



Key Performance Indicators (KPIs) for Wholesale Services Instructions

Report for Zain Jordan on public consultation
document

14th October 2024

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1. Executive summary

Zain Jordan has asked us to comment on the TRC’s consultation document which proposes instructions on key performance indicators (KPIs) for wholesale.

The TRC proposes 16 KPIs (A1 through A5, B1 through B4, C1 through C7) to be reported on for each “Service”. This is, in effect, a $n \times 16$ matrix, where ‘n’ is the number of services:

	A1	A2	A3	A4	A5	B1	B2	B3	B4	C1	C2	C3	C4	C5	C6	C7
Service 1	KPI _{A1}	KPI _{A2}	KPI _{A3}	KPI _{A4}	KPI _{A5}	KPI _{B1}	KPI _{B2}	KPI _{B3}	KPI _{B4}	KPI _{C1}	KPI _{C2}	KPI _{C3}	KPI _{C4}	KPI _{C5}	KPI _{C6}	KPI _{C7}
Service 2																
Service 3																
Service 4																
Service 5																
Service 6																
Service 7																
Service 8																
Service 9																
Service 10																
⋮																
Service ‘n’																

A row in the matrix contains all KPIs (A1-C7) for a given service (1-n), as illustrated for Service 1

We call this a “generic” matrix because the number of KPIs is the same for each “Service”. Thus, a local loop unbundling “Service” will be required to have the same set of KPIs as a voice interconnection “Service”.

Annex B of the consultation document prescribes the following illustrative “reporting format”:

Licensee: _____

Reporting Period: From _____ to _____

KPI Reference Number: _____

KPI: _____

Service: _____

(one table for each Service provided by Designated Licensee)

Licensee		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Total
	KPI							
	Numerator							
	Denominator							
	KPI							
	Numerator							
	Denominator							
	KPI							
	Numerator							
	Denominator							
	KPI							
	Numerator							
	Denominator							

If we take the proposed KPI Instruction literally, an ‘Annex B’ reporting format of the type above will have to be filled in and submitted for each type of “Service” order. And if we are right about that, dozens (maybe hundreds) of ‘Annex B’ formats will have to be filled in for the types of orders placed in any single service category. All that, without considering the other service categories. To further exacerbate the magnitude of this task, current and future market review decisions can be expected to add additional service categories, for example Leased Lines and Transmission Capacity.

A parameterised (“generic matrix”) reporting might be appropriate for retail performance indicators, but retail services are not the topic of the Wholesale KPI Instruction. The TRC already collects and publishes on a quarterly basis a full range of market indicators in the telecoms retail market, indicators as perceived by end users who buy telecoms services such as mobile phones and broadband lines.¹

The regulation in its current form attempts to apply the same set of prescribed indicators across all services with the same target values. The indicators for each service are therefore not tailored to the specific requirements of access seekers for different services, reducing the indicators’ effectiveness. The target values are also not tailored to each service individually, again reducing the effectiveness of the KPIs. Why should one assume that the target for the “Percentage of Orders Rejected” for the services B9.2 – Emergency Services and B11 – Billing and Collection Services, or any other pair of services, be identical? These issues would be resolved if the TRC instead considered an approach where KPIs are determined separately for each service via a consultation process on reference offers (ROs) published by the Designated Licensee.

International experience supports the following ideas:

- There is no need to measure KPIs for service categories other than Traffic Conveyance Service; Local Unbundling Access Services; Bitstream Unbundling Access Services; Leased Lines
- The KPIs should refer to service orders contemplated by each individual Reference Offer and be relevant to business issues faced by purchasers of the service.

¹ TRC, ‘[Telecom Market Statistics and Indicators](#)’, latest issue: first quarter 2024.

- The KPIs can focus on a subset of Reference Offer service orders which are of most relevance to purchasers of wholesale services.

Regarding publication, in most cases it will be sufficient for telecoms wholesalers to report to each other privately. In the relatively smaller number of situations in which international best practice suggests the regulator get involved, KPIs are not generally made public. Whilst there are examples of European markets where KPIs are published by the National Regulatory Authority (NRA) or operator itself, this is not the norm. It is typical for KPIs to be provided only to wholesale customers seeking the information, and occasionally to NRAs.

