Making Gigabit a Reality

By Benoît Felten, Chief Research Officer

June 2022

Executive Summary

Gigabit has been commercially available for well over a decade, yet take-up for gigabit offers still seems limited. While virtually impossible to source an accurate number since the information is rarely public, most service providers seem to have 15-20% of their customer base on gigabit at best. This report aims to understand why that number is so low and how it may be increased profitably.

The operational costs of delivering a gigabit compared to slower speeds over fiber are close to zero: a few cents per subscriber in extra capacity provisioning at the most. Shifting customers to gigabit offers at slightly higher prices therefore should not be such a complicated task, and could deliver extra ARPU that is mostly margin. Furthermore, as networks continue to be upgraded to next-generation 10Gbps capacity, any service provider who doesn’t focus on getting customers to a gigabit risks getting overtaken by another operator who will.

Yet while most operators offer gigabit to their customers, a combination of marketing and positioning issues keep said customers from upgrading to gigabit:

- too many speed tiers create confusion and blur the differentiation between gigabit and slower speeds;
- gigabit is often positioned as premium both in comparison to other offers and in pricing;
- too many options and add-ons mean customers no longer know what they’re buying;
- confusing websites slow down adoption as sales migrate more and more to online channels.

Service providers need to focus their marketing efforts on upselling their customers to gigabit speeds. Not only does this make sense from a financial point of view, as it is an easy upsell if priced

Exhibit 0: Price differential between entry level fiber offer and gigabit offer

Source: Operator’s websites, Diffraction Analysis
reasonably and will generate nearly pure margin, but it also makes sense in terms of quality of experience and therefore customer loyalty.

In order to do that they need to:

1. streamline their portfolios to a smaller number of speed tiers (3 seems optimal) and fewer, but meaningful options;
2. ensure they offer speeds above 1 gigabit, as customers tend to view the highest available solution as premium even when priced reasonably;
3. limit the price differential between gigabit and lower tiers to a reasonable gap (20% seems optimal);
4. rethink their online sales process to allow customers to perceive the great value of the above.

As the broader content ecosystem evolves and delivers richer experiences, broadband speeds that were once considered luxuries are increasingly becoming the norms. Service providers must adapt to these ecosystem shifts and offer affordable higher speeds rather than risk increasing customer dissatisfaction.

Table of Contents

Executive Summary ................................................................. 1
I. Introduction ............................................................................. 3
   Methodology ........................................................................... 4
II. Breaking bad habits ............................................................... 5
III. Marketing principles for gigabit ............................................. 6
   1. Product design and packaging ............................................... 6
   Additional Services ................................................................... 8
   Wholesale philosophy .............................................................. 11
   Service providers favour choice over upsell............................... 12
      2. Pricing of gigabit offers .................................................... 12
      Pricing of add-ons and options ............................................. 14
      Complex offers with limited innovation .................................. 15
         3. Promotion and advertising ............................................. 15
      Advertising ........................................................................... 16
      Marketplaces ......................................................................... 17
      Promotions ........................................................................... 18
      Broadly focused marketing does not drive gigabit upsell ............ 20
IV. Conclusions .......................................................................... 21
I. Introduction

The first gigabit broadband offers appeared in the European market in the early 00s, but it was only a decade later that gigabit became a more common occurrence. A number of operators around the world, but particularly in Asia-Pacific and in Europe launched gigabit offers in the 2010s. Despite its ultimate dial back, Google Fiber also made gigabit a household name in North America.

It’s now 2022 and one could imagine that by now gigabit would have become, if not the norm, then at least widespread, both in availability and adoption. Yet while most operators in the western world now have a gigabit offer, it’s often positioned as a premium product, expensive and exclusive. While numbers are rarely public and very hard to find, anecdotal evidence points towards limited adoption of gigabit offers. By our estimate, gigabit offers are subscribed to by around 15% of a given operator’s customer base. This may vary with market maturity, marketing and the positioning of gigabit in the offering (at least two operators in our sample offer only gigabit speeds and above).

Ironically, the world of telcos is largely moving beyond the bandwidth limitations of early GPON deployments. With the deployment of XGS-PON underway for many fiber operators (and on the agenda for most) the limitation of a shared 2.5Gbps connection on the down link feeder fiber will be pushed back to around 8Gbps of effective bandwidth (symmetrical or not depending on the implementation choices). Viewing 1Gbps as a ceiling for residential offers is no longer relevant.

Throughput in fixed networks is determined by a combination of burst speed and peak load. Burst speed is defined by the needs of the consumer for short periods of time when using his broadband for a particular bandwidth demanding activity. Peak load is defined by the combination of all these bursts at the same time. While some of the peaks are easily identified by service providers (evening TV streaming, for example), others are more erratic or unpredictable.

