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Open Communications

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COMMUNICATIONS CHAMBERS

About the author

Rob Kenny has extensive experience on issues of broadband policy and regulation, and has undertaken numerous projects in this area for clients such as BT, Liberty Global, Virgin Media, Vodafone, the Broadband Stakeholder Group, Ofcom and the Australian Government. He was also an advisor to Malcolm Turnbull, then Australia's Minister for Communications. He is an author of a prize-winning academic paper regarding subsidies for superfast broadband. Previously he headed strategic planning for Hong Kong Telecom, and corporate development for Level 3.

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1. Introduction

Ofcom is investigating Open Communications. In its recent consultation document, Ofcom described Open Communications as:

> "an initiative for the retail telecoms and pay TV markets, which would enable people and small businesses to tell their communications provider to share information about their services, easily and securely, with third parties of their choice."[1]

In the same document, Ofcom says:

> "The purpose of this consultation is to set out potential objectives for Open Communications and initial views about how it would best operate to meet them." [2]

This is an unusual approach to a regulatory process – rather than beginning with a *remedy* and considering options for what it might deliver, it is more typical to begin with an identified *harm*, and assess various remedies to determine which (if any) might best to address the harm.

This paper assesses the Open Communications proposal, based on its incremental benefits and its incremental costs, taking into account other existing and potential interventions. These other interventions are particularly important in this case because some aspects of Open Communications may be considerably more expensive to provide than alternatives that would (or will) deliver much the same benefit.

For example, consider the mandate to provide data on where mobile users spend most time, which would require significant work by mobile operators (and raise privacy concerns). A far simpler alternative would be for price comparison websites to ask users to provide home and work postcodes.

Incremental benefits also need to be considered in the context of other interventions that are already 'in flight' that are targeted at the issues that Open Communications is said to address. For example, any switching benefits of Open Communications need to be seen in the context of the many recent and forthcoming Ofcom interventions in this area.

The paper first looks at the potential net benefits for Open Communications. We find that they will accrue to a relatively narrow group of customers, and even for these customers the benefits may

[1] Ofcom, *Open Communications: Enabling people to share data with innovative services*, 4 August 2020
[2] ¶2.24, ibid

be moderate. The information made available is often of limited relevance to the purchase decision, the impact on switching is likely to be modest and there is far less potential for innovative ancillary services than in other sectors.

We then consider net costs. We begin with a discussion of the financial costs, including a discussion of the substantial costs that Open Banking caused for the finance sector. We then turn to the non-cash costs that Open Communications may trigger, such as its potential negative impact on FTTP deployment. For example, price comparison websites are a key vehicle for Open Communications – but many such sites steer consumers away from Gigabit speeds on the basis that they consider them to be excessive for most households. This is not supportive of FTTP uptake.

2. Background to Open Communications

The UK government is pursuing a number of 'smart data' initiatives. It describes smart data as:

> "the secure and consented sharing of customer data with authorised third party providers … These providers then use this data to provide innovative services for the consumer or business, such as automatic switching and account management." [3]

The most significant smart data initiative to date has been Open Banking. This was mandated by the Competition and Markets Authority (CMA) in 2016, after a detailed 18-month investigation into competition issues in the retail banking market.

Other smart data initiatives are at earlier stages, in finance (beyond current accounts), energy, pensions, and telecommunications. The telecommunications initiative is known as 'Open Communications'.

In 2018 the CMA recommended that Ofcom should consider such an initiative for the broadband and mobile markets.[4] The Government subsequently proposed to legislate to introduce Open Communications, and called on Ofcom to explore relevant issues with the industry.[5]

In August 2020 Ofcom published its consultation document on Open Communications. It set out a proposal to mandate communications providers to share information about a mass-market [6] customer's products and usage with third parties, when authorised to do so by that customer.

Ofcom's proposal also specifies a range of data types that would be in scope for Open Communications, such as 'number of text messages sent'.

Ofcom intends to publish its statement on Open Communications by the end of June 2021.

[3] DCMS/BEIS, *Smart Data Review: proposals*, 11 June 2019. See also BEIS, *Next steps for Smart Data*, Sep 2020
[4] CMA, *Tackling the loyalty penalty: response to a super-complaint made by Citizens Advice on 28 September 2018*, December 2018
[5] BEIS, June 2019, *Smart Data: Putting consumers in control of their data and enabling innovation*, June 2019
[6] Consumers and small business

3. Incremental benefits

This section considers the incremental benefits of the Open Communications proposal. We first consider the value of the data provided by Open Communications to potential users, and the impact on switching. We next consider ancillary services that Open Communications may enable. We then look at the set of customers who are likely to benefit. Finally we review the potential for Open Communications to help vulnerable customers.

3.1. Value of sharing data

Ofcom sets out of a variety of types of data that might be shared under Open Communications, both regarding the consumer and the array of plans on offer from providers. We focus here on the consumer data. Ofcom suggests that the following should be provided:

- Identity
  - Name & address
- Usage
  - Data, minutes and texts used
  - Number and type of devices connected to the network
  - Where mobile services are used out of home
- Contract
  - Current and future out-of-contract price
  - Total bill including additional charges
  - Associated agreements (e.g. mobile handset, service level agreements)
- Performance
  - Download and upload speeds over time
  - Wider performance, such as speed, latency and signal strength

In this section we consider these data types, looking at how readily available they are to the consumer without Open Communications; how helpful they are likely to be for an informed purchase decision; and whether they are currently available to operators.

Name and address

This can be helpful to assessing which services might be available to a consumer. However, it is obviously data that can be readily provided by the consumer herself simply by providing a postcode and a house number – indeed many consumers may have their postcode stored in the browser autofill. Thus the net benefit of providing this information via Open Communications is minimal.

Further, just 32% of consumers reported that they were willing to provide their home address to a third party website.[7] Thus including it as a data point in Open Communications would have the potential to be counterproductive, either by discouraging use entirely, or by introducing complexity by requiring the other 68% to opt out of sharing it.

Data, minutes and texts used

Such data is readily available to potential users of Open Communications from most operator websites. (These potential users necessarily have login credentials to their provider's website). Usage figures will also be included in monthly statements. Users report that they are easy to find – of those that have ever looked for it, 94% report that mobile usage data is easy to find, and 88% say the same of fixed usage.[8] This limits the benefit of accessing the data via Open Communications. (Ofcom has suggested that some providers may present usage in the form of the amount of allowance remaining, rather than usage. However, there are far simpler solutions to that challenge than Open Communications).

Usage data and fixed services

Further, usage figures are already of greatly diminished value for fixed purchase decisions, and of diminishing value for mobile.

