Mobile service packaging towards 5G

Business evolution opportunities

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Modernizing service packaging

Mobile broadband has undergone a dramatic evolution in just over a decade. Now an even more pivotal change is approaching, and it will be important to build upon 4G success to create 5G opportunities.

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Service opportunities

The dominant standard in mobile communications may be 4G, but the increasingly dominant topic in discussions among mobile communications service providers is 5G. All the signs are positive, but mobile communications service providers still have many questions. Are they doing things right today? Should they change their offerings, and what about the future? How should they monetize data traffic and services when 5G comes along? Are there new and better ways to monetize traffic and usage in the future?

This report aims to answer at least some of these questions. It examines what is being offered to consumers today, and which offerings might be increasing or decreasing in numbers. It also explores new offerings that we have noted may be on the rise, and offerings we believe may be well-suited to handle future requirements from consumers and service providers alike.

Methodology

Research was conducted on over 262 mobile communications service providers, looking at what type of offerings they have in their respective markets. The services providers' web pages were studied, examining each individual offer type. Depending on the information that was presented on the web pages, the researchers had to dig deeper into policy documents or FAQs to make qualitative assessments of the type of offers presented, for example in terms of fair use policies. Examples could be information for consumers about policy changes, or new or removed offerings. A link to each web page and offer type was also provided by the researchers for further analysis and quality checking. Combined with the web research, discussions with nearly 30 service providers from all regions of the world, held over the course of 12 months, were also included in the research. Prior Ericsson ConsumerLab studies on consumers and 5G were also included in the research work.

Service beyond the network

Mobile communications service providers already derive unique business benefits and 5G will bring more opportunities for growth.

Underlying growth
Unlike many other industries and sectors, mobile communications service providers use the subscription model.

In addition to that is underlying growth of the key sales object, namely data traffic. This is not showing any signs of slowing down. In fact, data traffic is growing at between 25 to 30 percent annually for existing subscribers. This means there is strong underlying growth even when a market becomes saturated with smartphone subscriptions.

5G will deliver higher speeds and quality to mobile consumers. The capacity and capabilities of 5G will enable them to enjoy an extensive array of services, many of which have not yet even been envisaged.

For many service providers, the introduction of 5G will represent a compelling event that may provide a platform for change — not only in services, but also in their offerings and packaging. Consumers do want the super-fast speeds, lower latency, improved reliability and other additional benefits 5G can provide. However, they also want a more personal service suited to their lifestyles and interests.

With data consumption varying from below 100 megabytes up to 50 or even hundreds of gigabytes per month for the most data-hungry few, service providers are faced with a challenge of creating packaging and offers to suit all segments of the market, whilst maintaining profitability and driving growth.

Mobile data is typically sold today with traditional buckets of gigabytes for general internet use. This is working quite well, but has limitations when services like video are increasing rapidly, whilst being dramatically different in terms of data consumption, especially when compared to web browsing or most forms of social media usage. We are, however, seeing service-based packaging on the rise, which may offer a highly effective tool for increasing revenue today, as well as monetizing new services in the future.

The capacity and capabilities of 5G are highly applicable for mapping some of these data-hungry services towards dedicated network slices, which maximizes customer and service provider value alike.

The application potential of 5G takes on greater significance when seen in the context of recent research[1] from Ericsson, showing customers are looking for even more from their service providers.

This study, across 14 markets and representing the voice of around 800 million mobile users, asked consumers

72%

72 percent of those with unlimited packages would consider changing if offered something else in return.

about their expectations of 5G. It revealed they were looking forward to higher speed, better coverage, and improved quality. They also wanted more personalized services, and to be able to buy devices and services based on value, without having to worry about data traffic.

Even among those consumers who had bought some form of unlimited data packages, 72 percent said they would consider abandoning them if they got something in return. What this something could be differs considerably between segments, however, and requires providers to be willing to try new offerings in response to these different desires. This could add value to their relationship with customers, and will also unlock opportunities for increased growth.

Key insights

Build on 4G success to create 5G opportunities
Keep on doing what works today — but enhance that offering.

Develop the bucket model
The data bucket model is working well for both customers and mobile communications service providers in the 4G era. It has created a clear connection between traffic and revenue growth. Service providers should seek to further advance their bucket offerings

by developing data slicing and tailored services to meet the needs of consumers ahead of the introduction of 5G. In doing so they will optimize revenue opportunities and create a solid position from which to utilize 5G, in order to adapt and personalize service offerings.

