A3. Approach to obtaining and analysing information from providers

A3.1   This annex explains our approach to obtaining and analysing service quality information from communications providers and Openreach for the purposes of our annual service quality report.

A3.2   Ofcom requested data from providers for this report using our powers under section 136 and section 137A of the Communications Act 2003.

a) Under section 136(1), we may require a communications provider to provide us with all such information as we consider necessary for the purpose of carrying out, with a view to publication and in the interests of the end-users of public electronic communications services, of comparative overviews of the quality of such services.[1]

b) Under section 137A, we may require a communications provider to provide us with information to us for our publication, including information that we require the provider to produce, generate or obtain for that purpose in connection with our functions referred to in that section and in a way that is proportionate.

A3.3   As providers have historically collected and processed information regarding faults and repairs in different ways, it was not possible for us to use our section 136 information gathering powers to obtain information that providers collect, as the resulting information would not have been comparable. Instead, we used our section 137A information gathering powers that required providers to collect and process information in a specified manner. The process of establishing a consistent and proportionate definitions and measures and then of introducing new processes and system modifications to obtain the necessary information has taken two years to complete. This is the first year that such information has been collected and reported upon and we use the data for the faults and provisioning analysis. In future years, we also intend to use data collected through section 137A information gathering powers for missed appointments.

A3.4   Only fixed line providers were sent section 137A notices and the larger suppliers were expected to start complying earlier than the smaller ones. Therefore BT, Sky, TalkTalk and Virgin Media started submitting trial data in April 2019. For the report, we have used data from 1st July 2019 to 31st December 2019. Three suppliers (KCOM, Post Office and EE) provided data from 1st September to 31st December 2019. Plusnet also provided provisioning data but not faults data for this period and will start providing faults data in 2020.

A3.5   On receiving responses to these information requests, we conducted our own analysis of providers' data to assure ourselves that it was comparable and also engaged bilaterally with providers to ensure we understood their data. Where possible, we cross-referred the

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[1] As well as prices of such services.

information received from communications providers to data that we requested from Openreach.

A3.6 The metrics we have derived from information supplied by providers that we have published in this report on a provider-specific or aggregate basis are:

Customer service metrics (fixed and mobile services)

    i. Customer contacts with provider by channel [aggregate].

    ii. Overall average call waiting time [provider-specific].

    iii. The percentage of calls ended while the customer was queuing to speak to an advisor [provider-specific].

    iv. Complaints as proportion of subscribers [provider-specific].

Provisioning metrics (landline and fixed broadband services)

    v. Proportion of provisioning orders delivered by the agreed date [aggregate].

    vi. Average time taken to provide landline and or a broadband service [provider-specific].

    vii. Average time to provide a service by provisioning event, New Service, Home Move, Changes to Service [provider-specific].

    viii. The percentage of landline and broadband orders completed within four or eight weeks [provider-specific].

    ix. Average days to deliver a service, by technology [aggregate].

Faults metrics (landline and fixed broadband services)

    x. Reported faults per 1000 customers per month [provider-specific].

    xi. Cause of fault by responsibility [aggregate].

    xii. Time to repair Total Loss of Service faults (median time and distribution of time) [provider-specific].

    xiii. Time to repair Total Loss of Service faults when engineer was / was not required [aggregate].

    xiv. Time to repair Total Loss of Service fault by service type [aggregate].

    xv. Cause of Total Loss of Service fault by responsibility [aggregate].

    xvi. Proportion of re-contacts within 48 hours [provider-specific].

Missed appointment metrics (landline and fixed broadband services)

    xvii. The percentage of appointments missed by workforce for provisioning and repairs [Openreach providers aggregate, Virgin Media and KCOM only].

A3.7   In this annex, we set out how we have derived these metrics from the data supplied by providers and Openreach. Unless otherwise specified, all metrics have been calculated based on data for the entire calendar year 2019.

In scope providers

A3.8   The threshold for providers to be included in the scope of our residential information request was that they had 1.5% share of the residential consumer broadband, landline or mobile pay-monthly markets throughout 2018 (this is the same criteria that we have used in our quarterly Telecoms and Pay TV reports which we have been publishing since 2011). The providers that were included were BT, BT Mobile, EE, iD Mobile, Lycamobile, O2, Plusnet, Post Office, Sky, TalkTalk, Tesco Mobile, Three, Virgin Media/Mobile and Vodafone. KCOM was also included as the universal service provider in Hull.