Call volumes are rapidly diminishing (albeit with a bump due to the pandemic). For example, international call volumes and revenues fell by 20% and 25% in 2019 alone. Thus call details are of falling importance to consumers' purchase decisions, and would be even less important by the time any Open Communications initiative was implemented by operators, integrated by price comparison websites and adopted by end users.

For fixed broadband, usage-limited packages are rapidly disappearing from the market. BT, for example, has announced that all its broadband will be permanently unlimited.[9] This will greatly reduce the value of Open Communications, since the usage data it would facilitate sharing is no longer relevant. As the CMA has noted:

> "read-only smart data solutions which provide consumers with better information or tailored recommendations – such as 'smarter' PCWs – seem most likely to be effective where

[7] Slide 41, Populus (for Ofcom), *Open Communications*, 4 August 2020
[8] Critical Research (for Ofcom), *Consumer Engagement 2018*, 31 July 2018
[9] BT, *BT Broadband usage policy* [accessed 18 February 2021]

usage patterns are highly differentiated and where providers' pricing models are based on usage."[10]

However, broadband pricing models no longer are. Indeed, it seems likely that some operators have or will stop tracking usage, since it is no longer relevant to billing. If so, it would need to be specially collected for Open Communications, despite the fact that it would not be useful information for a purchase decision.

Ofcom has argued that traffic data might also be relevant in choosing the right line speed.[11] However, the relationship between traffic and required bandwidth is complex. For example, the total traffic of one household occasionally downloading large console games and another frequently streaming video might be the same – but the former would need much more bandwidth to accommodate the spike in demand from the downloads (by contrast to the streaming household, which makes steady usage of lower bandwidth).

Indeed Ofcom's empirical research has shown that the link between purchased bandwidth and traffic is very weak – above a moderate speed threshold, traffic per line does not increase with line speed.[12] (Though bandwidth purchased is not necessarily the same as bandwidth required.)

Usage data and mobile services

Some aspects of mobile pricing are simplifying too, as increasingly both unlimited minutes and texts are included in plans. For example, a search of mobile plans from all operators on Compare the Market found just two that had a specified number of minutes, rather than unlimited or zero (with the latter presumably aimed at iPads and the like – most such plans came with substantial data).[13] Thus the key quantified historic parameter for mobile is almost universally GB of data.

Moreover, adoption of unlimited mobile data plans is increasing. It already stands at 7%.[14] As 5G deployment increases network capacity, such plans will become even more common. By the time Open Communications were implemented, it seems likely that unlimited mobile plans will be widespread, reducing its value for mobile too.

[10] CMA, *Tackling the loyalty penalty*, 19 December 2018
[11] ¶4.31, Ofcom, *Open Communications: Enabling people to share data with innovative services*, 4 August 2020
[12] ¶4.60, Ofcom, *Connected Nations Report 2017: Data analysis*, 15 December 2017
[13] SIM only plans. Compare the Market, *Compare SIM only* [accessed 18 February 2021
[14] Finder, *Two thirds of Brits don't use their data allowance*, 1 June 2020

Ofcom implicitly acknowledges that Open Communications would be less useful for unlimited mobile plans, noting that:

> "Awareness of personal usage is useful when searching for a new mobile package (in particular usage of data, given that many packages include unlimited calls and texts only)."[15]

The value of usage data for purchase decisions is also diminished by the availability of zero rated services and service-specific add-ons (such as unlimited video for a certain fee). For a price comparison website to make a good recommendation, it would need not just the total traffic used by the customer, but the mix of traffic across different websites and services.

The very limited value of usage data for telecoms purchase decisions is in sharp contrast to other sectors, such as energy, where usage is typically more of a driver of charges (and where, by extension, open data may be more justified).

Limited value of historic data

Finally, for both fixed and mobile data usage there is the issue of whether past usage is a good guide to future usage. If usage is volatile – as it likely will be for some users - then last year's usage is not particularly helpful for selecting next year's plan. For example, if a consumer starts using VOD services on their device, their traffic will likely jump appreciably, and a plan based on their previous usage could be very expensive. (This is very different to services such as gas, electricity or banking where usage or number of transactions are likely to be much more stable).

Thus for all the reasons above, even if Open Communications were a more convenient way to share usage data, it is not clear that it would meaningfully and reliably help a consumer's purchase decision.

Number and type of devices connected to the network

As with usage, Ofcom suggests that the number of connected devices could support recommendations regarding line speed. There are two challenges here.

Firstly, even if the ISP router is capable of reporting this data, it may not be accurate. For example, a household may connect their devices via a third party wi-fi mesh network (a set of linked wi-fi repeaters, such as Google Nest). From the perspective of the ISP router in that household, it is connected to only one device – the main smart mesh hub – but the traffic (and bandwidth requirements) are in fact being

[15] ¶4.27, Ofcom, *Open Communications: Enabling people to share data with innovative services*, 4 August 2020

driven by the multiple devices on the mesh network. Any bandwidth recommendations for such a household based on an ISP router device count are likely to be very misleading, which is particularly problematic, since such households may be precisely those with the highest bandwidth requirements.

Secondly, as with total traffic, the linkage between devices and required bandwidth is likely weak. Generally, the number of devices does not drive bandwidth requirements but rather usage of those devices does. For example, a household may have a connected 4K TV, but if they primarily use it for watching satellite sports channels, then it won't drive a need for internet bandwidth. Thus even if accurate data on connected devices is available, it may only have limited value.

Thirdly, information on the type of devices may raise privacy concerns. For example, consumers may regard it as sensitive information that they have (or don't have) internet-connected security cameras.

Where mobile services are used out of home

Superficially, this appears attractive as a form of data to support network choice. However, there are several problems with it as a component of Open Communications.

Firstly, it raises privacy concerns. The account holder would need to provide authorisation, but it does not follow that all phone holders on the account would be happy for this data to be shared, perhaps particularly with the account holder. For example, would a woman who had escaped domestic violence and sought sanctuary away from the home be comfortable with the account holder – perhaps the husband – being able to access this information? More generally, consumers may be wary of sharing even their own location data with a price comparison website – an issue highlighted in Ofcom's qualitative research.[16]

Secondly, the MNOs do not hold the comprehensive, long-run data that would enable them to consistently provide reliable information on locations of highest out-of-home usage for each customer.

Thirdly, mobile usage data will only show where a user has used their device *within the constraints of their current network's coverage*. For example, a user may be switching because their current operator has poor coverage at their work location. However, precisely because of that poor coverage, the current operator's data will show minimal use at that location.

[16] Slide 33, PWC, *Open Communications: Research Findings*, August 2020

Fourthly, most consumers will know at which out-of-home locations they spend substantial time – it is likely to be a place of work or education, for example. As an alternative to a complex Open Communications approach, they could simply enter the postcode of these out-of-home locations to get signal strength information.