This has two important consequences when thinking about network design and marketing offers built on the network:

- The most important element of consumer quality of experience is not determined by steady uses like 4K TV streaming, but rather by specific usages that require a lot of bandwidth. Online gaming is a strong contender for most sensitive application, because a lag in performance will be immediately perceived by the user;

- The ecosystem of content (from web pages to video quality) is slowly but surely evolving to be more bandwidth demanding. This means that speeds that would have delivered a perfectly acceptable mundane customer experience a few years ago now deliver a sub-par experience. In other words, a 50Mbps bandwidth connection might start to be felt slow even by casual users.

Another unexpected shift has happened in the last couple of years: the COVID-19 pandemic and its associated lockdowns has led to profound changes in how work, school, health and social interactions are organized. Where these activities were all largely seen as not happening in the home, they became, by necessity, home based. And as companies did not collapse under the strain of co-working, as children still learned, as medical consultations still happened, as social relationships were maintained, societies realized that some of these activities could be done from home and that there were benefits to be derived from such an organization. This in turn leads to a lasting reliance on better and faster broadband.
Sadly, there are no reliable numbers to base a gigabit adoption ratio on. Few operators publicly report such numbers, and when they do they do not do it consistently which makes it hard to consolidate such a number across markets. Based on the primary and secondary research for this paper, we estimate that an average gigabit take-up rate for our sample of operators is around 15% of the customer base. That’s shockingly low for a product that has been on the market for over a decade.

So why is it taking so long for gigabit to spread more widely? As online applications become ever hungrier for bandwidth, as concurrent usage in a given household becomes more common, as pandemic usage shifts have established homeworking and home education as frequent use cases, why isn’t gigabit more popular?

These are some of the questions that this report will examine. In addition, it will outline how to make the most of the gigabit opportunity, how to position gigabit, price it, package it, promote it so that not only adoption but revenues increase with the increase of gigabit offers.

**Methodology**

This report is based on data sourcing from around 25 operators throughout the world. It is a combination of secondary and primary research as well as a layer of analysis.
II. Breaking bad habits

In the same way that in the early days of fiber the power of take-up over margin was largely misunderstood, leading some players to price their fiber offers too high and therefore keep their adoption structurally low (the fastest way to pay back for a fiber infrastructure deployment is high take-up, even at comparatively low margins), the issues surrounding gigabit adoption reveal a similar tension, between cost to deliver and segmentation.

The marginal cost to deliver gigabit to a customer already on fiber but with a lower speed tier is close to zero. A decade ago, issues of ONT compatibility did mean that there were some CAPEX implications to upgrading a customer to gigabit speeds. If the existing ONT wasn’t gigabit ready, an upgrade was necessary which in turn could mean a truck roll and all the associated cost. By no means a deal breaker when it came to profitability, but it did mean that these costs had to be offset from a higher profit from the gigabit subscription.

These days though, virtually all ONTs deployed in the field are gigabit ready out of the box. The only marginal cost of gigabit over a slower speed tier is the additional bandwidth consumption driven by gigabit customers. And since bandwidth consumption cost for most operators is around 1EUR per subscriber per month, even a significant increase in those costs is unlikely to cost more than a few cents extra. Which would be more than offset by even a 5 EUR price differential on the gigabit offer.

Unfortunately, marketing thinking often leads to excessive segmentation. The reasoning is that by tailoring each offer to exactly what customers need, you extract the maximum value from the market and therefore maximize your profit. Nothing wrong with that in principle, but there are two issues.

- One is general, namely that there can be such a thing as too much segmentation. Break down your offer into too many segments and options, and customers no longer know what to purchase. This paralysis often leads to them veering towards the lower end of the spectrum of offers, thinking that they can always upgrade later.
- The other is that telcos have been notoriously bad at determining what customers need when it comes to bandwidth. For years, many of the same who are now offering gigabit offers or higher argued that consumers didn’t need speeds higher than 40 or 50Mbps (which were, not so coincidentally, the maximum speeds that VDSL could reliably deliver). When you don’t know what your customer needs, your best bet is to focus on what he wants. But that’s a very different conversation, one where too many segments hinder rather than help since they blur the differences between different tiers of offering.

So while gigabit, being at virtually no extra cost to slower speeds, could be offered at a small premium and be very successful commercially as well as profitable, it’s rarely packaged in this way. It is often the highest speed tier in a long list of offers, at a very premium price. And therefore rarely sells.

In addition to the segmentation woes, telcos often suffer from a couple of other “frame of mind” issues. The first is that they see gigabit as a luxury product if only because for the longest time they didn’t offer it and if they now do it’s the highest speed tier they have on offer. The second is that even if they have done the math and know that the marginal costs are extremely low, they worry that if most of their customer base is on gigabit, they will have nowhere to go from there.
It’s these frames of mind that need to shift in order for gigabit to be more widely adopted. And this wider adoption will not lead to a degradation of the economics of FTTH, quite the contrary: it will lead to better profitability, better customer satisfaction and better customer loyalty. Let’s examine how.

III. Marketing principles for gigabit

As will become apparent soon, when examining broadband product portfolios, it’s clear that gigabit is not at the heart of the offer at all. This is true both in terms of pricing and in terms of portfolio construction. Yet gigabit has strong appeal in most developed markets. It’s a marketing driver. It is our belief that it is time for service providers to put broadband at the heart of their offerings, but what does this mean exactly?

