimited plans for peace of mind. Consumers appear to pay a premium for the assurance of not running out of data at the end of the month. Maximizing usage is not their main priority.

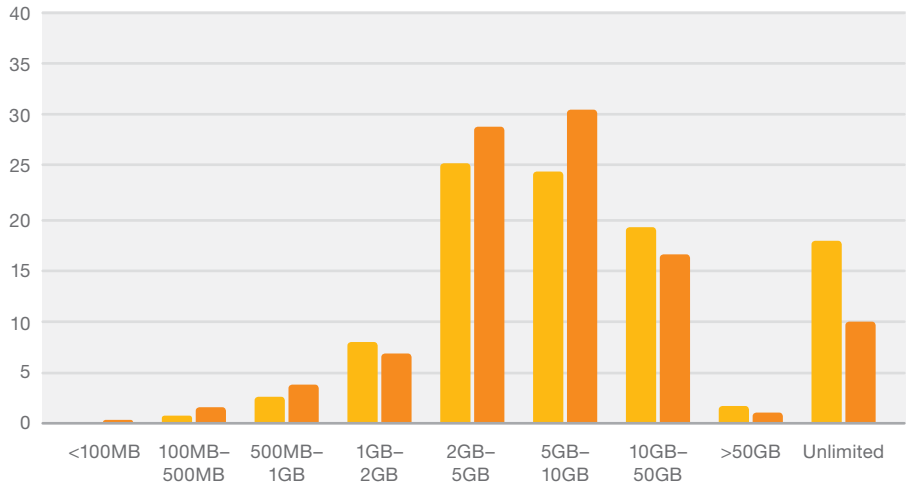
## Total traffic generated from different plans

Plans with low-to-moderate allowances (lower than 2GB per month) represent around 35 percent of users and 12 percent of traffic in the networks. From a capacity point of view, these customers could be viewed as easy to serve. The relatively low consumption does, however, not say anything about the requirements these customers have on quality differentiators, such as network performance.

Consumers with medium-sized to very large data plan buckets (from 2 to 50GB per month) represent 60 percent of the user base and a significant 75 percent of traffic consumed.

Of all the traffic generated by the users of limited plans, around 30 percent is consumed above data bucket limits. This allows operators to continuously upsell data through top-ups. In addition, this demand for more data plays a key role in the shift to larger plans.

Distribution of mobile data plans in July 2017 – share of traffic (percent)




Source: Ericsson analysis of App Annie data (July 2017)

### Unlimited plans come with restrictions

In higher GDP countries, users of very large plans (beyond 50GB) generate around 20 percent of total traffic. Considering that this segment represents only 6 percent of users, it is over-represented in the traffic domain. However, unlimited plans usually come with restrictions in the form of fair usage policies and prioritization mechanisms. This prevents usage patterns that could negatively impact other users' experience. With such mechanisms, combined with a pricing model that captures the premium value of unlimited, the very large packages can be both controlled and monetized.

### Mobile vs Wi-Fi traffic

The graph below shows that the larger the mobile plan consumers have, the less prone they are to switch to Wi-Fi. For small plans (below 100MB), only around 5 percent of traffic passes through mobile networks. For unlimited plans, this figure can be as high as 35 percent. Perceiving no boundaries, unlimited users both consume more data in total, and allow a higher share of their traffic through mobile networks.

When comparing the behavior of users on smaller data plans, those in lower GDP countries are more likely to stay on the mobile network than users in higher GDP countries. This is explained by the lower availability of fixed broadband and Wi-Fi in the former group.