Finally, price comparison websites do not appear to believe coverage is a key decision factor for their users. Since 2019 Ofcom has made available an API which provides the coverage of mobile networks at a given postcode. It appears that this capability is not used by any of the top five price comparison websites, which do not feature coverage as a dimension of their comparisons, even though it would be relatively simple to do so based on a user-provided postcode and the Ofcom API.[17] One reason may be that just 19% of consumers report that 'signal strength in places they spend time' is a factor in their purchase decision.[18]

Current and future out-of-contract price

Current and future price information may be useful to a potential switcher to understand how much they might save, though their prime interest is likely to be in finding the best future package rather than comparison to an existing package.

Further, this information is already readily available to customers at precisely the moment they are most likely to need it. The end-of-contract notifications that communications providers send to customers include exactly these data points. Thus the incremental benefit of also providing it via an API is modest.

Total bill including additional charges

This information also is readily available to consumers even without Open Communications. Again, this is also historic information – what primarily matters to a switching customer is which provider will offer the lowest future bill.

Associated agreements (e.g. mobile handset, service level agreements)

Ofcom suggests that Open Communications must provide information on applied discounts and "linked contracts (such as mobile handset agreements) or service level agreements" [SLAs].

[17] Review of Compare the Market, USwitch, GoCompare, Confused.com and Carphone Warehouse, 22 February 2021

[18] Slide 33, Populus (for Ofcom), *Open Communications*, 4 August 2020

Ofcom has recently amended its guidelines specifically to address switching costs due to linked contracts.[19] In practice this will reduce the likelihood that such linked contracts end at different times.

For residential broadband customers,[20] compensation arrangements are in effect largely standardised by Ofcom's widely adopted automatic compensation scheme, which provides specified compensation for a range of outages.[21] While this does not eliminate the value of information about a particular customer's SLA (which will include other aspects), it does reduce it.

Download and upload speeds over time

Ofcom plans to require information on

> "The different download and upload speeds your fixed broadband or mobile data connection delivers, recorded over time. For mobile services, we wish to enable users to share data about speeds where they spend the most time."

Fixed speeds

Operators can track line speed from the consumer's router to the core network. However, what actually matters to users is not the speed from the router, but the speed from the device. As Ofcom has noted:

> "As home broadband connection speeds increase, the wireless link between the router and devices used around the home can become a performance bottleneck and have a detrimental impact on the user experience."[22]

US research has found that "nearly 80% of the bottlenecks are in the wireless network when access throughput exceeds 20 Mbps".[23] If a user faces such a bottleneck, then data provided via Open Communications on the speed from the router is not only unhelpful, but may be misleading.

Further, what speed a consumer requires is a complex question. A consumer may be frustrated by their current internet experience, and assume they therefore need a higher speed – but in fact the problem may be with their device, their software or elsewhere. Even if they are right that the problem is with their broadband speed, they may not know how *much* more they need.

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[19] ¶C1.8, Ofcom, *A6. Revised guidance on GC C1 contract*, 17 December 2020
[20] Including SMEs using residential products
[21] Ofcom, *Improving compensation for landline and broadband customers*, 21 August 2020
[22] Ofcom, *Wi-Fi performance testing of home broadband routers: Technical Report*, 13 May 2020
[23] Srikanth Sundaresan, Nick Feamster & Renata Teixeira, *Home Network or Access Link? Locating Last Mile Downstream Throughput Bottlenecks*, March 2016

Actual (rather than perceived) bandwidth requirements of a household are driven by a highly complex set of interacting factors, such as types of device in use, probability of concurrent use, tolerance for transient delays, use of downloads vs streaming and so on.[24] It is unreasonable to expect consumers to have a good idea of their requirements in Mbps. In this context, any information about speeds provided under an Open Communications initiative may provide the illusion of better decision making, but in practice may make little difference to whether the customer actually ends up on the most appropriate package.

Mobile speeds

Turning to mobile, Ofcom proposes to share data on "speeds where [users] spend the most time". This carries even more significant collection challenges than for fixed. Speed tests would have to be run from the user's device, over which the network has no control (there is not even the option of using a router). Further, such a test might drain the battery and would place an even greater burden on network capacity (since mobile networks are more traffic-sensitive that fixed).

The utility of this data is also highly dubious. Most users will 'spend most time' at home – where they likely are mostly on wifi when using their mobile. Available speeds at home are a very poor basis for selecting a mobile network (other than for those without fixed broadband).

Wider performance, such as packet loss, latency and signal strength

Ofcom suggests making available

> "The wider[25] performance of your current network (including, for example, packet loss and latency). For mobile services this could include signal strength where users spend the most time, either predicted or measured."

Regarding the fixed network attributes, in practice all networks operate at a level such that these are unlikely to have meaningful impact on most users' experience.

There are exceptions - avid gamers, for example - but this highlights another issue. For a price comparison website to use such performance data to recommend packages, it would need to ask users

[24] For a detailed discussion, see Communications Chambers [for BSG], *Domestic demand for bandwidth*, 5 November 2013

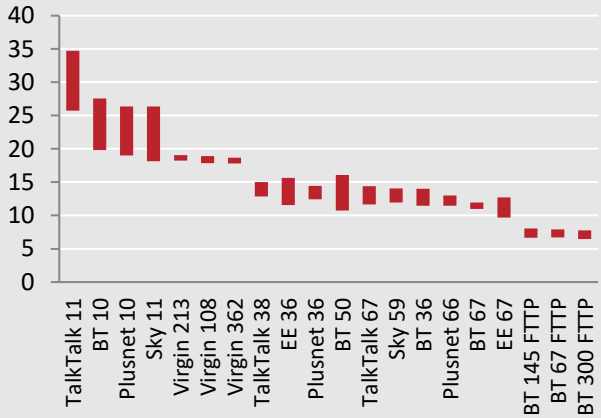
[25] What 'wider' means here is somewhat ambiguous – does Ofcom mean wider in the sense of 'other performance metrics besides speed', or 'of the whole network rather than of the user's own line'. We take it to mean the former (but advocate for the latter)

a series of questions to more precisely determine their needs. To assess the need for low latency, all users would need to be asked if they were a gamer, used virtual reality and so on. However, a battery of such questions would make use of a price comparison website significantly more complex, when the prime benefit of such sites is to make decision making easier.

Further, there is anyway relatively modest variation between performance for different users on the same network and product– the difference between networks and products is generally more significant.

Continuing with latency as an example, as Figure 1 shows, with the exception of ADSL products (which are disappearing from the market), the range of performance for a given service is generally quite narrow. For example for TalkTalk's 36 Mbps product, the 95% confidence interval is 13 to 15ms. Where a particular line sits within this range is virtually irrelevant for the user's experience.