Gigabit is currently marketed by most service providers as a premium product, specifically targeted at a small market segment of “power users” (hardcore gamers, homeworkers, etc.) Its pricing is comparatively high, sometimes very high compared to lower speed offers. In many instances, it is the fastest speed on offer. It’s often bundled with a number of other services perceived as premium.

All these reasons act as disincentives for regular users to upgrade to gigabit speeds. In fact, the way gigabit is marketed often dilutes its appeal, and service providers therefore lose a powerful lever for increasing ARPU, customer satisfaction and customer loyalty. This may not be perceived as such by service providers as long as all competitors in a given market follow the same pattern. With XGS-PON gaining traction however, there is a significant risk of being overtaken by a competitor who will position its gigabit service much more aggressively: after all, it’s a lever for acquisition as well.

In the following sections we will examine how gigabit is marketed today in more depth, and draw some conclusions on how players who wish to take advantage of the appeal of gigabit can do so.

1. Product design and packaging

Broadband is a foundational service. Other services can be packaged with it or offered as options, services that may in fact be perceived as more important than broadband itself by potential customers. Without broadband however, none of these services can be sold (with the exception of mobile service). The first thing to examine if we want to understand how gigabit services are currently marketed therefore is to examine the broadband component of any packages first.

The components of a broadband service for residential customers are fairly simple and come down to two measurable metrics: download speed and upload speed. Other technical metrics like latency and jitter exist and are measurable, but are not really perceived by customers (other than as good or bad experience.) It’s important to note that these characteristics of the broadband product do not depend solely on the access component of the network, but that speeds can at least be capped by the FTTH implementation, an important element in structuring the product portfolio. It should also be remembered that a service provider relying on a wholesale network to deliver its broadband services may be dependent on the wholesaler’s product portfolio. As we will examine wholesale separately further down, all the retail operators in our sample own their networks and are therefore in control of their own product design choices.

Download speeds are still the dominant feature in marketing and advertising, and still the one best understood by customers when making a purchasing decision. However, especially after the waves of lockdowns since the COVID-19 pandemic in 2020, upload speeds are increasingly perceived as important by customers who understand that many applications like video-communication or remote work actually involve significant data
upload as well as download. When it comes to download speeds, Exhibit 2 shows the breadth of speeds being offered by 18 retail service providers around the world.

**Exhibit 2: Breadth of download speeds in FTTH portfolio**

As can be seen here, most operators from our sample offer gigabit speeds. A few even offer speeds higher than gigabit, either 2Gbps or 8/10Gbps. Only two operators in our sample do not offer gigabit speeds. In some developing markets, broadband maturity may not be high enough for gigabit offers to make much sense, but in western markets this is both rare and surprising.

When it comes to upload speeds, the majority of service providers in our sample now seem to offer symmetrical fiber as a default. This is a shift from just a few years ago when upload was seen as many service providers as a feature not valued by customers. A few operators like Orange or Oi still offer asymmetrical offers. In the case of Orange, a paying option is available to boost upload speeds on its highest tier.

Of course, the breadth of speeds on offer does not tell the whole story. An important factor in how a portfolio is structured is tied to the number of tiers on offer. As shown in exhibit 3, the number of offers from these operators is on average a little above 3.

Source: Operator’s websites, Diffraction Analysis
Three strategies seem to emerge when it comes to structuring the portfolio:

- The first is to service customers with either a single offer (this approach was pioneered by Free in France, always offering the highest speed available to customers) or two offers, one “low” and one “high”.

- The second is to offer three to four tiers, with usually one very low speed tier and one speed tier at a gigabit or higher.

- The third is to offer a large number of tiers with usually small speed gaps between tiers.

In general, incumbents tend to have portfolios with more tiers than altnets.

Already we see two overall approaches to portfolio construction. In the first approach, the portfolio is narrow, with significant speed gaps between each tier. The gigabit offer is presented less as a premium, but rather as the “more serious” offer. In the second approach, there are many tiers, with small speed gaps between each tier. The gigabit offer is at the top or near the top of the tiers and presented as a power user service.

**Additional Services**

Going beyond broadband itself, the packages on offer by service providers often include additional services. These fall roughly into four categories:

- **Broadband enhancement**: services or options that make the broadband experience better.

- **Digital life**: various digital or online services not directly related to broadband.

- **Entertainment services**: various forms of streamed media.

- **Home services**: services that rely on broadband to offer real-life enhancements in the home.

Exhibit 4 shows the breadth of services commonly found in fiber broadband offers.
In the category of **broadband enhancement**, we find mostly two services or options:

- **Enhanced wifi**: over half the service providers in our sample offer various flavours of enhanced wifi, from meshed self-install router repeaters to a custom home installation by a specialist to ensure the best in-home connectivity. Wifi 6 is increasingly the norm for the main router, and additional units are usually optional. Solutions are often offered through branded routers, such as with Verizon (US), but sometimes in partnership: Altibox (NO) works with Google Nest for example.