Beware the limitations of unlimited
Unlimited packages fail to meet the needs of both operators and customers. It's a "one size fits all" paradigm and customers remain unconvinced. Most of those with unlimited deals do not use them fully and would consider replacing them with other options that satisfy

their needs, as they are looking for peace of mind and a "feeling of freedom". The main drawback of unlimited deals for service providers is that they place a cap on long-term growth.

Combine new technology with personal service
Besides developing what works today, service providers should keep adding new offerings, configured to appeal to customers at a personal level. Variations could include service time, and device-based packages.

[1] Towards a 5G consumer future: Ericsson Consumer and Industry Insight Report (January 2018)

Frontrunner growth

Over the past five years there has been an increase in the number of fast growing mobile communications service providers.

62

In 2018 there were a total of 62 global frontrunner service providers.

In research Ericsson has conducted over several years, there has been a steady increase in the number of mobile communications service providers growing their revenue based on data traffic.

These service providers are known as frontrunners, and we define them as having at least 5 percent service revenue growth per year.[2] When the study started back in 2013, there were only five frontrunners in the entire community of service providers. But since then, the number has grown to as many as 62 in 2018, up from 30 the year before.

There may have been several reasons for this dramatic increase of frontrunners over the past year. However, it coincides with the fact that 4G has now become the dominant technology globally, covering most parts

of the world, and effectively removing any bottlenecks that could hamper traffic growth. In addition, service providers have established an effective use of the bucket pricing model, with packages generally sized to satisfy the needs of most of their subscribers, driving usage and revenue growth. At the same time, consumers have taken smartphones to heart whilst accepting and understanding the pricing models deployed by service providers. As a consequence, data traffic is now the dominant revenue source driving growth for most service providers around the world.
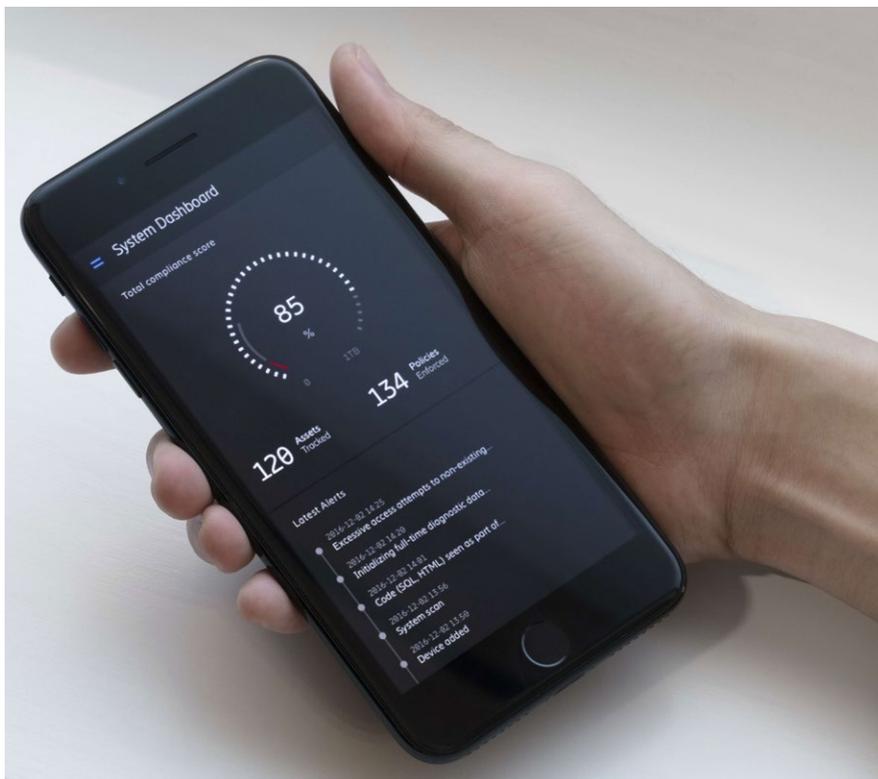
Figure 1: Annual growth in number of frontrunner service providers