Figure 1: 95% confidence interval for latency (ms) by network & product[26]



This means that there is extremely little incremental benefit to providing the performance metrics of the user's own existing line – far simpler to use the network average of that product type, which for all practical purposes is just as useful, and already publicly available.

Not only is line-specific data on packet loss and latency of limited incremental benefit, it is likely to have a significant incremental cost, since (as far as we are aware) it is not currently captured by most operators. Ofcom, working with SamKnows, went to appreciable expense to capture such data for a small group of volunteers to enable its *Connected Nations* reports – it is proposing to mandate gathering the same data on a nationwide, involuntary basis across all users.

Regarding "signal strength where users spend the most time" for mobile, this again has the problem that where users spend most of their time may well be at home, where they least need the mobile network. It also is not currently captured, and is likely to be expensive to collect (even if it is practical to do so).

[26] Numbers re the Mbps of the product in question. Ofcom, *UK home broadband performance, measurement period May 2020 – interactive report*

Conclusion on value of sharing data

In summary, much of the data proposed to be shared under Open Communications is either already readily available to the consumer; going to be expensive to provide; of limited value for informing consumer decisions; or some combination thereof. (If any one of these tests is passed for a given type of data, Open Communications would only add limited value). Further, some of the data types (such as line speed for a household constrained by wifi speed) may be actively misleading.

Figure 2: Proposed Data types to be shared under Open Communications

Category	Available to consumer	Expensive to provide	Limited value
Name and address	●	○	○
Usage (fixed)	◐	◐	●
Usage (mobile)	●	○	◐
Number of devices	◐	◐	●
Location of mobile use	●	◐	◐
Pricing	●	○	◐
Total bill	●	○	◐
Associated agreements	◐	○	●
Connection speeds	◐	○	●
Wider performance	○	●	●

A ● indicates that a given data type is fully available to consumers, expensive to provide or of limited value to a purchase decision, as the case may be

A rigorous analysis of the net benefits of including each of these data types within an Open Communications proposal might find that many of them cannot be justified – and this in turn calls into question the net benefit of Open Communications itself.

Further, the data types Ofcom proposes are only relevant to a portion of the purchase decision. For example, Ofcom suggests [27] that broadband consumers consider the following when choosing a broadband provider:

1. How much will it cost?
2. Can I get landline and TV?
3. What speed will I get?
4. Would other customers recommend the provider?

[27] Ofcom, *Choosing a broadband provider*, 30 April 2019

5. How many customers complain about the provider?
6. How quickly can I speak to someone if I have a problem?
7. How well will my complaint be handled?
8. How can I improve my speed? [For instance, by in-home improvements]

Each consumer will weigh up these factors differently – but Open Communications would only help with two of them (1 and 3). In other words, on the basis of Ofcom's own assessment of the key factors, Open Communications would make only a modest contribution to the overall decision. (Indeed, it is striking that Ofcom did not include in this list wider network performance data that it itself generates, even though it proposes operators should provide this under Open Communications).

3.2. Impact on switching

Numerous pro-switching interventions already being implemented

Ofcom suggests that Open Communications would facilitate switching, supporting more efficient competition. We discuss this below, but we first note that Ofcom has recently made numerous interventions to facilitate switching, some of which have already forced considerable cost on the industry (Figure 3). The potential incremental benefits of Open Communications to switching need to be seen in this context – yet another intervention in this area carries the risk of diminishing returns.

Figure 3: Selection of recent measures to support switching

Measure	Announced	Effective
Text-to-switch	Dec 2017[28]	Jul 2019
End of contract notifications	May 2019[29]	Feb 2020
Improved information for price comparison websites	Oct 2020[30]	Dec 2021
Limits on non-coterminous linked contracts		Dec 2021
Ban on locked handsets		Dec 2021
Right to exit a contract for change in service		June 2022
Gaining-party-led switching for all broadband		Dec 2022
24 month limit on handset contacts	In process	

In practice, while Ofcom's assessment of Open Communications mentions these interventions, it appears to have taken little or no account of them. For example, in support of its claim that 'some people struggle to get a good deal', it says:

[28] Ofcom, *Consumer switching: Decision on reforming the switching of mobile communication services*, 19 December 2017
[29] Ofcom, *Helping consumers get better deals*, 15 May 2019
[30] Ofcom, *Fair treatment and easier switching for broadband and mobile customers*, 27 Oct 2020

> "40% of broadband customers were outside their minimum contract period ('out-of-contract') in September 2019, paying on average £13 more per month than new customers"[31]

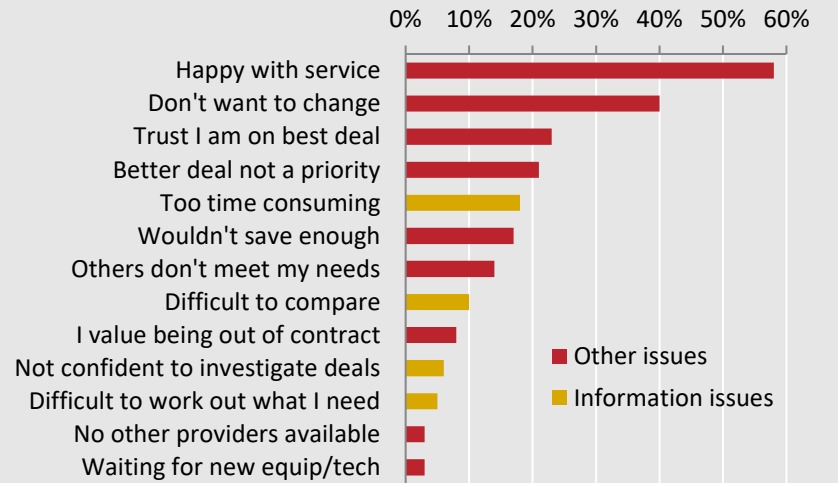
However, this data point predates *all* the relevant interventions set out in Figure 3. Unless we are to believe that their combined impact is immaterial, this data point is simply not a valid starting point to assess the merits of Open Communications.

Indeed, there is a strong argument for (at minimum) delaying Open Communications until these interventions play out, to see if they deliver its objectives without the need for further imposition of cost on industry.

Lack of information not an important barrier to switching

One reason to doubt that Open Communications would meaningfully support switching is that past Ofcom research suggests 'information issues' of the type Open Communications would address are relatively unimportant as reasons why those out of contract are not looking for a new deal (Figure 4). Far more important were consumers simply being happy with their current provider or not wanting to change provider.

