Cover sheet for response to an Ofcom consultation

Basic Details

Consultation title: Metricell's Response to Ofcom's Call for Input: Measuring Mobile 'Quality of Experience'
To (Ofcom contact): Ruth John
Name of respondent: Luke Alexander
Representing (self or organisation/s): Metricell Limited
Address (if not received by email): N/A

Confidentiality

Please tick below what part of your response you consider is confidential, giving your reasons why

Nothing	✓	Name/contact details/job title	
Whole response		Organisation	
Part of the response		If there is no separate annex, which parts?	

If you want part of your response, your name or your organisation not to be published, can Ofcom still publish a reference to the contents of your response (including, for any confidential parts, a general summary that does not disclose the specific information or enable you to be identified)?

Declaration

I confirm that the correspondence supplied with this cover sheet is a formal consultation response that Ofcom can publish. However, in supplying this response, I understand that Ofcom may need to publish all responses, including those which are marked as confidential, in order to meet legal obligations. If I have sent my response by email, Ofcom can disregard any standard e-mail text about not disclosing email contents and attachments.

Ofcom seeks to publish responses on receipt. If your response is non-confidential (in whole or in part), and you would prefer us to publish your response only once the consultation has ended, please tick here. ✓

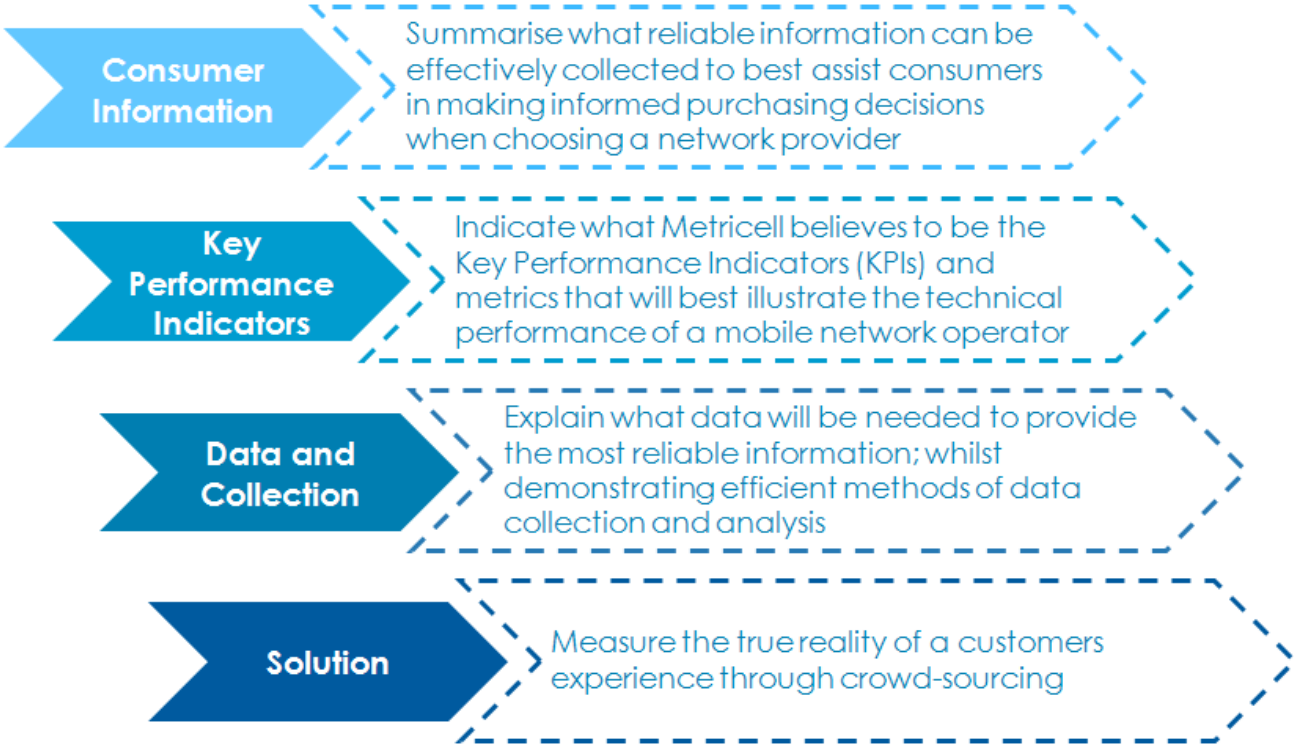
Name: Luke Alexander

Response *to Ofcom's Call for Input: Measuring* ***Mobile 'Quality of Experience'***