Year	Value
2013	5
2014	12
2015	20
2016	25
2017	30
2018	62
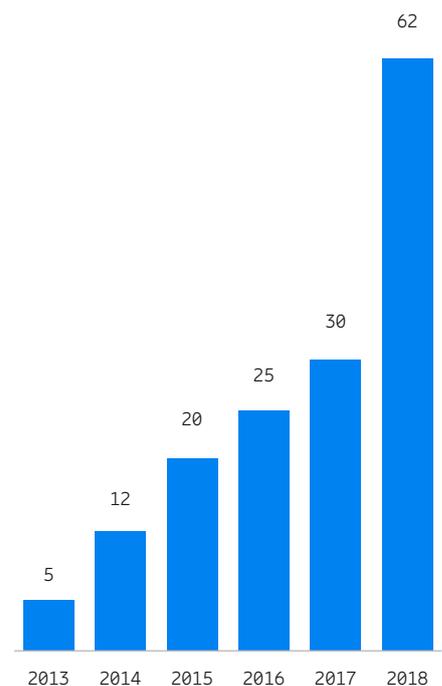
[2] Growth Codes: How successful operators across the world are leveraging the ever evolving demand for data services.
www.ericsson.com/en/networks/trending/insights-and-reports/growth-codes

Models for packaging

The current smartphone market has grown to be the main source of revenue, driven by data growth, for most of the world's mobile communications service providers. The challenge, however, is developing new opportunities within this market. The key to achieving this is service packaging models.

The significance of service packaging can be seen in our research. This shows the range of service offerings from providers around the world. The main types are bucket; unlimited; family; off-peak; service-based; time-based; device-based; bundles and fixed wireless access.

Our research into the 262 global mobile communications service providers shows that:

— 259 offer bucket pricing, as their base.

— 3 focus entirely on unlimited, with speed tiers.

— 81 offer unlimited packages in addition to bucket pricing, typically positioned as their top-tier offers.

— 86 offer some type of family or share plans where data buckets can be shared among several users and/or devices.

— 9 offer specific night-time bucket plans, using discount schemes to steer traffic towards a specific time of day where network load is normally lower.

— 73 are offering some form of service-based package which allows usage of a specific group of services, commonly focusing on social media but also video and instant messaging.

— About half of these are targeting high traffic/value services like video and music, often in addition to social media. These are either offered as limited to a specific amount of gigabytes or allowing completely unlimited usage of the service over the subscription period.

— The other half is focusing on social media applications only.

— 3 have started to structure options where they use time, rather than gigabytes or unlimited streaming as the differentiator.

— 32 have started to offer device-based packages, where a device like a bag or dog-tracker is sold with data traffic bundled in.

— 104 are providing fixed wireless access targeting home/household use.

Figure 2: Mobile data offerings from around the world
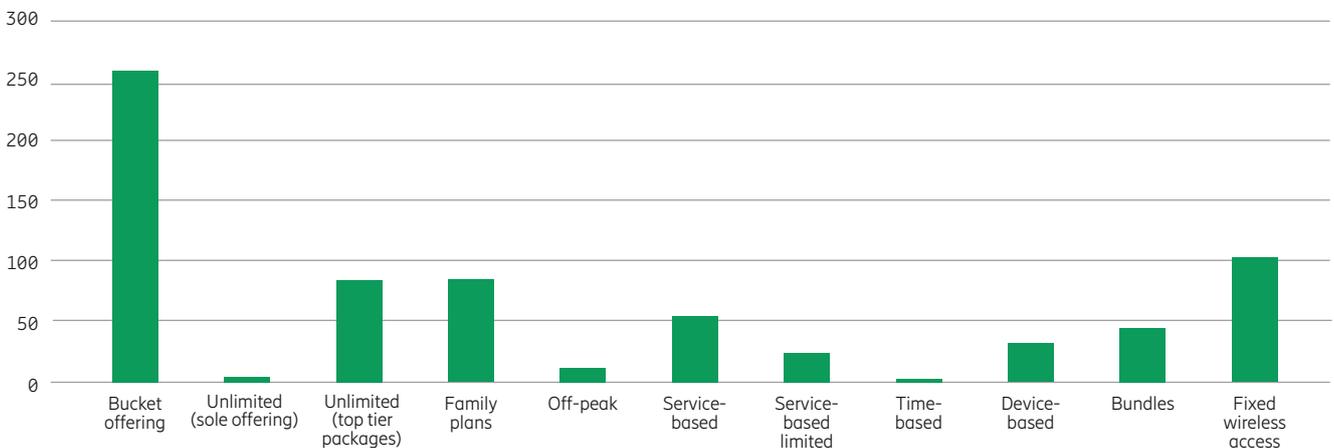
Enhancing the bucket model

The most used pricing model among mobile communications service providers is what is referred to as bucket pricing, which generally means selling gigabytes of data usage. Out of all the 262 surveyed, only 3 were found not to use this model.