- **Low latency options**: a few service providers offer options for low latency service, usually aimed at gamers. These options can feature optimized routes to specific online game servers as well as dedicated LAN ports over the home network to streamline gaming traffic. PCCW’s Netvigator (HK) offer includes both of these for gamers. Note that low latency for gaming is often used as a marketing argument for fiber broadband even when no specific gaming option exists.

In the category of **digital life** services there are quite a variety of options:
• **Digital protection**: this is the most commonly featured digital life option. The broadband providers – in partnership with security software providers – offer protection for home devices and from online threats. Telenor Sweden’s SURFA offer for example not only offers anti-virus and malware protection but includes a digital identity theft service.

• **Cloud storage**: while online data storage might seem like an easy and cheap option to offer, it’s not widespread in broadband offers. It seems service providers would rather let users go with established storage providers. Sonic (US) and PCCW (HK) are the only providers offering cloud storage as part of their broadband offers. None of the other providers offer storage in partnership with established players in that market either.

• **VPN**: few players offer VPN services to their broadband customers. PCCW in Hong-Kong does, probably feeding on fears of mainland Chinese restrictions, and Sonic (US), as part of its overall messaging around respecting the digital identity of its customers.

• **NAS**: only one service provider, Free (FR) offers a NAS as part of the broadband service, but it’s an interesting option for differentiation through router/box features rather than services. Free’s Freebox acts as a NAS on which various hard drives can be added. It then communicates with other Free devices (especially the TV Box) but also with other devices in the home.

• **Tech Support**: this interesting and quite innovative option is only offered by two service providers, KPN (NL) and Oi (BR). Essentially, it’s a call center dedicated to tech support beyond the broadband offer. Customers can call about any digital issues they have or devices they have issues with. The economics of such a service are unknown, but it seems to be emerging as part of fiber broadband offers.

In the category of **entertainment services**, the focus is mostly on audio and video content:

• **IPTV and video streaming**: the days when IPTV was an unavoidable service that had to be offered for broadband to sell are behind us. Video-streaming has largely taken over. While most service providers in our sample still offer IPTV, the scope of offers seems greatly reduced from the heydays, and more than half of the providers also offer embedded video streaming from US or European providers (Netflix, Disney+, Viaplay...)

• **Music streaming**: only two providers in our sample (KPN and NTT) offer music streaming services. KPNs is in partnership with Spotify while NTT embeds its Docomo streaming service.

• **Gaming package**: while cloud gaming solutions are gaining ground in the video-gaming market, only three providers embed such packages in their broadband offers. All three rely on the same service, the Xbox Game Pass. This gives customers access to a sizeable game library on multiple devices including, but not limited to, Xbox consoles.

In the category of **home services** are both legacy and emerging services:

• **Landline**: many – though interestingly not all – of the service providers in our sample, include landline (or rather digital equivalent options) in their offers. While this used to be a valued part of offers, the current marketing reflects the fact that this has become very secondary even for operators who do offer it.

• **Home Automation**: a small number of service providers in our sample offer home automation offers, ie. integrated service packages for various aspects of remote or automated in home control (heating...
control, light management, etc.) In Orange’s connected home offer (FR) for example, a software platform integrated in the home box acts as a single management app for dozens of in-home devices and applications. A number of other service providers offer various home automation devices through their online stores, but not as part of an integrated service.

- **Home Security**: two service providers offer home security offers in partnership with home security specialists. For example NOS (PT) has an offer in place with Securitas to integrate the home security service into the broadband service with management portals and apps specific to NOS customers. Again, other providers offer devices on their webstores (like intelligent doorbells, etc.) but not with managed security.

This panorama would not be complete without addressing the question of **mobile integration**. Most service providers in our sample offer combined fiber and mobile offers. However, for the most part, these are purely financial in nature: discounts offered to customers who purchase both broadband and mobile service from the provider. A few offer integrated IPTV services (where mobiles can be used to view the IPTV content), but integration does not go beyond that. In particular, the mobile coverage offers that emerged a decade ago with femtocells seem to have died out entirely.

It should be noted that with the possible exception of mobile integration, the appetite for additional services is very different depending on the age of the customer. Younger generations tend to be satisfied with bare bones offers and go shop for additional services online. Older customers find more comprehensive offers more suitable to their approach to digital.

### Wholesale philosophy

The implications of a wholesaler’s product portfolio when it comes to bandwidth are a little different than on the retail side. The main reason if of course that the only thing on offer is various flavours of the basic product, ie. broadband. Any additional services are left to the retail service provider on top to decide and implement.

While there are a few examples of wholesalers offering only passive fiber in the market, the dominant model is currently an active wholesale platform (bitstream). In this model, the wholesaler can have a determining role in shaping the retail market depending on how he chooses to build his portfolio. If the portfolio is narrow, with only a few speed tiers on offer, the retail market is forced to choose between these options only, and while a retailer can always purchase a high-speed tier to sell lower speeds on, few choose to do so. On the opposite end of the spectrum, a wholesaler can choose to offer a slew of choices to retailers to fit everyone’s needs.