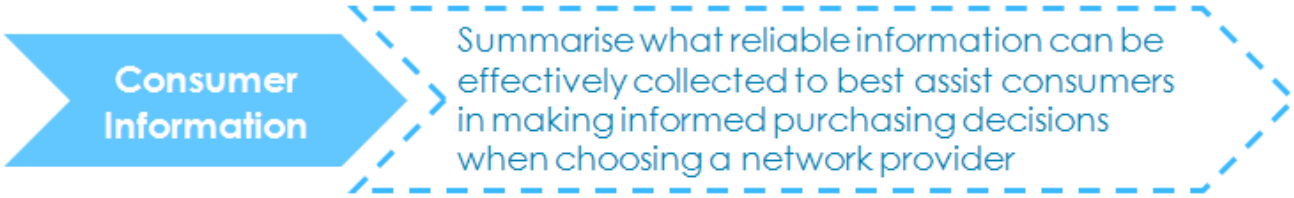
March 2013



1. Overview: Purpose of the Response



2. Consumer Information



The most valuable information is based on factors which have the greatest impact on the consumers' quality of experience (QoE). In cooperation with Ofcom's recommendations, Metricell believes the following information* would be insightful:

- ✓ Voice Service Quality and Call Performance
- ✓ Data Availability by Technology (2G, 3G or 4G)
- ✓ Data Reliability and Speed
- ✓ Service/Signal Availability and Quality by Technology
- ✓ Geospatial Information: Specific Area Usage and Performance
- ✓ Handset Model and Operating System (E.g. Android, iOS, BlackBerry) Performance by Network Operator
- ✓ Customer Service: Qualified Consumer Experience
- ✓ Network Performance in Traffic Hotspots (e.g. Shopping Centres)

*It should be clear to consumers which information is expected / predicted, and which is actual / experienced.

Usefulness of Providing Consumer Information on QoE

Transparent, accurate and widely available consumer information on QoE is imperative – from both a consumer and mobile network operators' (MNOs) perspective.

Why is it useful for consumers?
More control of their mobile network experience:

- ✓ Truly informed customer purchasing decisions – due to an increased knowledge of the MNOs performance levels.
- ✓ Avoidance of customer dissatisfaction – as they will know what service to expect before entering a lengthy mobile phone contract
- ✓ Greater industry competitiveness – with more MNOs taking customer service seriously, as their own Key Performance Indicators will be publicly available.
- ✓ Can answer key questions about their level of service – from network and connection issues, to customer service satisfaction and responsiveness (see Section 3.1)

Why is it useful for MNOs?
Legal, competitive and regulatory pressures:

Did you know Vodafone Australia is currently facing a class-action lawsuit, due to underperforming service levels for over 23,000 registered subscribers?...

... And that number is increasing! – With many consumers on long-term contracts in order to obtain the latest smartphone (avoiding a premium handset price); there is an increasing risk that MNOs will have to ensure high quality of service in order to justify the contract prices paid by consumers. Honest consumer information will ensure consumers have realistic expectations of their network and know exactly the level of service they can expect.

Technology companies, such as Apple, Google and E-bay utilise their consumer knowledge to significantly improve the consumer experience...

... With more efficient and cost-effective ways to collect and present consumer information, leading technology based service companies are setting a high benchmark for information transparency and sharing. This is driving consumers to ask the question, 'How will I be treated and what service can I expect?' Providing the cheapest monthly rate is no longer a winning strategy if the MNOs don't have the service and QoE levels expected by their consumers. Operators have the opportunity to focus on network optimisation, service differentiation and accountability, by offering clarity on service quality and insight into network performance.

This year, the top three Malaysian telcos, as well as MTN Nigeria; have been fined for not meeting acceptable standards and levels of service – relating specifically to the increasing number of 'dropped calls' on their networks...

... There are increasing regulatory pressures, from many national authorities, who are starting to take serious action against MNOs for underperforming service levels. As well as damage to company / brand reputation (as this information is available in the public domain); MNOs will now be under financial pressures to ensure their subscribers are getting acceptable service levels.

3.Key Performance Indicators

Information	*Key metrics and KPIs on which to base information*
Voice Service Quality and Call Performance	Call Quality/Clarity, Call Success Rate (%), Dropped Call (%), Call Setup Failure (%)
Data Availability by Technology	Data Availability (%), Data Availability Split by Technology (%)
Data Reliability and Speed	Average Download and Upload Speeds (Median-MB/s), Data Interruption (Median-Minutes), Data (Signal) Problem Severity (Median-dBm)
Service/Signal Availability and Quality by Technology	All metrics shown as predicted and actual: Service Availability (%), Service Availability Split by Technology (%), Service Interruption (Median-Minutes), 'No Service' Probability
Geospatial Information: Area Usage and Performance	Number of Consumers in Area, Average Number of Problems Per Consumer, Usage by Area (Voice Traffic), Expected vs. Experienced Voice/Data/Service Quality
Handset Model and Operating System (E.g. Android, iOS, BlackBerry) Performance by Network Operator	Voice/Data/Service Problems split by Handset Manufacturer/Model/Platform (%)
Customer Service: Qualified Consumer Experience	Feedback Questionnaire: Ease of Reporting Voice/Data/Service Problems, Response time, Effectiveness of Response etc.
Network Performance in Traffic Hotspots	E.g. Shopping Centres, Hospitals, Railway Stations: Average Signal (dBm), Proportion of Consumers Reporting Voice/Data/Service Problems

3.1. KPIs – Consumer Perspective

Information	*Key metrics and KPIs on which to base information*
Voice Service Quality and Call Performance	How many of my calls are problem fee?
Data Availability by Technology	How much of the time do I have a good mobile internet connection?
Data Reliability and Speed	Is my mobile internet connection good enough for what I need it for? (Downloading emails, browsing the web, watching YouTube)
Service/Signal Availability and Quality by Technology	Do I have to stand in the garden to get 3G coverage?
Geospatial Information: Area Usage and Performance	Is it just me or is the network around here rubbish for everyone?
Handset Model and Operating System (E.g. Android, iOS, BlackBerry) Performance by Network Operator	Is switching to a new phone going to make a difference?
Customer Service: Qualified Consumer Experience	Can I tell you how I feel about my network?
Network Performance in Traffic Hotspots	Can my network cope on Platform 8 at Clapham Junction, 8am?