There are strong arguments for retaining and developing the bucket model in the future, for general surfing on smartphones and similar devices. The main reason is that it creates a very clear connection between traffic growth and revenue growth. To monetize growth, these packages need to allow some way of increasing spend over time, which will typically happen in one of two ways:

1. The consumer buys additional data when their bucket runs out and thus spends more and more money over time, commonly called top-up.

2. The consumer upgrades to larger and more expensive packages over time when their usage starts exceeding their bucket.

We have found the sweet spot for packages to be somewhere in the range of 1–10 gigabytes. In some of the more mature markets, this range might extend upwards by a few gigabytes or so. It is in this range that the majority of subscriptions globally can be found today, and it is also where we see most movement between tiers, from smaller to larger buckets. On average, around 18 percent are reaching the limit of the bucket each month, and up to 30 percent a year are moving up to a larger tier.

Usage patterns[3] also indicate that the smallest packages available need to allow for no less than one gigabyte per month (or equivalent in daily or weekly packages). Without this consumers tend to be too limited in their usage and never really start to explore the possibilities and build up towards higher usage. Even though some service providers have been exploring the use of unlimited offers, we see no indications of the bucket model being abandoned any time soon.

Keeping it simple
Globally, 6 in 10 smartphone consumers find it difficult to understand what is included in mobile data plans, and 2 in every 5 consumers suffer from data plan distress.[4]

Interacting with telecoms service providers leaves consumers feeling exhausted. On average, it takes smartphone consumers 2.2 attempts and 4.1 days to complete an interaction, with customer satisfaction declining proportionately over time.

By addressing this desire for simplicity, service providers can engage better with consumers.

As price structures become increasingly complex, it is even more important for service providers to simplify interactions with consumers. An example of this would be an app with a basic interface that enables consumers to obtain data swiftly and with ease.

Figure 3: Options such as easy data ordering could help mobile communications service providers address customers' desire for simplicity

3 Towards a 5G consumer future: Ericsson Consumer and Industry Insight Report (January 2018)
4 Source: Ericsson ConsumerLab Unlimited 5G Future study, 2017
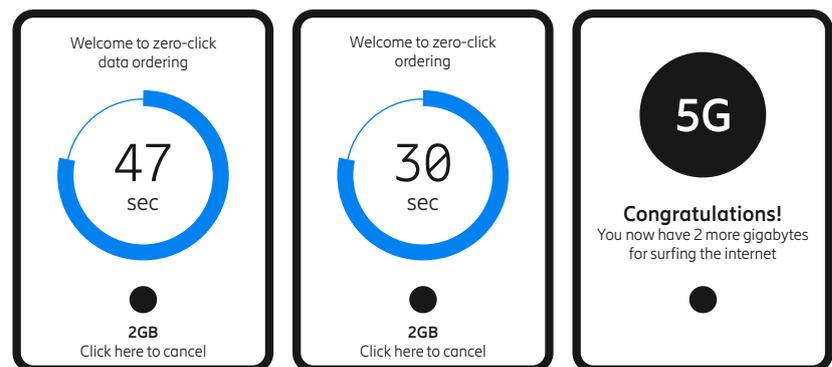
Limits of unlimited

Our research indicates that the majority of consumers who buy unlimited plans do not intend to use huge amounts of data.

Average data consumption is still fairly limited, and unlimited plans are generally bought for peace of mind. Consumers are generally paying a premium for a service they never fully use, because they want the reassurance that they will not run out of data before the end of the month.

The reason for the introduction of unlimited offers has been to satisfy a growing desire to use data-hungry streaming services, in particular video streaming services like YouTube, and the plethora of streaming subscription services. The challenge here is the ceiling it places on revenue growth, which must somehow be reflected in pricing and results in a service that is very expensive and available only for those who can afford it.

During the past two years, unlimited offerings have become a hot discussion topic among analysts, media and mobile service providers alike. But despite all the attention the model has received, we found only 3 mobile communications service providers out of the 262 studied who rely completely on this model. However, there were 81 who had

unlimited offerings as their top tier packages. In our research, we found indications that some service providers are trying to move away from unlimited packages. In Asia we found a service provider with a recent policy change removing unlimited data and introducing other services of interest such as music and sports as bundles with their bucket pricing. We also encountered service providers in the Middle East and Eastern Europe discussing ways to remove unlimited packages, which they felt presented risks of destroying the markets.

The study revealed a number of service providers' marketing packages as "unlimited", or "free" which in fact had fair use policies that cut in after typically 15 to 50 gigabytes, throttling to very low speeds, often 32 to 128 kbps or in some cases 500 kbps, and rendering them unusable for anything but very low demand services. Such offerings were not considered to be true unlimited offerings and were categorized as bucket offerings. We have also seen regulators banning such offerings in several markets.