The service level offers (SLOs) of the Designated Operator already exist as annexes to ROs. As such, they are required to be incorporated into wholesale contracts between supplier (a Designated Operator) and customer (typically another Licensed Operator). The TRC can already request from the parties to such contracts reports on information exchanged between the parties regarding SLOs. Indeed, the TRC can expect to receive such information without requesting it as part of any dispute over SLOs that it arbitrates between the parties.

The important point is not data collection and publication as such. Much more important is the design of the wholesale KPIs so that they represent a manageable data set while at the same time assisting buyers (for example, Licensees who purchase wholesale broadband access from a Designated Licensee) to technically replicate the retail services of the Designated Licensee. Technical replication means, among other things, being in a position to promise end users similar lead times and fault repair times to those of the Designated Licensee. Buyers of wholesale broadband access from the Designated Licensee should be involved in a process in which a Jordan-specific manageable and relevant KPI data set is designed. The TRC's "generic matrix" is not such a set, and significant extra work is required.

Before leaving the topic of publication, it is worth noting that the TRC wants total discretion on which KPIs to publish. This is not reasonable: the decision on which KPIs to publish should be taken before the results are known.

The introduction of the Instructions can be expected to generate a significant cost due to the required adaptation of IT systems for each of the (minimum) 10 services to fit whatever data they currently produce into the generic structure of the Instruction's 16 KPIs.

The TRC says (Paragraph 30) that it has taken into consideration "international best practice and the recommendations of international standards organisations". However, the TRC does not say which "best practice" countries, nor which "international standards organisations", it referred to. This is important, because the TRC seems to have copy-pasted some concepts without specifying what they mean (for example, "service credits" and "correct" billing amount).

2. Introduction

Zain Jordan has asked us to comment on the TRC's consultation document which proposes instructions on key performance indicators (KPIs) for wholesale.

The TRC already collects and publishes on a quarterly basis a full range of market indicators in the telecoms retail market, indicators as perceived by end users who buy telecoms services such as mobile phones and broadband lines.² The TRC now proposes to collect and publish an additional set of indicators for the wholesale market, that is indicators as perceived by companies who buy wholesale services such as interconnect links and transmission links.

Licensees are already subject to such indicators in wholesale markets where they have been designated as dominant. In the markets for wholesale fixed call termination, wholesale fixed transit, wholesale local access and wholesale broadband access, (markets identified by the TRC in its 2020 market review³) the designated licensee is required to annex Service Level Offers (SLOs) to its Reference Offers (ROs). To give an idea of the topic, and purely as illustration, we cite here some examples of the types of concepts already covered by such SLOs:

- an order for an interconnect link on an existing path should be fulfilled within [NO] weeks⁴
- interconnect links should be available for [NO%] of the time⁴
- wholesale access service orders should be fulfilled 90% within [NO] and 100% within [NO] working days.⁵

The SLOs we have cited above already exist as annexes to ROs. As such, they are required to be incorporated into wholesale contracts between supplier (a Designated Operator) and customer (typically another Licensed Operator). Such contracts are typically referred to, in Jordan's regulatory terminology, as Interconnect Agreements. The TRC has the right to see and to comment upon such agreements between operators. The TRC can already request from the parties to such agreements reports on information exchanged between the parties regarding SLOs. Indeed, the TRC can expect to receive such information without requesting it as part of any dispute over SLOs that it arbitrates between the parties.

In the rest of this submission, we discuss the changes that the TRC now proposes to these existing procedures and practices regarding SLO reporting.

² TRC, '[Telecom Market Statistics and Indicators](#)', latest issue: first quarter 2024.

³ TRC, 'Regulatory Decision on the Fixed Markets Review', 30th September 2020.

⁴ Jordan Telecom, 'Service Level Offer', attached to 2012 Jordan Telecom company reference offer for traffic termination, traffic origination and traffic transit.