In our sample, we see mostly the former. Wholesalers we have surveyed (few of these portfolios are public) generally offer 2-5 speed tiers, with all but one offering gigabit as the highest tier. One provider whose offer is public (Openreach in the UK) on the other hand offers no less than 17 options for retailers. Another wholesaler we have surveyed has no preset offers, and will just parameter whatever the retail customer requires in terms of speed combinations (download and upload.)

Chorus (NZ) is the only wholesaler we have surveyed that has three offers above 1Gbps, namely 2, 4 and 8 Gbps symmetrical offers. Chorus is also the platform that has the highest gigabit adoption in those we have surveyed, although the information isn’t public and cannot be shared here.

The general impression from these offers is that the more market power a wholesaler has, and the higher the temptation may be to dictate what the retail market needs as opposed to follow the wishes of the retailers.
When said wholesaler is purely wholesale and does not operate in the retail market, this may not be such an issue as the economics of the wholesale platform is ultimately dependent on end customer adoption and the wholesale portfolio therefore cannot be too far removed from the retail needs. When the wholesaler is also a retailer, the portfolio construction may be more driven by the needs of the retail arm than by the needs of the market or the retail arm’s retail competitors.

**Service providers favour choice over upsell**

An overlook of existing fiber broadband offers makes it very clear that few providers have gone for simplicity and legibility in their offer portfolios. Most operators are offering a plethora of speeds, variations, options and services. Even when the number of speed tiers are low, the variety of service options on top is often daunting, and unclear when it comes to their visibility on the website. We will come back to the way the offers are presented in section 3, but suffice it to say that most of the portfolios are messy, and do not seem to have a clear purpose when it comes to driving customers to higher speed tiers and (therefore) better revenues.

The multiplicity of speed tiers makes differentiation very difficult, and probably means that customers who do upgrade will not sense the difference. Wholesalers seem to fare a little bit better on average, focusing on a smaller number of tiers with clear differentiation. But the options that retailers add on top could unfortunately muddy the waters when it comes to end-user perception.

### 2. Pricing of gigabit offers

Besides portfolio construction, price and pricing schemes are the most important component of adoption and the price gaps between speed tiers can make or break upsell when it comes to encouraging customers towards higher speed tiers.

First of all, while it might seem obvious, we need to stress that there is little to no price innovation when it comes to consumer broadband. All operators we have surveyed offer monthly subscriptions per line with service options charged on a monthly basis as well. Despite convergence and marketing, there has been little to no change in this space in the last two decades. Data caps seem to mostly have disappeared, and if they exist they are more in the realm of fair use policies at very high levels than actual limitations in consumption.

A few operators in our sample still charge for installation, but the majority try to eliminate barriers to entry entirely and make the installation as painless as possible for the end-user. As a consequence, the key comparison basis between operators on pricing is the monthly rate of the various speed plans.

It is generally not very relevant to compare absolute prices between markets: levels might be dictated by market conditions, cost of living, density and various other considerations that affect either costs or prices directly. It is however relevant to compare the gaps between the entry level speed tiers and the gigabit offers as a way to assess the impact of that price gap on consumer appetite for gigabit offers.

While one might expect the market position to play a significant role in the price gap measured, it is mostly not the case. The average price differential between entry level and gigabit is 1.45 across our sample, and while there is a slight difference between altnets and incumbents, it’s not significant: altnets average at 1.4 (ie. gigabit prices are on average 40% higher than entry level prices) and incumbents average at 1.5. Not unexpected, but also not massive.

Unsurprisingly, the lowest price gaps (nil) are to be found with operators that only offer gigabit or “best speed available starting at 1 gigabit”. There are two in our sample, Free and Sonic. The highest price gaps are to be
found with Verizon (US), Altibox (NO), Telia (SE) and BT (UK) all close to 2, ie. a gigabit offer double the price of the entry level offer.

Beyond individual examples though the most important driver for the price gap seems to be the number of speed offers in the portfolio. This is what is shown in Exhibit 5.

Exhibit 5: Price differential between entry level fiber offer and gigabit offer

![Price differential between entry level fiber offer and gigabit offer](source)

While it might seem like an intuitive conclusion, the data based on public prices shows conclusively that there’s a direct correlation between the number of plans and the price gap between entry level and gigabit. While the broadband speed tiers may not be highly differentiated on actual speeds, they have to be differentiated on price, so mechanically the higher number of tiers in the portfolio, the higher the gap.

There is however another important factor in determining the price gap between entry level fiber offers and gigabit offers, and that is the existence (or not) of offers beyond a gigabit in the portfolio. If we average the price gap for the 6 service providers in our sample that offer speeds beyond a gigabit, we find that number of be 1.1, ie. a 10% gap on average between entry level and gigabit. Even if we exclude Free and Sonic who have only one offer, the gap is 1.2 on average, ie. 20%. But for all the operators who don’t offer speeds above a gigabit, the average price gap is 1.7, ie. 70% higher for gigabit compared to the entry level speed.