A3.9   In some cases, although providers were in scope of the report, they were not able to provide information in line with the definitions we had specified to obtain comparable data. Where we did not believe that a meaningful comparison could be made with an individual provider's data, we excluded them from our provider-specific analysis.

A3.10   In some instances, while the information provided by a particular provider was not supplied on a sufficiently comparable basis to publish in a provider-specific form, we included it in our aggregate metrics if we believed this would contribute to giving a meaningful indication of cross-sector performance that would be useful to consumers.

A3.11   Where relevant, we also requested information from Openreach for high-level validation purposes. We asked Openreach to provide data for BT, EE, Plusnet, Post Office, Sky and TalkTalk and Vodafone using the relevant Reseller Identification Codes (RID Codes).[2]

Customer service metrics (fixed and mobile services)

Metric i): Contact channel used

A3.12   We asked providers to specify the number of contacts by channel from prospective and existing customers (telephone, webchat, email/online contact form, letter, mobile application and other). Due to differences in the way each provider was able to report on usage of mobile apps these were excluded from the calculations.

A3.13   We calculated the proportion of contacts that were made by phone across these providers by dividing the total number of phone contacts made to providers by the total number of contacts for all providers (excluding use of mobile apps). We used the same approach to calculate the proportion of contacts by email, webchat and letter.

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[2] Reseller Identification Codes are a type of code that Ofcom allocates to communications providers for administrative purposes. They are three-character alphabetic codes which are used in the Notification of Transfer (NoT) switching process and can be used it identify a reseller of wholesale services.

A3.14   Two providers were unable to split the number of written communications received (email vs letter). For these providers we took the ratio of letters to emails observed across all other providers and applied this split to their data before calculating the industry averages.

Metric ii): Overall average call waiting time

A3.15   The overall average call waiting time is the overall mean time in seconds that customers spent in a call queue when they were waiting to get through to a call services agent on the contact system provided for new and existing residential fixed voice and fixed broadband customers, or for mobile customers. Where applicable, this includes calls made by those enquiring about or signing up to a new service.

A3.16   This is calculated by dividing the total time that new or existing customers who spoke to a call services agent after making an inbound call spent in the call queue during the specified time period, by the total number of inbound calls answered by call services agents in that time period. Transfers[3] are treated as separate calls, with a separate call waiting time, and included in the metric, as they will involve a customer entering another call queue. Lycamobile was excluded from the mobile metrics, as they were unable to provide comparable data.

A3.17   The average waiting time for fixed services and for mobile services are calculated by dividing the total time that new or existing customers who spoke to a call services agent after making an inbound call spent in the call queue during the specified time period by the total number of inbound calls answered by call services agents in that time period across each sector as a whole (landline & broadband, mobile). We used a standard rounding approach, i.e. anything below .5 was rounded down to the nearest whole number and anything at or above .5 was rounded up .

Metric iii): The percentage of calls that ended while the customer was queuing to speak to an advisor

A3.18   For this metric, we asked providers to supply the overall number of occasions where a call was abandoned while the customer was in a call queue waiting to speak to a call services agent for more than 30 seconds as a percentage of total occasions customers were waiting in a call queue for more than 30 seconds. The figures presented are those supplied by providers in accordance with definitions specified by Ofcom. The metric includes instances where the customer hung up and instances where they were cut off, for example due to a technical issue. Call transfers are treated as separate calls, and therefore impact the figures.

A3.19   The average figure for fixed services and for mobile services are calculated by taking the overall number of occasions where a call ended while the customer was in a call queue waiting to speak to a call services agent as a percentage of total occasions customers were waiting in a call queue across each sector as a whole (landline & broadband, mobile). We

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[3] A transfer describes when a customer is put through to an agent in a different department.

used a standard rounding approach, i.e. anything below .5 was rounded down to the nearest whole number and anything at or above .5 was rounded up.

A3.20   Lycamobile, O2, Tesco Mobile and Virgin Mobile were excluded from the mobile metrics, as they were unable to exclude calls where the customer waited less than 30 seconds. Plusnet, TalkTalk and Virgin Media were excluded from the fixed line metrics for the same reason. Instead, we have provided information on whether these providers reported better or worse levels of call abandonment compared with 2018. As several providers have been excluded from the calculation of the industry average this year the result is not comparable with previous years.

Metric iv): Complaints as a proportion of subscribers

A3.21   We calculate and publish the number of complaints we receive about providers as a proportion of their relevant subscriber base, to put complaints numbers into context and to help ensure the data is more meaningful for consumers.