The service providers focusing entirely on unlimited packages are using other parameters than data traffic to segment and create tiers. A key parameter used is speed, but information gathered from these service providers reveals difficulties motivating consumers to move up tiers purely based on higher speeds. This became especially apparent once they started moving above speeds in excess of 30 to 50 megabits per second. Their packaging then had to include other benefits and services, such as music, video, VoLTE or data buckets for roaming. Recently we have noted these service providers trying to segment "downwards" into lower tiers, and offering fairly slow data speeds like 1 megabit seconds, typically. Typically targeting those interested in very cheap plans.

Looking at actual data usage, across both bucket and unlimited packages globally, we can see the highest average usage is somewhere around 20 gigabytes per month, even where subscribers have unlimited packages, or very large buckets of 50 gigabytes or more.

Figure 4: Average data consumption is still limited — despite unlimited plans
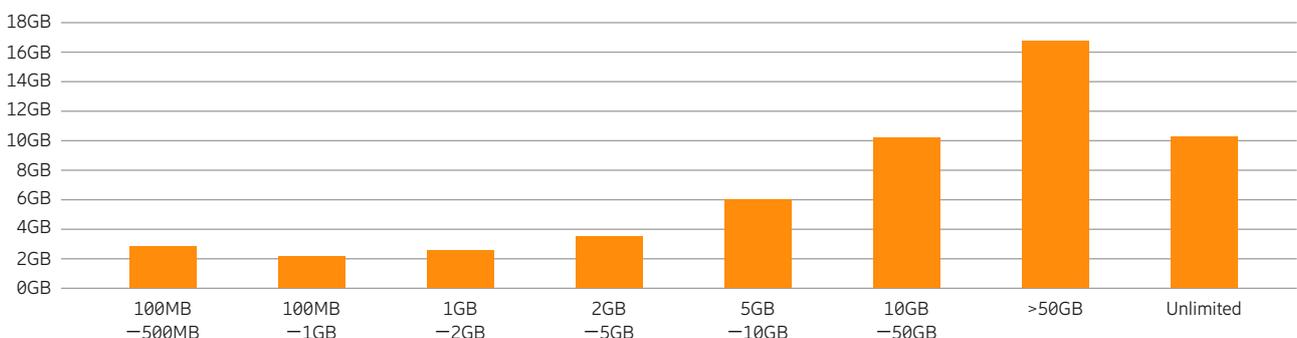
Source: Ericsson analysis of AppAnnie data (October 2018)

This graph shows consumers are not necessarily looking for large amounts of gigabytes. They are looking to access the internet and use their favorite services with peace of mind and a "feeling of freedom". Either way, these packages

essentially end up being a one-size-fits-all offering. From the service providers' standpoint, the inherent flaw in unlimited data offerings is that they effectively place a cap on the ability to grow revenues in the long term.

Variations of offerings

Bucket pricing and its variants can easily be viewed as the basic offering and the foundation for all data offerings from mobile communications service providers today. More than 30 percent of service providers also offer some form of unlimited packages.

Service-based offerings

Time-based offerings

Device-based offerings
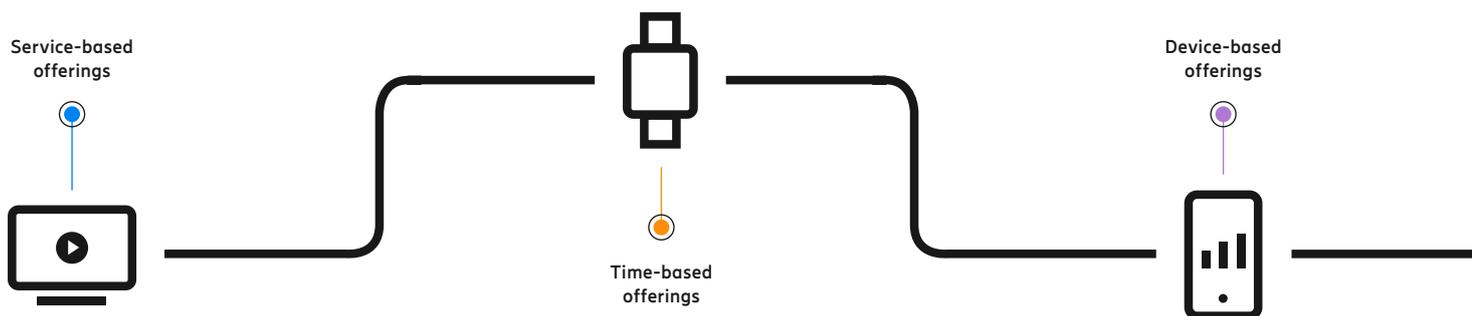
Our findings may indicate that mobile communications service providers are looking for and testing packaging to meet both their needs and those of consumers, who are unconvinced by limited offerings.