Most wholesalers’ pricing reflects that seen on the retail market. While it’s impossible to set a hard and fast rule, retail prices for active (bitstream) services tend to be around 1/3 to 1/2 of retail prices. Three of the wholesalers we surveyed however, both altnets, have a fixed price across all speed tiers. In many ways, this is akin to replicating a passive fiber pricing model. It makes sense from an engineering standpoint: as mentioned earlier, the cost structure of fiber broadband offers is not tied strongly to the speeds delivered once the infrastructure is in place. This is even more true in the access: delivering a gigabit offer or a 100Mbps offer is virtually the same cost structure in the last mile. Traditionally structured wholesale offers use price signaling to preserve network capacity, but a well provisioned network would have more than ample headroom to serve customers in the access. Maybe these operators are sending a different signal: that their wholesale network can take the strain no matter how many customers subscribe to gigabit speed tiers.
Pricing of add-ons and options

Overall ARPU is not only generated by the naked broadband solution, but also by the various options, add-ons and extra services on offer. When it comes to charging for these, there are two philosophies that often coexist in the portfolio of a given operator:

- Charge for additional services as separate “low price” monthly add-ons;
- Include additional services for “free” in premium packages.

In the early days of fiber broadband, when the name of the game was acquisition, many offers had a slew of free options, but this no longer seems to be the case. Most options are either charged directly or included only for premium tiers. Exhibit 6 details for each of the services or add-ons described in section III.1 how they are generally priced.

Exhibit 6: Pricing models for add-on services

Very few services are included in the broadband packages. About a quarter of our sample is still offering national telephony calls for free, but while this was a common feature a decade ago, most operators still offering voice services have made it into a paid option, no longer offered by default. Other services included for free are usually differentiators that can be used in advertising, broadband enhancements or digital life options. These are few and far between.
A number of services are included “for free” in premium packages. The two leading offers in this field are enhanced wifi and IPTV. Enhanced wifi is often a two-step package with Wifi 6 by default in the router or homebox, and additional mesh repeaters charged or included in premium offers. IPTV is often included in premium packages still, but the breadth of content on offer is significantly smaller than it used to be. The cost of running an IPTV platform is increasingly hard to justify in the light of so much content being available online through content platforms like Netflix, Disney or HBO. Some operators have accepted that as fact (IPTV was never a very profitable product anyway) and switched the platforms off, acting instead as distributors for the streaming content platforms. Others are still in an in-between, offering access to the streaming platforms because their customers want them, but still offering some IPTV content as well.

Niche services, and those seen as more advanced, are systematically charged. Such is the case for gaming packages and music streaming: operators know that they will not appeal to large segments of their customer base. Home automation and home security are also paid for options, unsurprisingly: they require significant investment to run, and also put the operator in a different role in relation to their customer. Offering such services “on the cheap” would be counterproductive, but the costs have to be offset. It should be noted also that many operators include home automation and services in their communications, but do not offer services associated with these concepts, just devices that the customer must install and run themselves.

**Complex offers with limited innovation**

With a few exceptions, operators have long argued that their core mission is not connectivity but the services that come on top. Yet a clinical analysis of their offers suggests that while the offers might give the illusion of innovation in some cases, there is very little innovation:

- While they offer numerous service options and add-ons, these are often for very small things, either niche or unlikely to be perceived as game-changing by end users.
- While surfing on innovative trends, in-depth analysis of offers reveals that many operators resell innovative services produced by online service providers rather than build and operate them themselves.
- When they build and operate genuinely innovative services, these are often charged at premium prices, strongly limiting their impact.

As a consequence, few services drive the adoption of higher speed broadband. It seems like many operators would like their customers to subscribe to highest speed tiers, but establish so many barriers that only a small proportion decide to do so. The premium services on offer don’t particularly require or justify higher speeds.

The biggest hurdle, of course, is the combination of offer dilution (too many tiers, too many options) and high price gaps between offers below gigabit and gigabit offers.

**3. Promotion and advertising**

Advertising for fiber broadband has always been a tricky proposition. Many above the line resources cannot be accurately targeted geographically, and when your service isn’t available to a large part of the population, these solutions cost a lot of money for limited results.

Even now that, in many markets, fiber is widely available, above the line is often more billboards than TV: more accurate and controllable, and once a brand is established, TV and radio aren’t very good at specifics. Online
advertising is a growing medium for fiber broadband as well, as it’s both targetable and more in line with the subject matter.

Advertising leads your customer to your offer (at least that’s the idea) but in this day and age, this is mostly online. An important aspect to examine therefore is what the service providers’ websites look like and how they promote the various offers in the portfolio.

One tool that is used a lot to convince customers is promotions. How these promotions are structured is also a significant lever to examine.

**Advertising**

As mentioned above, advertising for fiber broadband is predominantly local, either through billboards and flyers, or through online targeting. In more mature markets, above the line is used more, especially to build brand values associated with fiber broadband.