A3.22   To calculate complaints per 100,000 subscribers, we use the quarterly residential subscriber totals that telecoms providers report to Ofcom.

A3.23   In instances where there is little material difference between providers' performance in terms of complaints per 100,000 subscribers, we consider their performances as equivalent.

A3.24   As an additional data point against which to measure the performance of each provider, we include an industry average line of complaints per 100,000 customers. This average shows the total number of complaints per sector divided by the total number of subscribers to all providers included in the published data for each service, divided by 100,000. We do not incorporate complaints about or subscribers to smaller providers with a market share of less than 1.5%.

Provisioning metrics (landline and fixed broadband services)

A3.25   To publish a comparative overview of the experience of obtaining a new landline or broadband service, we asked providers to supply data on every order for residential fixed voice and/or fixed broadband service that was completed in 2019. Orders that were placed but subsequently cancelled by the provider or customer were excluded.

A3.26   For the first part of the year data collected using the s136 notice was used (January to June 30th or January to August 31st depending on provider). For the second part of the year we used the s137A data.

A3.27   For each order, we asked providers to supply the following information:

- The date on which the customer placed an order.
- "Date 1": the first committed date the provider agreed with the customer that the service would be provided on, or, if the customer requests a change to Date 1 or Date 2, the date subsequently agreed with the customer.

- "Date 2": if the provider requests a change to the date on which it had agreed that the ordered service would be delivered and working on, then Date 2 will be the new date that the provider agrees with the customer that the service will be provided on[4].
- Counters for how many times the provider and/or the customer changed the activation date.
- "Customer Service Activation Date": The date on which the provider considers the service to be delivered and working.
- The type of order, for example, whether it was a new provide or a change to existing service (regrade) or if the customer had moved home and stayed with the same provider.
- The type of service being provided (landline, broadband or both).
- The type of product being provided (e.g. ADSL, Fibre-to-the-cabinet, cable).
- Whether automatic compensation was paid, and if not, what exclusion was used.
- The postcode for the address at which the service was provided.

A3.28   In analysing the data, we excluded:

- any orders where the service activation date preceded the date the order was placed;
- any orders where Date 1 or Date 2 preceded the date the order was placed; and
- any orders that were not completed in 2019.

A3.29   The orders that were removed accounted for less than 1% of the overall dataset.

A3.30   All relevant metrics calculated using this provisioning data are measured in calendar days, not working days and we have rounded up to the nearest full day.

Metric v): Proportion of provisioning orders delivered by the agreed date

A3.31   Using Date 1 and Date 2 we calculated the proportion of times that these dates did not match with the customer service activation date at an industry level.

Metric vi): Average time taken to provide landline and or a broadband service [provider-specific]

A3.32   To calculate this metric, we calculated the mean average difference between (a) the date the order was placed and (b) the date that the service was activated

Metric vii): Average time taken to provide landline and broadband services, by provisioning event

A3.33   To calculate this metric, we calculated the mean average difference between (a) the date the order was placed and (b) the date that the service was activated. This was calculated separately across providers.

A3.34   In order to identify whether an order was placed for a service in an urban or rural area, we have used the Locale classification.[5] Locale is a third-party data source based on the analysis of 2011 census output areas (OAs). Each OA is assigned to one of seven Locale

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[4] If, on the day the service is due to be provided, the CP requests a further date change, this should not be recorded as a new Date 2.
[5] http://www.bluewavegeographics.com/images/LOCALE_Classification.pdf

Groups using a combination of Government conurbation definitions, population density at the OA- and postcode sector-levels, urban sprawl boundaries, OS roadmaps and additional visual inspection. Orders where the postcode was invalid or omitted were excluded from the rural/urban analysis.

A3.35 This was further segmented by using the "type of order field", to provide a view of volumes and average days based on the type of provisioning event.

Metric viii): Percentage of landline and broadband services provided within four weeks of the order date, and average number of days taken

A3.36 For this metric we have presented the proportion of orders completed within 2 weeks (14 calendar days), and 4 weeks (28 calendar days), as a percentage of the total number of orders. We combined providers' urban and rural data together for the purposes of this analysis because there was no material difference in results.

Metric ix) Average time taken to provide landline and broadband services by technology delivered

A3.37 To calculate this metric, we calculated the mean average difference between (a) the date the order was placed and (b) the date that the service was activated.