Figure 4: Reasons for not looking for a new deal[32]



Even for those who are willing to engage with switching, Open Communications would only be helpful for the quantitative aspects of the switching decision. But many factors in the decision are not quantitative. For example, the same Ofcom research found that roughly 80% of consumers would be 'wary of using a provider I had not

[31] ¶3.6, Ofcom, *Open Communications: Enabling people to share data with innovative services*, 4 August 2020
[32] Critical Research (for Ofcom), *Consumer Engagement 2018*, 31 July 2018. Questions shortened for formatting

heard of'.[33] For such consumers, Open Communications would make little difference to their willingness to select the unknown provider.

An additional challenge is that more information (as would be provided by Open Communications) has the potential to degrade the quality of consumer decision making. As past research by London Economics for Ofcom has found:

> "The presence of superfluous information can reduce the quality of broadband choice [by consumers]".[34]

Much of the information proposed for Open Communications will indeed be superfluous for most users (such as latency, mobile speeds where they spend most time and so on). Of course, price comparison websites may choose not to offer it, but this begs the question why ISPs would be mandated to provide it.

Indeed, even further *relevant* information can be unhelpful. As Ofcom has said in the past:

> "'[I]nformation overload' can drive consumers to make hasty decisions or to postpone their decision."[35]

This risk seems not to have been considered in the Open Communications proposal. Indeed, it is striking that price comparison websites are choosing not to make use of data that is *already* available, such as coverage by operator at a given postcode, and wider performance of different broadband networks (latency, packet loss and so on). This may indicate that these websites feel the provision of further information to consumers will have diminishing returns.

Comparison to other sectors

It is also notable that even in banking, Open Banking does not seem to have increased switching rates. A 2017 survey by the FCA (pre-dating the implementation of Open Banking) found that 6% of respondents had switched their current account in the prior three years. When it repeated the survey in 2020, the figure had fallen to 5%.[36]

There are also reasons to believe that the pro-competition benefits will be less in communications than in other industries. For example, it is a less commoditised sector. Whereas domestic electricity

[33] Critical Research (for Ofcom), *Consumer Engagement 2018*, 31 July 2018

[34] London Economics, Steffen Huck & Brian Wallace, *Consumer information on Broadband Speed and Net Neutrality Experiment*, May 2011

[35] ¶5.51, Ofcom, *A Review of Consumer Information Remedies*, 12 March 2013

[36] Note that there were minor variations in how current accounts were described to respondents in the two surveys. FCA, *Financial Lives 2020 survey: the impact of coronavirus*, 11 February 2021. FCA, *Understanding the financial lives of UK adults Findings from the FCA's Financial Lives Survey 2017*, October 2017

consumers all receive the same 240V, pay TV consumers may receive very different TV channels, and care greatly about it. This reduces the level of switching that a quantified approach based on open data can support.

Further, automated switching is much less likely to be viable in communications than in some other sectors. As Ofcom acknowledges, many switches (particularly to FTTP) will require an engineer's visit. This is not simply a matter of being at the premise for the engineer's visit, but also potential disruption to a front garden, interior decoration and so on.

But this is only part of the challenge. A broadband switch may well require a new router,[37] which the consumer will need to install and then change wifi passwords on their devices. Such issues mean that a consumer is very unlikely to sign up to automated switching for broadband and providers are unlikely to be able to offer it in the same way they offer auto-switching in other sectors. (Even in the energy market, where automatic switching is far simpler, just 0.7% of households have switched on this basis over the last year).[38]

3.3. Potential for ancillary services

Open data initiatives don't only support consumer purchase decisions. They may enable new innovative services. Indeed, this possibility was one of the key rationales for Open Banking. The CMA said it was designed to "to enable consumers and SMEs to more easily identify products which suit their needs and to facilitate the creation of new digital services to help them manage their money".[39]

For Open Banking this promise has been fulfilled, with open data being used to support accountancy, budgeting and savings apps and to support better credit ratings for those with thin credit files (that is, no history of past borrowing to support assessment of credit risk).

However, it doesn't follow that similar beneficial applications would result from Open Communications. Unlike telecoms services, financial services are at heart information services, both in how they are priced and how they are used. Compare the amount of information that you must provide to secure an insurance or mortgage quote compared to what you must provide to find out a broadband tariff.

[37] While the EECC will require future routers to be compatible across networks, operators may still request the return of a router they provided

[38] Ofgem, *Consumer Perceptions of the Energy Market Data Tables Q3 2020*, 7 January 2021

[39] ¶13.5, CMA, *Retail banking market investigation: Final report*, 9 August 2016

Financial institutions also hold far more information about their customers – the transactions in a current account are a rich set of data from which value can be built. Compare what you might learn about someone from their bank statement versus what you would learn from their broadband bill. Thus the potential for ancillary services was a legitimate part of the case for Open Banking.

By contrast, there seems to be little potential for truly new services to emerge based on the information that would be available under Open Communications (beyond those associated with purchase decisions, discussed above). This is both because the Open Communications data is relatively thin, and because it is often available in a richer form elsewhere. For example, numerous apps are available for smartphones that are based on or provide location, network or usage data, that go far beyond anything that would be feasible under an Open Communications proposal.

Ofcom's own research suggests that ancillary services based on Open Communications may be marginal. In its qualitative research, [40] it tested two propositions, an account manager (a single page with key details from all communications services) and a services dashboard (an integrated view across telecoms and utilities.

While respondents thought both might be useful, overall reaction was lukewarm. The account manager was seen as a secondary benefit, and would anyway be of less use to those buying a bundle who may already have this information available in an integrated form from their current comms supplier.

The services dashboard was expected to have low uptake and engagement, and those getting similar functionality from services based on Open Banking thought it was unnecessary. The services dashboard would also require open data from across a range of utilities to be effective.

Given all the above, the additional value that Open Communications might deliver through ancillary services appears limited.

3.4. Only a modest subset of customers is likely to benefit

Thus the benefits of Open Communications to those who would use it would be limited. However, even these modest benefits would only accrue to certain customers - those who meet *all* the following tests

- They are online and have the necessary skills

[40] Slide 22, PWC, *Open Communications: Research Findings*, August 2020

- They are interested in switching
- They have login credentials for their current provider(s)
- They are willing to share their data with that website

Online and have necessary skills

Of all adults, 13% are not online.[41] Such consumers will not make use of price comparison websites or other services based on Open Communications. (And Open Communications would be extremely unlikely to trigger them into going online, if all the other wonders of the internet have not).

Further, even those online may lack the necessary skills. An Ipsos MORI survey found that 21% of adults did not feel able to "respond to requests for authentication (e.g. reactivate an account when I've forgotten my password)".[42] While this 21% will likely materially overlap with the 13% who are not online, in combination this represents a significant minority who simply lack the capabilities to benefit from any Open Communications proposal.