⁵ Jordan Telecom, 'Wholesale FTTx Access Reference Offer (RO)', Appendix [4]: Service Level Offer (SLO).

3. The TRC’s “generic” matrix approach

The TRC proposes 16 KPIs (A1 through A5, B1 through B4, C1 through C7) to be reported on for each “Service”. This is, in effect, an $n \times 16$ matrix, where ‘n’ is the number of services:

	A1	A2	A3	A4	A5	B1	B2	B3	B4	C1	C2	C3	C4	C5	C6	C7
Service 1	KPI _{A1}	KPI _{A2}	KPI _{A3}	KPI _{A4}	KPI _{A5}	KPI _{B1}	KPI _{B2}	KPI _{B3}	KPI _{B4}	KPI _{C1}	KPI _{C2}	KPI _{C3}	KPI _{C4}	KPI _{C5}	KPI _{C6}	KPI _{C7}
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A row in the matrix contains all KPIs (A1-C7) for a given service (1-n), as illustrated for Service 1

We have called this a “generic” matrix because the number of KPIs is the same for each “Service”. Thus, a local loop unbundling “Service” will be required to have the same KPIs as a voice interconnection “Service”.

In the KPI consultation document the word “Service” is capitalised in Paragraphs 17, 19, 26 and throughout Annex A, but not defined. Similarly, “Wholesale Service” is capitalised in Paragraphs 4 and 7, but also not defined. This is not a trivial drafting point but is instead suggestive of lack of attention to the important question of implementation. We suppose that the author of the KPI Instructions envisaged more “Services” than the ten (10) service categories in the draft Interconnect Instruction published at the same time as this KPI consultation. Those service categories are:⁶

Traffic Conveyance Services; Transport Service; Collocation and Infrastructure Sharing Services; Operator Services; International Gateway Access Services; Billing and Collection Services; VULA (Virtual Unbundled Local Access); Local Loop Unbundling (LLU); Bitstream Unbundling Access Services; Internet Exchange Point (IXP); Private Peering.

The above-mentioned ten (10) service categories therefore represent a minimum number of “Services” required to be reported upon. That makes a minimum of 160 KPIs (a minimum of 10 “Services” × 16 KPIs) to be reported on.

⁶ TRC, ‘Public consultation document on interconnection, infrastructure sharing and mobile national roaming instructions’, August 2024, Section 1, Annex C.

The actual number of KPIs (n x 16 in the matrix diagram above) will in fact be significantly higher than this minimum of 160, because many of the service categories cited above will contemplate numerous different types of orders, each with their own specific service level. Consider the TRC's proposed KPI A2 "Percentage of orders delivered within the SLA time or in agreed time". The service category "Traffic Conveyance Services" includes dozens of different types of "Service" which could be ordered, of which the following six (a very small proportion of the total types of order which could be placed in this category, listed out purely for illustration), each has its own individual delivery time:

New Interconnect Link on existing CSI path; New CSI path to existing Interconnect Node; New Interconnect Link to new Interconnect Node (CSI); New Interconnect Link on existing Collocated path; New Interconnect Link on new Collocated equipment; Removal of Interconnect Link.

Annex B of the consultation document prescribes the following illustrative "reporting format":

Licensee: _____

Reporting Period: From _____ to _____

KPI Reference Number: _____

KPI: _____

Service: _____

(one table for each Service provided by Designated Licensee)

Licensee		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Total
	KPI							
	Numerator							
	Denominator							
	KPI							
	Numerator							
	Denominator							
	KPI							
	Numerator							
	Denominator							
	KPI							
	Numerator							
	Denominator							

If we take the proposed KPI Instructions literally, an 'Annex B' reporting format of the type above will have to be filled in and submitted for each of the above-listed six types of "Service" order. And if we are right about that, dozens (maybe hundreds) of 'Annex B' formats will have to be filled in simply for the types of orders placed for "Services" in the category "Traffic Conveyance Services". All that, without considering the other nine (9) service categories in the proposed draft Interconnect Instructions. To further exacerbate the magnitude of this task, current and future market review decisions can be expected to add additional service categories, for example Leased Lines and Transmission Capacity.