A3.38 This was further segmented by using the "technology of order field", to provide a view of the type of technology for the provisioning event. To provide a more consumer friendly approach, reflect language used in consumer marketing for services to a new customer (ADSL, FTTC, FTTP) when reporting on 2019 data.

Faults metrics (landline and fixed broadband services)

A3.39 We asked providers to submit data on both the volume of faults reported to them by customers and the time taken for their resolution. In this section we describe the specific data that was requested, along with the definitions used to ensure that information was consistent and comparable between providers.

A3.40 Plusnet provided data about provisioning and missed appointments but did not provide faults data for 2019. It is due to start reporting on faults in 2020. Therefore, statistics on faults do not include Plusnet data.

A3.41 As this is a new information request, some providers found it difficult to provide the data requested in the format requested and, in those instances, they have been excluded from the tables and reporting. We have followed up with the relevant providers to ensure their submission for our next report is both complete and accurate.

A3.42 BT initially provided data which over-stated their fault repair times and was only able to provide a sample of corrected data (37% of the total) in time for publication of this report. We compared that sample's data with their previous full dataset and we are comfortable that the sample does not appear systematically different, apart from on fault repair times. Therefore, we are confident that this sample gives a robust estimate of the figures for BT, but we intend to publish an update in relation to BT's full dataset once we have received and analysed it.

Metric x): Reported faults per 1000 customers per month

A3.43   We asked providers to submit data on all faults that were registered to them by a customer using any contact means made available for this purpose (such as telephone or email). A 'fault' relates to the functionality of the service taken by the customer, and specifically to where the performance of this functionality is considered by the customer to be below their expectations. It would not include general support enquires, such as advice on setting up a service or understanding features.

A3.44   To compare the frequency of faults between providers, we asked providers to submit the number of faults that were, on resolution/closure, considered to have been in the customer domain (such as faulty in-home wiring).

Metric xi): Cause of fault by responsibility

A3.45   Using the data outlined for Metric x), we calculated the proportion of faults which lay in the customer domain as a proportion of all faults.

Metric xii) to xiv): Total Loss of Service Faults

A3.46   This section applies to the following metrics

      xii) Time to repair Total Loss of Service faults (median time and distribution of time).

      xiii) Time to repair Total Loss of Service faults when engineer was / was not required.

      xiv) Time to repair Total Loss of Service fault by service type.

A3.47   Please see notes under the charts for any providers excluded from the analysis.

A3.48   To ensure a consistent comparison of fault repair times, providers were asked to submit fault resolution information relating to a subset of all faults: those in which there had been a total loss of service (TLOS). For voice services, this included failures such as the inability to call or be called, or in the event that a call can be made, one of the parties cannot hear the other. For Broadband services, TLOS means not being able to access the public internet.

A3.49   As the full extent of a fault may not be established until a fault has been investigated, faults are not classified as TLOS until after the fault has been resolved and categorised correctly. The onus is on the provider rather than the consumer to determine whether a fault has resulted in a total loss of service.

A3.50   Intermittent faults or degradation in service are not classified as TLOS. Nor are issues resulting from provisioning of service or associated porting of numbers (e.g. for house moves).

A3.51   The time taken to resolve the fault is critically dependent on the accurate recording of the opening and closure of faults. The opening of a fault is when the customer first contacts the provider to report an issue (so, for example, it is not when the issue is escalated to other departments or organisations for resolution). Fault closure is defined as when the provider considers the fault resolved. If the customer re-contacts the CP regarding the

same fault within 48 hours, then the fault remains open until further action is taken, and this is recorded against the fault.

A3.52 For each Total Loss of Service fault we ask providers to submit the following information:

- Date that the fault ultimately determined to be total loss of service, was first reported by the customer.

- Service (Voice and/or broadband) and service detail (ASDL, FTTP etc).

- Postcode.

- Whether an engineer visit was required (even if the engineer was not required to attend the premises).

- Outcome (for example, whether the fault was found to be the responsibility of the provider).

- Whether automatic compensation was paid, and if not, what exclusion was used.

- Whether the customer re-contacted the provider at least once within 48 hours following initial closure.

- Final date of fault closure.

A3.53 The calculation of repair times is in days (date of fault closure from the date of fault reporting). When providers submit times as well as dates, we disregard the time. In that way a fault reported late one evening and fixed early the next morning would be recorded as resolved within 1 day. This is to be consistent with those providers that simply report dates for fault reporting/closure.