Interested in switching

Ofcom sees support for consumer decision making and facilitation of switching as the key possible benefit of Open Communications. However, for a given consumer to realise this benefit, they need to have an interest in switching – if (for example) they choose not to visit a price comparison website, that website cannot benefit them, no matter how sophisticated it is.

In fact, there is a significant group of such disinterested consumers. Ofcom research on consumer engagement found that of TV and broadband customers who were not in contract[43] (who might be expected to be prime targets for a price comparison website) 60% said "Finding a better deal is not a priority for me".[44]

Have login IDs for their current provider

Open Communications could only provide value to a user if they can authenticate their identity so that the price comparison website (or other third party) can pull data from the user's current supplier(s).

However, a Populus online survey for Ofcom[45] found that only one third of broadband and one third of mobile customers had accessed their supplier account online in the previous 12 months. It seems likely

[41] Ofcom, *Technology Tracker 2020 UK data tables*, 30 April 2020
[42] Lloyds Bank, *Essential Digital Skills* [accessed 18 February 2021]
[43] Including those who didn't know if they were in contract
[44] Analysis of data from Ofcom, *Engagement quantitative data tables, 2018*, 31 July 2018
[45] Populus (for Ofcom), *Open Communications*, 4 August 2020

that the other two thirds might not have registered, or might not have ready access to their password. Thus Open Communications would be less likely to be used by these two-thirds of online consumers, since they may be unable to authenticate to - for instance - allow a price comparison website to access data from their operator.

Willing to share data

Even if the user is able to authenticate, it does not mean she is willing to. Consumers are cautious about sharing data online – 67% report that they are "concerned about using sites/tools where I have to enter my personal details".[46] This suggest that there may be many consumers who are wary about providing login credentials for a telco's website to enable a price comparison website. Some respondents in Ofcom's recent qualitative research were *already* wary of the data price comparison websites require, even without the need to submit login credentials.[47]

See it as worthwhile to share data

Ofcom claims that Open Communications would allow "people to share their data at the click of a button".[48] This is a significant misrepresentation of the likely reality.

There are multiple steps in making use of this kind of data sharing.[49] A typical process flow for a user (who has already arrived at a price comparison website) might include:

1. Click to make use of data sharing
2. Review and consent to the types of data the third party site will import
3. Select current provider and be redirected to them
4. Provide credentials (ID, password) to the current provider
5. Provide relevant Two Factor Authentication if required (e.g. one-time PIN sent by text)
6. Specify the relevant accounts (e.g. certain mobile numbers on a family plan)
7. Confirm to the current provider the data to be shared with the third party and consent
8. (If multiple relevant current providers, such as pay TV and broadband, repeat steps 3-7 for each)

[46] Lloyds Bank, *UK Consumer Digital Index 2020*, May 2020
[47] Slide 22, PWC, *Open Communications: Research Findings*, August 2020
[48] Ofcom, *Open Communications: Enabling people to share data with innovative services*, 4 August 2020
[49] For a more detailed discussion, see for example Scott Logic, *The UX of Consent Models in Open Banking*, 24 August 3018

This is a very long way from data sharing 'at the click of a button', and for many users may not be worth the bother. If a user has even a rough idea of their current mobile usage (say), it will be far simpler to just enter this number rather than go through the above rigamarole.

It is worth noting that the trade-offs for Open Communications are very different from those in the context of Open Banking. In the context of Open Banking, the pay off from a process like the one above may be an ongoing link between a bank account and accounting software, providing a benefit week in and week out. For Open Communications the benefit is a one-time, possibly somewhat improved recommendation of supplier.

TV is not a key aspect of the purchase decision

Ofcom states that its Open Communications proposal is intended to support both telecoms and pay TV customers. However, none of the data suggested to be in scope relates to pay TV. For consumers for whom TV is a key part of a bundled purchase decision (say due to channel preferences) Open Communications is likely to be appreciably less relevant. (Given that good free TV is available, presumably those willing to spend on pay TV do value it greatly). Currently 44% of households take a package that includes pay TV.[50]

Further, as Ofcom has said:

> "In the case of buying a bundled service, which is increasingly common in the communications market, it is possible that information on a specific feature may have little, if any, influence on choice, as higher-level differences between bundles may take precedence."[51]

Conclusion re subset of consumers likely to benefit

Thus out of all consumers, the only beneficiaries would be those who are online, with necessary skills, with an interest in switching, with access to their credentials for their existing supplier and willing to share them, who see it as worthwhile to make use of Open Communications, and for whom TV is not a key decision driver. Many consumers will fall at one or more of these hurdles.

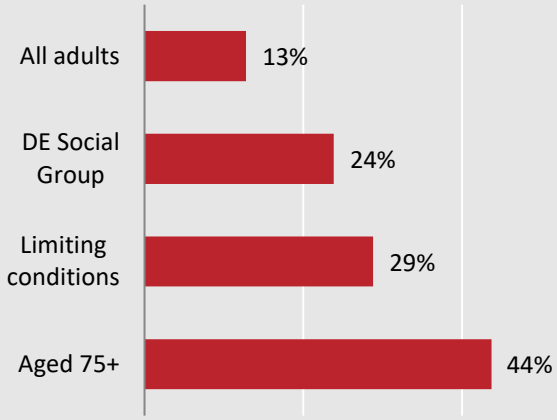
This is not to say that an intervention that only helps a small group of customers is necessarily wrong – only that this significant constraint on its benefits must be taken into account when assessing the overall balance of costs and benefits.

[50] Ofcom, *Technology Tracker 2020 UK data tables*, 30 April 2020
[51] ¶5.10, Ofcom, *A Review of Consumer Information Remedies*, 12 March 2013

3.5. Benefits for vulnerable customers

Ofcom argues that Open Communications may have particular benefits for vulnerable customers. This is true to an extent, though such benefits would be limited by the fact that many vulnerable customers are not online. For example, while 13% of all adults are offline, 29% of those with a limiting condition (such as a hearing impairment) are offline.

Figure 5: Percentage not using the internet[52]



These vulnerable groups are also more likely to have a lack of relevant skills. For example, 38% of those with a limiting condition and 72% of those aged 75+ say they are unable to respond to a request for authentication, compared to 21% of all adults. [53]

This combination of lack of access and lack of skills mean that vulnerable groups are significantly less likely to see any benefit from any Open Communications proposal. Indeed, Ofcom's qualitative research found that "the tech-based [Open Communications] solution had the potential to make a few feel excluded (typically more vulnerable audiences, such as older, low literacy)".[54]

Vulnerable groups are of course benefiting from other steps being taken by operators, such as discounted tariffs or automatic price reductions for those out of contract.[55]

3.6. Conclusion

Only a modest subset of customers are likely to be in a position to benefit from Open Communications, and even for these customers the benefits – either of better product choice or via ancillary services – are likely to be limited, particularly given the alternatives that are available and the array of other interventions to support switching. Thus the costs of Open Communications need very careful consideration, to see if they may outweigh the benefits. We now turn to these costs.