Adverts, whatever form they take, can be broadly categorized into three phases that evolve over time and with maturity of a fiber project:

- **Awareness ads** come first, usually as the network is being deployed or put in service. Their goal is to educate consumers to the benefits of fiber broadband and make them aware that they can subscribe. These ads are didactic and tend to be low on product details and accessible to all;

- **Performance ads** come next, aiming to differentiate the fiber broadband solution offered from other solutions (fiber or otherwise) available in the market. They tend to be high on product details, futuristic and focused on concepts like power and speed. This is where gigabit is often mentioned;

- **Lifestyle ads** come last, when brands are established and a customer base is already in place. They aim at reaching further out, beyond power users and early adopters to show the benefits of fiber broadband to all. They tend to be more gentle and soft, highlighting concepts like family life, relaxation, openness to the world, etc. Lifestyle ads, while low on product details, are often the only ones where customer service is used as a differentiator.

Exhibit 7 highlights some of the keywords found across these different styles of ads. It should be noted that while lifestyle ads appear later than performance ads chronologically, the latter never disappear entirely, and it's usual for service providers to run performance ads and lifestyle ads in succession to try and maintain a "performance" leadership in customers' minds as well as reassure them they made the right choice (or convince them to make the right choice.)
While advertising is a general tool to drive adoption, our survey of service providers didn’t highlight a particular gigabit strategy on advertising. When gigabit is mentioned, it’s more as a generic concept to demonstrate the performance of the network (gigabit ready, gigabit powered, etc.) than as a specific push towards gigabit speed packages. The only exception are providers like Free or Sonic who offer gigabit by default.

Several service providers also mention an aspiration effect of gigabit advertising towards lower speed tiers. Advertising for gigabit establishes the credentials of the provider in the market, thus encouraging customers to join the network, but not necessarily at gigabit speeds. This is a first mover advantage and the impact disappears for subsequent providers.

**Marketplaces**

While this is not an in-depth study of commercial website design, it’s interesting to note a few aspects that are relevant to our issue, i.e. the drive towards gigabit speed offers.

By and large, commercial websites for fiber broadband are a shared resource with all other services offered by service providers, first among those mobile. In most instances, websites are primarily designed to lock in mobile would-be customers, relegating fixed broadband to a less visible spot.

This issue is exacerbated by confusion around the term broadband which applies not only to both fixed and mobile but in some cases to wireless solutions substituting for fixed broadband. In this context, a non tech-savvy consumer can struggle just to find which parts of the website relate to fixed broadband. Product brands with the name fiber in them (or something similar other than broadband) can help, but assume that fiber itself is associated to fixed broadband in consumers’ minds.

Once on the specific pages dedicated to fiber broadband, there are often still challenges to get clear and accurate information:

- Increasingly, service providers hide product information behind a geolocator designed to ensure that the consumer is eligible to the fiber broadband offer. While understandable, this creates an additional hurdle for consumers, many of whom may simply give up at this stage. Dissociating the geolocator from the product information seems like a more sensible solution.

- Hierarchy of offers is often unclear, even with simple portfolios. What is included, what is an option, what is a separate service, how do fixed-mobile combos work, these are all questions in the consumer’s mind. With large portfolios, websites become jungles that are very hard to trawl through.
• Spec lists are few and far between. Most operators no longer have spec lists readily available for each offer, leaving the consumer (and the researcher) to struggle to find exactly what is included in the offer.

Commercial websites - which one assumes have taken over stores when it comes to fixed broadband solutions - remain confusing and ergonomically challenged when it comes to fixed broadband offers in general and fiber broadband offers in particular. This is in part related to the complexity of the offers themselves, which raises a number of ergonomy issues simply due to the number of tiers and options on sale. It is also due to real estate competition with mobile on the same websites.

Either way, this is not conducive to encouragement towards higher speed tiers, and gigabit in particular. This is an area where operators have a lot to improve not only for their general sales efficacy online, but to reflect a strategy of pushing consumers to higher speed tiers (and therefore higher ARPU).

Promotions

Promotions are commonly used to encourage consumers to purchase. They take various forms examined below, but are used by most retail operators in our sample. Exhibit 8 shows the prevalence of the different types of promotions in our sample. The common forms are as follows:

• **Temporary discounts on purchase**: a discount on the monthly service fee, systematically in exchange for a contractual commitment over time. The goal is to maximize customer loyalty and minimize churn.

• **Temporary free services**: services offered for a short period (usually a few months), often access to specific TV content. The goal is to cross-sell an option down the line (customer actually like the ‘free’ service and keeps it, or forgets to unsubscribe and keeps it).

• **Free devices**: devices offered upon subscription, either around wifi (KPN offers free wifi repeaters for example) or around smart home. This does not include routers, which are necessary for operation but not always included depending on the market.

Exhibit 8: Prevalence of promotions

Temporary discounts are the most common form of promotion, seen in over half of the offers we have examined. It should be noted that depending on national regulation, these types of contractual engagements are
not always allowed. This could explain why some of the operators surveyed did not offer such promotions. These promotions are always tied to a first subscription (the tariff is not discounted again at the end of the contract duration if the customer commits to another 12, 24 or 36 months. The assumption here is that customers will not bother to switch after the contract lapses unless they are very unhappy with the service in which case price is probably not the issue.