In a recent study[5], we asked consumers with an unlimited package if they would consider leaving it for something else. Surprisingly enough, as many as 72 percent said they would. The most sought-after offering was something that could offer peace of mind in relation to a specific service, like video, music or social media. This is exactly what some service providers are now offering.

Our research has revealed many service providers have started to offer packages that focus on specific services or devices. This started several years ago with social media and was then used to address low average revenue per user (ARPU) segments. The recent introduction of what can be considered "high-tier" offerings are instead targeting data-heavy services like video as well as music.

Service-based offerings
This type of offering targets specific services or groups of services, such as video or music streaming, and is being introduced by a growing number of service providers. Service-based offerings give the following advantages:

— Can provide a "feeling of unlimited" without cannibalizing on growth from the bucket model
— Improvements in segmentation and differentiation
— Opportunities to further improve by introducing various limitations
— Lends itself well to future-related services

Our survey revealed 25 service providers now offer some form of package that allows for unlimited streaming of video and/or music. Another 26 service providers had similar offers but with some form of limitation, typically in the form of gigabytes allowed.

What is important, however, is that the packages are generally positioned to act as add-ons to existing buckets. Even where they allow for unlimited usage, they don't cannibalize the bucket model, thus representing a separate growth path. For the most data-hungry application, video, all service providers allowing unlimited viewing had placed limitations on video quality. The same practice was seen in most cases where limitations in gigabytes were used.

Time-based offerings
These packages are essentially variations on the service-based model, but use time as a means of differentiation/segmentation.

Only three service providers were found to offer this type of package, which was only sold in one-hour packages for a set

service such as video passes, or as blocks of hours (such as 1h, 3h, 5h or 10h). These hours could be consumed freely during the subscription period in much the same way as gigabytes are consumed today.

The benefits are clear to both consumers and mobile communications service providers alike.

For service providers, it could define a new area of growth not necessarily based upon data traffic. Instead, it becomes a parameter more closely related to the value delivered to the end consumer — hours spent watching video or listening to their favorite music.

For the consumer, it makes it easy to relate to hours of streaming, while a more affordable price level may allow for more usage than the basic gigabytes in the standard package.

Device-based offerings
These focus on the device's capabilities and its value to the consumer. Data traffic is generally included in the subscription type, and we found it typically provided information to the consumer that it was included, and they need not worry. The key selling points brought up by the service providers were the value of the devices and their functions. In many cases the data traffic from the devices found would be insignificant anyway.

The most common examples found from the 30 service providers already offering such
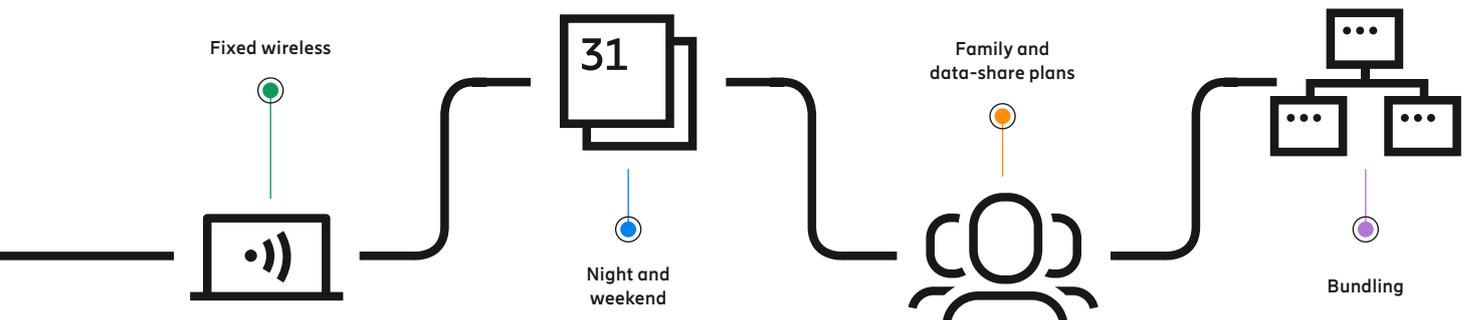
packages are smart devices with built-in GPS. Most were dog trackers, bag trackers and children's watches, which besides being communication devices, served as trackers.