[52] Ofcom, *Technology Tracker 2020 UK data tables*, 30 April 2020. Ofcom, *Technology Tracker 2020 subset data tables*, 30 April 2020

[53] Lloyds Bank, Essential Digital Skills [accessed 18 February 2021]

[54] Slide 32, PWC, *Open Communications: Research Findings*, August 2020

[55] See, for example, Virgin, What *is Virgin Media Essential broadband?*

4. Incremental Costs

The costs of Open Communications include both the direct cash costs of its implementation and the indirect adverse consequences. We begin with the direct costs.

4.1. Direct costs

By their nature, the costs of substantial IT projects are difficult to predict, and the implementation cost for Open Communications is unknown. However, the cost of open banking provides a reference point.

A European survey of financial institutions found that 45% said their organisation expected to spend €100m or more on open banking.[56] UK Finance estimate that UK banks have in aggregate spent £1.5-2bn on development and implementation.[57]

According to HSBC's head of open banking, it: "cost a fortune and soaked up a huge amount of technical capacity which could have been potentially used for more interesting things."[58]

These figures are vastly more than anticipated when the Open Banking policy was being developed. The 2014 ODI/Fingleton report for HMT and the Cabinet Office said:

> "Non-bank experts that we spoke to said consistently that the cost of implementing data access is unlikely to surpass £1m for a bank. Banks were less confident about likely costs, but thought that the figure would be much higher".[59]

The Treasury ran a 2015 consultation on Open Banking, and reported:

> "In response to the question on the cost of developing an open API standard, the government received a variety of estimates ranging from negligible costs to tens of millions of pounds".[60]

If the cost of Open Communications is of the same magnitude, this represents a very significant diversion of capital from other investment by UK telcos. - £2bn is roughly equivalent to the cost of deploying FTTP to 4m premises, or approximately 14% of the UK total. Moreover, unlike an investment in FTTP, this investment will not generate future

[56] Tink, *The investments and returns of open banking*, June 2020
[57] UK Finance, *UK Finance response to HM Treasury Call for Evidence on Payments Landscape*, 20 October 2020
[58] Scott Cary, "The big UK banks talk about open banking successes and failures so far", *Computer World*, 19 November 2019
[59] Open Data Institute and Fingleton Associates, *Data Sharing and Open Data for Banks: A report for HM Treasury and Cabinet Office*, September 2014
[60] HMT, *Data sharing and open data in banking: response to the call for evidence*, March 2015

cashflows for communications providers, so it will also have long term consequences for the availability of cash for investment.

The cost of Open Communications will be all the greater, since as currently proposed it will not just require CPs to make available existing data, but also to gather new data that they do not currently hold. As we have seen, Ofcom has proposed that data be made available on: number of connected devices in the home; average line speeds over time; wider performance metrics; where mobile users spend their time; and so on. New systems would be required to gather and store this data.

This is in contrast to Open Banking, which primarily involved the exposure of data banks already held.

To our knowledge, the only communication provider to have published an estimate of its costs from Open Communications is BT, which estimated a range of £40-100m over three years.

This figure is for just one operator over an initial period. There are over 200 operators with powers under the Electronic Communications Code (roughly, network operators).[61] Not all of these will engage with the mass market and hence be in scope for any Open Communications initiative, but very many will. Further, this group does not generally[62] include mobile virtual network operators (MVNOs), who resell capacity from an underlying network operator. USwitch lists over 30 'main' MVNOs.

Of course, many of these operators are smaller than BT – but having fewer customers does not necessarily make it cheaper to write the code and establish the systems to track and share a particular type of data (and so smaller operators are likely to have higher per-customer costs for Open Communications).

Thus a total industry cost for Open Communications that is comparable to that for Open Banking is entirely plausible.

4.2. Indirect costs

Disadvantages for smaller players

Ofcom suggests that:

> "Open Communications could help smaller providers to grow and compete more effectively, to the extent it would highlight

[61] Ofcom, *Register of persons with powers under the Electronic Communications Code*, 15 February 2021

[62] Certain operators with Code powers are also MVNOs – notably Sky and Virgin Media

> their competitive strengths. For example, comparison on non-price characteristics could raise awareness amongst users about the reliability and speed of altnets' full fibre propositions."[63]

However, this is far from certain. Indeed, Open Communications - and associated increased use of price comparison websites - could actually damage the business case for FTTP (and other Gigabit technologies), for the reasons we set out below. (It is also unclear why Ofcom expects Open Communications to raise awareness about reliability, since reliability metrics are not included in the proposed data set).

Price comparison sites may not steer users to gigabit speeds

Firstly, price comparison websites will not necessarily steer customers to the speeds that depend on FTTP (or upgraded DOCSIS 3.1 cable networks). For example, Compare the Market says:

> "Superfast broadband offering up to 350 Mbps sounds impressive but bear in mind, you only need 3 Mbps to watch BBC iPlayer in HD. And the minimum recommended broadband speed for Netflix is just 1.5 Mbps"[64]

Money Saving Expert says:

> "Consider your need for speed. If it's just you and the dog, you're likely to be fine with standard speeds averaging around 11Mb. If you share a house, or you use the web for movie downloads, streaming or gaming, you may want to opt for faster speeds in in excess of 30 Mb".[65]

According to Broadband Choices:

> "Broadband speeds of 35Mbps or above – [Such] faster speeds suit homes with 5 or more occupants, all of whom are internet users and own consoles or stream TV regularly".[66]

None of these statements are strong encouragement for consumers to choose gigabit speeds from FTTP and cable providers. Instead, they reflect the reality that for most households FTTC is today sufficient for their needs. Thus Open Communications could deter voluntary switching rather than encouraging it, and slow down migration.

[63] ¶6.35, Ofcom, *Open Communications: Enabling people to share data with innovative services*, 4 August 2020
[64] Compare the Market, *Broadband speed explained*, 20 November 2019
[65] Money Saving Expert, *Broadband Unbundled Deals* [accessed 23 February 2021]
[66] Broadband Choices, *What broadband speed do I need?*, 24 January 2020

Price comparison sites may steer some customers away from fixed BB

Moreover, if price comparison websites have access to consumers' traffic data, this may put them in a position to recommend wireless solutions to customers, instead of fixed broadband. For low-traffic broadband users, wireless can be an attractive proposition, and Open Communications would enable better matching of these customers with wireless operators – but this is to the detriment of fixed broadband providers, FTTP or otherwise. In other words, Open Communications could actually shrink the addressable market for FTTP, and hence damage the business case for FTTP investment.