A3.54 To ensure consistency, we did not require providers to receive positive confirmation from the customer that a fault had been resolved and specified that they must not keep the fault 'open' for arbitrary periods of time. Providers could continue their own practices regarding customer engagement and contact, but for reporting purposes providers should not have included arbitrarily added dates or extra time to the closure date to allow a window for monitoring or feedback purposes.

A3.55 Additional information was gathered, such as details of any automatic compensation payments, to aid corroboration and quality auditing purposes.

A3.56 The definitions and information that are used for service quality activity have been established to ensure that consistent and comparable data can be obtained. As such they may not exactly align with the definitions and measures used for automatic compensation, so direct comparisons cannot be made.

A3.57 For each of these Total Loss of Service metrics the report uses the median rather than the mean as the measure of the average to reduce the impact of outliers in the data. In each table of supplier level data the Industry Average is calculated using the data provided by the suppliers included in that table.

Metric xv): Cause of Total Loss of Service fault by responsibility

A3.58   The Total Loss of Service data was also used to establish the proportion of total loss of service faults which were not in the customer domain. This was calculated by combining the data of the individual providers and dividing the total number of incidents not in the customer domain by the total number of total loss of service incidents.

Metric xvi): Proportion of re-contacts within 48 hours

A3.59   As noted above, where there was a Total Loss of Service the providers reported to us whether or not the fault, once repaired, was reopened by the customer within 48 hours. This metric was calculated using the relevant flag and dividing the total number of incidents in which there was at least one recontact by the total number of incidents.

Missed appointments (landline and fixed broadband services)

Metric xvii): The percentage of appointments missed by workforce, provisioning and repairs

A3.60   Ofcom requested that Openreach and each fixed provider supply the total number of repair and provisioning appointments that were booked, the total number that were missed, and the total number that were missed *due to a customer* for each month in 2019. Key definitions were as follows:

   a) Provisioning appointments were defined as appointments for the provision of a residential fixed voice and/or fixed broadband service that has been made with a customer, and that requires a visit to the customer's premises by an engineer or technician.[6]

   b) Repair appointments were defined as appointments for fault repair to a residential fixed voice and/or fixed broadband service that has been made with a customer, and that requires a visit to the customer's premises by an engineer or technician.

   c) A 'missed appointment' was defined as an instance where an appointment is not kept, even if the appointment takes place on the same day outside of the agreed slot with the customer. If an appointment was rearranged prior to the calendar day on which it was originally agreed to take place, we specified that it should not be reported as 'missed' for our purposes.

A3.61   To calculate the proportion of appointments missed for which the responsibility was that of Openreach (and not the customer), we first subtracted the number of Openreach appointments missed due to a customer from the total number of missed Openreach appointments and derived this as a percentage of total appointments booked with Openreach. We followed the same approach for Virgin Media and KCOM. We report on the proportion of missed appointments for provisioning and the proportion of missed appointments for repairs.

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[6] These are referred to as installation appointments in the report.

A3.62   Data provided by the individual providers was used to cross-check against the Openreach data but due to differences in definitions it was decided to use the Openreach data in the report, published at the aggregate level. In future reports the data collected through the s137A request should enable us to calculate a provider level comparison, taking into account missed appointments by Openreach and other companies contracted to fix repairs.

A3.63   Virgin Media defines missed appointments differently to Openreach. In 2016, Virgin Media recorded installation and repair appointments as missed where the engineer did not arrive on the agreed date and an alternative slot could not be arranged on the same day (either earlier or later than the agreed slot). In 2017, Virgin Media changed the way they reported missed repair appointments (but not missed installation appointments), as they started to measure 'Arrival in Timeslot'. This meant that in 2017, a faults appointment would be recorded as missed if the engineer arrived outside of the agreed slot, even if they arrived on the agreed date. To maintain comparability with the reported figures in the 2016 report and the Virgin Media missed installation appointment figures, Virgin Media have continued to provide data on missed faults appointments using their 2016 definition of 'missed'. Next year we will report on s137A data which is directly comparable.

A3.64   As the definitions of missed appointments used by Openreach, KCOM and Virgin Media may differ, a direct comparison cannot be made between the information supplied for this metric and we have not sought to draw one in the report.

Automatic compensation (landline and fixed broadband services)

A3.65   Ofcom requested information on the automatic compensation scheme under section 135 of the Communications Act 2003 from BT, Sky, TalkTalk, Virgin Media and Zen Internet. The data requested included information regarding the amount of automatic compensation paid and the number of automatic compensation payments made between July to December 2019, and a summary of this information is included in the report.