A few service providers have launched various forms of car-related applications utilizing the on-board diagnostics port in modern cars. These packages are typically more advanced than the trackers and provide a basic service for a fee with various options that can be added. Regardless of types, these smart devices were set up with an upfront fee plus a monthly, quarterly or even yearly subscription.

Fixed wireless
As many as 104 service providers had offerings targeting households with what is commonly referred to as fixed wireless access (FWA). Nearly all offers were bundled with a 4G router to plug into a power outlet and placed somewhere in the home, providing some Ethernet connections and Wi-Fi throughout the household. An additional 36 service providers were offering a service similar to FWA, but utilizing a wireless router that acts as a mobile Wi-Fi hotspot, often called a MiFi device.

Given expectations of very large amounts of data traffic from these devices, service providers need to consider their inherent properties. MiFi devices are mobile and can end up anywhere in the network, much like a smartphone. Fixed

wireless routers are static and typically sold to a specific and known address.

The packaging around the MiFi devices is typically based on the bucket model, but generally started out with multiple consumers in mind and generally mean larger buckets than those for smartphones. FWA offers, on the other hand, were in most cases aimed at competing or complementing broadband from fixed service providers. This meant a monthly fee and no limitations to data usage. Price levels were also set to reflect the market situation in each respective segment.

Night and weekend
These varying discount schemes steer traffic and usage to less congested times of day, and are considered variations on the bucket scheme.

We found nine service providers offering packages with a lower price per gigabyte during off-peak hours such as night time and weekends.

All but one of these providers were located in low ARPU regions in Asia, Africa and Latin America. The only exception was one in a high-density, high ARPU market, targeting tethering and heavy downloads.

Family and data-share plans
Quite a large number of service providers in the survey (86) are promoting various types of share plans. They either target families or

simply promote the sharing of data among multiple users, or devices. These plans are variations on the bucket plan but have the added benefit of engaging multiple users such as families, across multiple devices, and work very well to reduce churn.

Considering the amount of providers deploying this type of packaging, and their benefits, we expect continued use of them in the future, although it is likely they will be developed to include or adopt properties from other types of service offerings.

Bundling
Bundling different services together is something that fixed and cable service providers have been practising for many years, through triple or quad play offerings that combine broadband, telephony, TV and mobile telephony.

In our study we found 42 service providers offering bundles of this type. In many cases they were utilizing their position as mobile and fixed service providers and simply combining the offerings into traditional double or triple play. Some providers were, however, offering packaging based on FWA only, including TV bundles, utilizing the capacity of 4G. A number of service providers were combining their broadband and mobile services with services from partners like Netflix, to compete with triple or quad play offers from traditional fixed service providers.

Towards a 5G future

Nearly all mobile communications service providers in this study are offering some form of bucket model today, and have been doing so for many years already. This means consumers as well as service providers are used to the model and it has been improved over time, making it a good foundation for future use with 5G.

Consumers are expecting more personalized packages as well as more services to choose from in the future. It is important, then, for mobile communications service providers to start experimenting and adding new offering models now, so the market is primed for the future. It will be easier for consumers to see the value of, for example, a time-based Virtual Reality Gaming Pass if it resembles something already known, like a Video Pass. There are, however, some elements that service providers should understand and address:

— Avoid restricting subscribers with packages that are too small, even at the lower end of the price range. Target the "sweet spot" between 1 to 10 or 15 gigabytes of monthly usage.

— Do not scare consumers into limiting their usage by imposing overage charges. Try using hard stops instead, rather than throttling.

— Make it simple for people to manage their subscriptions and to add or remove options and packages on the fly, and assist consumers in finding the right size package for their usage pattern.

— Avoid unlimited packages which cap revenue growth, and try introducing various forms of service-based offers instead.

— Experiment with, and introduce, device-based and service-based packages, and look for ways to generate long-term growth parameters that are easy to understand for the consumer, for example by using time as a parameter.