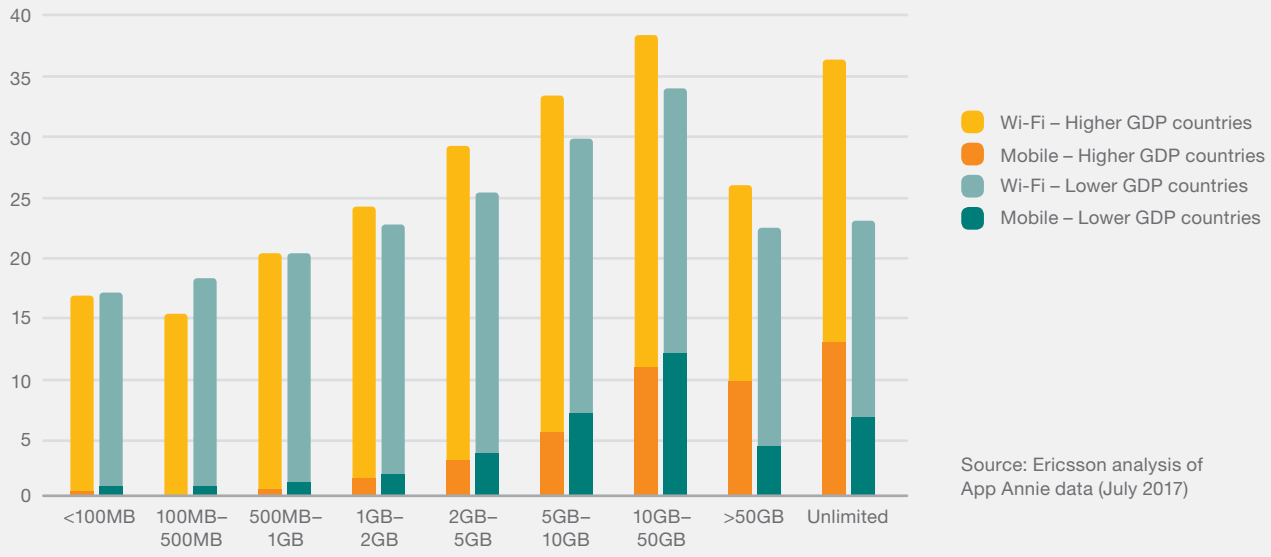
For the users in lower GDP countries, however, the relation between mobile and Wi-Fi traffic changes for large and unlimited plans, with a greater share of traffic offloaded to Wi-Fi.[2] It is likely that households that can afford unlimited plans can also afford a fixed broadband connection and Wi-Fi.

Even without restrictions on mobile usage, unlimited users consume a larger share of traffic via Wi-Fi, which is consistent with people spending a significant part of their active time indoors, where the connection often automatically switches. This indicates that the share of traffic ending up in the Wi-Fi domain will continue to be significant, even when consumers shift to larger data plans.

The total consumption of data (mobile and Wi-Fi) does not differ significantly across the customer base, with only a 2.5 times difference between users of the highest and the lowest plans. However, in terms of mobile data consumption, the 2 groups differ by as much as 24 times. This suggests that, while the basic data demand is universal, users have different ways to fulfill this demand.

**Total data consumption (mobile and Wi-Fi) differs by only 2.5 times between the highest and the lowest plans**

Monthly data consumption per plan in July 2017 – mobile and Wi-Fi (GB)




Source: Ericsson analysis of App Annie data (July 2017)

[2] Relative to both the users of smaller data plans in lower GDP countries and the unlimited data plan users in higher GDP countries

### Meeting a range of requirements

There is no one-size-fits-all plan. The 2 to 5GB per month segment represents a sizeable proportion of the total customer base. However, the presence of stable, niche customer segments means that a good mix of plans will be important to address the variety of data requirements on the market.

There is no major difference in preference patterns across the world. While the most popular plans have data limits between 1 and 10GB per month, there is a stable proportion of customers at each end of the scale and higher growth is in the larger plans. Not only does this further highlight the need for a range of plans, but it also demonstrates that the shift towards larger plans is global.

Plans with limited allowances represent 94 percent of the customer base and 84 percent of total traffic. Thirty percent of traffic from these users is consumed above the data bucket limits. As limited users pay by usage, this represents an additional revenue stream for operators.

Unlimited data plans address a small customer segment. While there has been some concern about the increase in data traffic generated by users of unlimited plans, this traffic can be controlled through fair usage policies. In addition, 60 to 65 percent of unlimited users' traffic goes through Wi-Fi networks.

**There is no one-size-fits-all plan – a good mix will be important to address the variety of user demands on the market**

### Methodology

Using data from the World Bank, the countries in this study were segmented into two categories: higher GDP countries and lower GDP countries. The first group includes 43 countries with a GDP per capita greater than the world average (USD 10,150), while the second group includes 33 countries with a GDP per capita lower than the world average.

The statistics on mobile consumption and bucket sizes were sourced from App Annie. App Annie Intelligence data for iPhone and Android phones was derived from mobile usage data collected from a large sample of real-world users, combined with additional proprietary data sets.

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Ericsson
SE-164 80 Stockholm, Sweden
Telephone +46 10 719 0000
www.ericsson.com

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