Wholesalers also offer promotions, although these are not always seen as such by consumers since the retailer can always decide to either pass on the promotion to the end customer or increase its margin for the duration (or a mix of both). Wholesaler promotions can be targeted very finely as incentives for the retailer to commercialize in a certain way:

- **Acceleration**: wholesalers can offer promotions to new retailers they onboard to encourage them to commercialize aggressively in the first few months of their contract.
- **Densification**: wholesalers can offer promotions to all retailers in certain geographical areas to boost take-up. This results in more efficient operations for the wholesaler.
- **Upsell**: wholesalers can offer promotions to all retailers on certain speed tiers. One wholesaler we surveyed has done multiple such plans over 2021 resulting in gigabit services moving up from 15% to 23% of the customer base.

As shown in Exhibit 9, on the retailer side, promotions are usually in exchange for 12-month contracts, but that can go up to 36 months (PCCW is the only service provider we have surveyed offering such long contracts). In terms of the value of the discount, it averages around 30% of the first-year contract value, both for 12- and 24-month engagements, and reaches 100% in the case of the sole 36 month case we have seen.

**Exhibit 9: Contract durations and associated discounts on first year fees**

![Exhibit 9](https://www.diffractionanalysis.com/)

Source: Operator’s websites, Diffraction Analysis
Broadly focused marketing does not drive gigabit upsell

Service provider marketing suffers from many of the portfolio and offer structure choices we have highlighted above: too many tiers, too many options, unfocused segmentation, all this results in a marketing implementation that does not reflect obvious choices. This is particularly true for upsell: gigabit, at the end of the day, is not sold on any other merit than its speed: it’s not marketed as an enabler, not as part of a particularly attractive package, promotions are no higher in proportion for gigabit speeds than for others.

In other words, when looking at the marketing side of the equation, gigabit is just another tier, just another package with no particular focus. The only specific promotions regarding gigabit that we could find were pushed by wholesalers to upsell across their entire market, not by retailers.
IV. Conclusions

Three reasons why pushing customers towards gigabit matters:

- Because in mature markets where fiber has been present for a long time it’s an easy upsell opportunity that can generate additional margin with very little effort.
- Because as XGS-PON is further deployed and higher speeds become available on the market, operators do not want to be the last ones on the bandwagon.
- Because operators have been positioning themselves as innovators, and it’s hard to argue they’re providing or distributing innovative services if the broadband service underlying them doesn’t deliver a superior broadband experience.

Few operators however seem to have a focused strategy to upsell customers to gigabit speeds or higher. Executing such a strategy would probably look like this:

- reduce the number of speed tiers on offer and ensure a real difference in experience between tiers;
- reduce the price gap between entry level fiber offers and gigabit. A 20% price gap seems to be as high as marketers can go without creating a massive disincentive for consumers who would otherwise switch to gigabit;
- launch speeds above a gigabit (at premium prices if necessary) so that gigabit is no longer the outlier;
- simplify offers so that customers interested in the best possible experience easily understand what they’re getting for what price;
- simplify online channels accordingly;
- distinguish gigabit offers through focused advertising;
- tie innovative offers to gigabit speeds or above in customer perceptions.

Operators may feel that they have not been able to benefit much from service innovation on top of high-speed offerings. This is true of some, but not of all. Some operators are clearly finding the delicate balance between simply distributing innovative online services and building their own. Orange in France is a good example in the way they enable and integrate home automation services. Similar approaches can absolutely be envisaged for upcoming service revolutions like Augmented Reality and Virtual Reality, not just in gaming application but in other areas as well (communications, tourism, etc.)

One hurdle that some operators express is the notion that once a customer subscribes to gigabit broadband, there is nowhere to upsell him to. This argument is built on the assumption that gigabit is already so fast that any speeds higher than that will not deliver a measurably better experience. There are two flaws with this argument:

- First, even if the argument were true, having a sizeable portion of one’s customer base on a gigabit (and therefore paying extra for the extra speed) can in no way be seen as a bad thing. It’s a matter of comparative margins and price elasticity, at the end of the day.
- Second, speed sells, and ecosystems shift. 10 years ago, most people thought that no one would ever need or want speeds higher than 100Mbps. That wasn’t true then, and it isn’t true of gigabit now. More
importantly, the ecosystem of services and online application evolves as well, and though this is a gradual shift, it is a shift nonetheless. Services that may seem blindingly fast on gigabit today will seem slow in a few years because the content carried and delivered will be so much bigger than today.

Gigabit is not the future, it is the present both in terms of customers wants and needs and technology capabilities. It should not stay on the side at 15% take-up when faster services and hungrier services are coming. The pandemic lockdowns have demonstrated that thinking in terms of single service usage and single user profiles makes no sense. Gigabit is necessary today to ensure the development of the home digital economy. It’s time for operators to recognize that and act upon it.