'Whole customer' view may be unhelpful to broadband-only altnets

Ofcom also emphasises the benefits of Open Communications in providing a whole-customer view, across broadband, telephony, mobile and TV. However, if purchase decisions are made on this basis, that is again unhelpful to altnets, who are typically broadband only providers. From their perspective, it is much better if broadband is a standalone purchase decision.

API calls may prompt win-back efforts by incumbents

An Open Communications API call for a customer would alert the current supplier that the customer is considering leaving (unlike today, where use of a price comparison website is unknown to the current supplier). The supplier may respond with retention offers to that customer – this is clearly not a bad thing from the customer's perspective, but would be unhelpful for the new entrant who might otherwise have won that customer away.

Open Communications may make retention harder for alt-nets

A concern for alt-net business cases is the risk of overbuild and subsequent loss of customers. By the time any Open Communications proposal was deployed and widely adopted, there may be an appreciable number of altnets that are (in some areas) in a defensive rather than aggressive posture, seeking to retain the customers they've won, rather than seeking to win new ones.

If Open Communications were to encourage switching, it may support both the overbuild business case and the harm that overbuild does to alt-nets.

Implementation likely proportionately more expensive for alt-nets and other smaller players

Aside from the operation of Open Communications, the implementation of Open Communications may disproportionately burden smaller players. While larger players may have more complex legacy systems to deal with, they can at least recover the costs of Open

Communications from a large number of customers. Smaller players will need to recover the (likely still substantial) costs from many fewer customers. Further, they may have additional costs. If the smaller player is a reseller, they will first need to ingest the relevant information from their underlying network providers before then passing it through their own API to price comparison websites and other information seekers. (The underlying network may also have to develop relevant systems from scratch, and may operate under long term wholesale prices, that mean the necessary systems investment will need to be diverted from network investment).

Mode of competition

Ofcom's approach to Open Communications approach appears to be premised on a view that communications is highly commoditised and that the right purchase decision is simply a matter of the consumer comparing a battery of numerical performance characteristics against price. Of course, actual consumers do not conform to this 'homo economicus' model, nor should they. They factor in a varied set of soft issues (such as brand preference), unquantifiable issues (such as service quality) and cognitive biases (such as risk aversion). Incorporating these is not a failure on the part of the consumer, but rather entirely relevant to finding the decision that is best for her.

However, Open Communications pushes the industry towards competition on exactly the commoditised, quantified basis that it presumes – and a narrowly quantified one at that. It is axiomatic that "you get what you measure". In specifying such measures for Open Communications, Ofcom would drive the industry in a particular direction. But it has made no attempt to analyse whether its metrics are the best ones to drive appropriate industry investment for consumers.

For example, neither quality of in-home wifi nor service reliability feature in the possible Open Communications metrics, but both are undoubtedly important for the user's experience of broadband. Conversely, some of the metrics that *are* included (such as quality of mobile coverage where the user spends most time) may prompt extremely wasteful investment. More generally, a commoditised mode of competition may supress revenue per user, reducing returns and discouraging investment overall.

Potential distortions from encouraging use of PCWs

Ofcom appears to presume that greater use of price comparison websites based on an Open Communications system will lead to a more efficient market. However, as the UKRN has noted, PCW product

rankings (which influence consumer purchase decisions) may be opaque, inappropriate for some consumers, or influenced by sponsorship or commission, leading to poor outcomes.[67]

To give a practical example, Which's top-ranked ISP is Zen Internet.[68] A recent search on Compare the Market for broadband deals available at the author's address provided 33 results – with Zen ranked almost last at #31 and #32.[69] This is not to say that Compare the Market's ranking is necessarily wrong – but if two supposedly neutral parties can disagree so strongly about what is best for the consumer, it suggests that use of price comparison websites is no guarantee of better purchase decisions.

Moreover, Compare the Market's results in this sample search included *none* from BT or Sky, though both are available at the address in question – thus they provided a very incomplete picture of the market. Ofcom claims that:

> "Digital comparison tools, such as price comparison websites, are … increasingly sophisticated in how they gather, process and apply data about people's behaviour when searching the market, to make their recommendations more relevant and useful."[70]

However, there clearly are major weaknesses with such tools that are entirely unrelated to Open Data.

Diversion of IT resource

As we have seen, banks found Open Banking to be a major distraction for their IT teams, and Open Communications would have the potential to be the same for ISP and telco IT teams.

This creates an opportunity cost – telco IT teams are working on a wide array of issues designed to support new or improved services for customers, such as FTTP systems upgrades and product development, edge computing, the use of artificial intelligence in customer service, platforms for IoT, improved security, improved accessibility for vulnerable customers, network function virtualisation and EECC implementation to support switching. Such programmes are likely to be delayed if IT resource is diverted to implementation of Open Communications.

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[67] UKRN, *Price comparison websites*, 27 September 2016
[68] Which?, Best and worst broadband providers 2021, 17 March 2021
[69] Compare the Market, Broadband Deals [accessed 22 March 2021].
[70] ¶2.4, Ofcom, *Open Communications: Enabling people to share data with innovative services*, 4 August 2020

5. Conclusion

There are several reasons to be cautious about the net benefits of Open Communications.

Firstly, the net benefits of any Open Communications system to those who use it may be limited. Much of the data in question is already readily available, or could be so via far more modest interventions. Some types of data are anyway of limited relevance to the purchase decision, and in some cases may be actively misleading. Finally, some of the data is likely to be difficult to provide, since it is not currently collected. Cost-benefit analyses of the individual data types proposed might call many of them into question, with serious implications for the overall value of the proposal.

Secondly, the number of potential users will be constrained by:

- Limited digital skills (or people being offline entirely)
- Limited interest in switching
- Users not necessarily having login credentials for their communications providers
- Privacy concerns
- Lack of perceived benefits in exchange for the hassle of using Open Communications
- The limited value of Open Communications data for decisions where Pay TV is an important aspect

Thirdly, the costs of Open Communications – which have received relatively little attention to date – are uncertain but likely to be substantial. Costs in the range of those for Open Banking (£1.5-2bn) would represent a substantial diversion of capital for the industry, at a time when there is strong pressure for other economically and socially beneficial investments.

Finally, Open Communications would risk reshaping the industry in ways that are unhelpful for these other potential investments. In particular, it may do harm to the business case for gigabit-capable networks such as FTTP, by (for example) amplifying the caution that price comparison websites already show towards these speeds, and by mandating costs that are disproportionately burdensome for alt-nets.