— Keep experimenting and don't be afraid to change and adapt. Learning by doing is the best way to prepare for the 5G future.
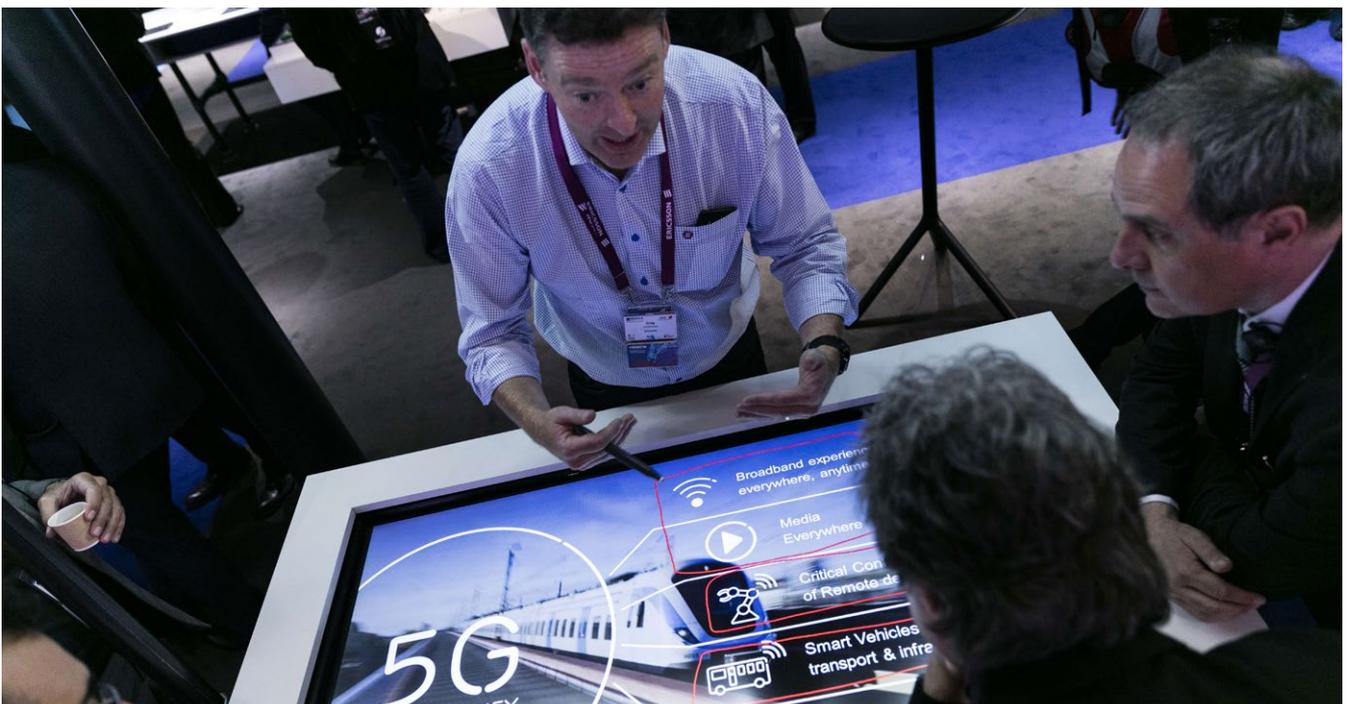
Conclusion

It is our belief that there is potential for long term growth in the telecoms sector, especially given underlying traffic growth from new subscribers and, perhaps more importantly, 25 to 30 percent annual increase in data usage from existing subscribers. Developing different service packaging models will be integral to maximizing this growth.

Market expansion in mobile communications has been driven by technological evolution. This will continue to be the case with the introduction of 5G, but we believe further opportunities can be created by imaginative service packaging in response to consumer needs, and the introduction of new services and revenue schemes.

The largest market opportunity in 5G lies in enhanced mobile broadband, which is essentially a continuation and evolution of what we can see providers already doing today from 3G and 4G. Adding to this will be a growing business from FWA which may have potential to far beyond what it provides today.

We expect mobile communications service providers to continue using and fine-tuning the ubiquitous bucket model to reap the benefits of continued traffic growth from smartphones and similar devices. However, it is refreshing to see willingness and ambition to experiment and innovate further, to try and find additional ways to generate revenue long-term. Already we can envisage perhaps a "VR Gaming Pass" or a "360 Reality Pass" to play a game or watch a match as if you were there.

In FWA we anticipate very strong growth in number of service providers applying the model and connecting

households across the globe. The business model here will be more like the fixed side, with speed being the most likely segmentation tool, although the bucket model is fairly common as an option today with FWA.

This is an exciting time for service providers. The increasing demand for data and services brings opportunities to grow both revenue and profits. Developing and refining service packaging in response to the needs of consumers will be the key to unlocking those opportunities.

Learn more
For more information about the approaches to service packaging detailed in this study, please contact your Ericsson representative.

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