4. Data and Collection

Data and Collection

Explain what data will be needed to provide the most reliable information; whilst demonstrating efficient methods of data collection and analysis

Data Granularity

We believe that the most valuable information for an individual consumer or consumer group is highly granular.

Day

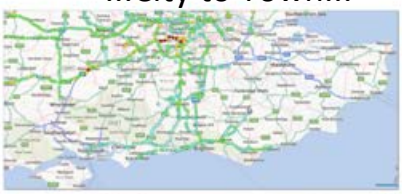
Week

Month

Year

From Country to County...

...City to Town...



...Street to Household

At Metricell we have three key principles when it comes to data:

- ✓ There is a location context to all data – so a Geographic Information System is the best way to view it
- ✓ All data has a shelf-life of usefulness – so timing is everything
- ✓ Decision-making can be enhanced by enabling the assimilation of multiple data sources

A mix of Mobile Network Operator (MNO) sourced data and consumer data should be used to provide the most accurate and valid information.

MNO Sourced Data

Predicted coverage (signal strength and best server)

Consumer Sourced Data

Network performance data (as measured by the handset)

Feedback Questionnaires

Open Source

Population (census)

GIS polygons (parish, county etc.)

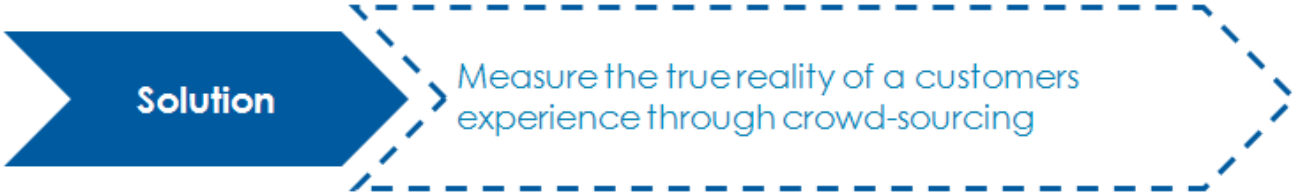
Our Proposal

a) Data is collected utilising a 'hybrid' approach: A third party (honest broker) cooperates with MNOs to source data; whilst using highly cost effective and efficient means of collecting accurate crowd sourced data.
b) All data is collected and analysed (with full transparency) by the third party, which then summarises the data into manageable information.
c) Consider previous examples of government led initiatives whereby the public had a significant role in monitoring the quality of communication and experience via crowd sourcing e.g. the program 'Information City 2012-2016' in Moscow, Russia.
d) Free available data can also be sourced to aid with the analysis.

Did you know you can crowd source your drive testing?!

Cooperative consumers can put a smartphone application in 'Drive Test Mode' to collect large volumes of detailed network information.

5. Solution



As per 'Our Proposal' outlined in Section 4, Metricell believe there is a unique opportunity for data to be captured directly from the consumers – as experienced by consumers.

This would allow Ofcom (via an honest broker) to measure the true reality of the consumer's experience, rather than rely on data collected from an operator perspective.

A smartphone application – used as an effective crowd-sourcing tool – is the optimal solution.

The right mobile application can automatically collect large scale (crowd-source) telephony data in real-time – providing valuable metrics and key performance indicators, in order to evaluate network performance.

6. Would you like to know more?

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Email:	luke.alexander@metricell.co.uk
Visit:	www.metricell.com

7. About Metricell

Metricell specialises in leveraging geospatial intelligence across a mobile network: Metricell is tried and trusted by world-leading telcos and their Tier 1 vendors: A UK-based technology company (original founder-owners of Aircom International), that seeks to modernise operator IT tools through the use and support of web-based Geographic Information Systems.

Our current focus is on improving the subscriber experience. Our customers include all of the UK's largest mobile networking operating groups, with examples of key requirement drivers including:

- ✓ Tracking the performance of unhappy business and other key customer handsets
- ✓ Supplement and potential replacement of traditional drive test measurements
- ✓ Benchmarking against competitor performance
- ✓ Problem solving (pinpointing locations of dropped calls, no service, no data etc)
- ✓ Self Care systems for faster, more personalised and cost effective customer support
- ✓ Management reporting of worst locations by signal coverage and other KPIs
- ✓ Geospatial analysis and reporting of live customer experience
- ✓ Data session speed of data delivery and throughput
- ✓ Network planning and optimisation support