A parameterised ("generic matrix") reporting might be appropriate for retail performance indicators, but retail services are not the topic of the Wholesale KPI Instructions. Parameterised reporting on retail performance indicators is routinely carried out in other countries. For example, the European

Commission's (EC's) rules provide for the periodic collection and publication of quality-of-service data and provides a non-mandatory list of parameters to be measured, as per the table below:⁷

Access	Voice	Voice (continued)	Internet Access
Supply time for initial connection	Call set up time	Unsuccessful call ratio	Latency (delay)
Fault rate per access line	Bill correctness complaints	Failure probability	Jitter
Fault repair time	Voice connection quality	Call signalling delays	Packet loss
	Dropped call ratio		

Starting from this guidance, EU electronic communication regulators have developed periodic reporting regimes which specify calculations that cover large numbers of services. Such calculations can be generalised ("generic"), like the TRC's proposal in this consultation. For example, to summarise the bit rate experienced in practice by users of broadband connections, a parameterised and generalised calculation can be done on a collection of sample data relating to speed measurements. An example of such a proposed approach (a systematic parameterised data-intensive data gathering exercise) can be found in Spain, whose regulator consulted on this topic in August of 2024.⁸

However, such regimes are for retail transactions, not for the wholesale market. They provide detail to assist with consumer protection, and to demonstrate trends in retail markets. The TRC already collects retail market statistics, and so there is no need for an additional large scale data collection exercise to supplement or replace that.

⁷ European Commission, '[European Electronic Communications Code](#)', 11th December 2018. Article 104 and Annex X.

⁸ CNMC, '[Public consultation on the quality parameters and their measurement method](#)', 2nd August 2024.

4. An alternative “tailor made” approach

The regulation in its current form attempts to apply the same set of prescribed indicators across all services with the same target values. The indicators for each service are therefore not tailored to the specific requirements of access seekers for different services, reducing the indicators’ effectiveness. The target values are also not tailored to each service individually, again reducing the effectiveness of the KPIs. Why should one assume that the target for the “Percentage of Orders Rejected” for the services B9.2 – Emergency Services and B11 – Billing and Collection Services, or any other pair of services, be identical? These issues would be resolved if the TRC instead considered an approach where KPIs are determined separately for each service via a consultation process on reference offers (ROs) published by the Designated Licensee.

It is informative to look at how wholesale KPIs are regulated and monitored in practice in European markets. The EC provides its electronic communication regulators (NRAs – national regulatory authorities, following EC terminology) with a starting point for the identification and definition of markets, in the form of a recommendation which is periodically updated.⁹ The following markets, identified in the 2014 revision, are roughly comparable with the service categories proposed by the TRC in its proposed draft Interconnect Instruction and market reviews.

EU market	Jordan service category
Market 1: Wholesale call termination on individual public telephone networks provided at a fixed location	Traffic Conveyance Service
Market 3a: Wholesale local access provided at a fixed location	Local Unbundling Access Services
Market 3b: Wholesale central access provided at a fixed location for mass-market products	Bitstream Unbundling Access Services
Market 4: Wholesale high-quality access provided at a fixed location	Leased Lines

It is interesting to observe the approaches taken by European NRAs to regulate the markets listed above following their definition in 2014, specifically relating to the imposition of KPI monitoring on operators with significant market power (SMP operator, occupying a roughly similar role to Jordan’s “Designated Licensee”). A 2021 study by the EC on Regulatory Incentives for the Deployment of Very High-Capacity Networks¹⁰ and a 2016 study by BEREC on the implementation of its recommendations for implementation markets 3a, 3b, 4,¹¹ describe some of the approaches taken by NRAs.

The targets against which KPIs are reported are typically SLAs which the operator is required to quote in its reference offers (ROs). The SLAs in each RO may be prescribed by the NRA or defined more loosely, leaving scope for the operator to propose a final list. A two-step procedure functions in Germany where the SMP operator publishes a draft RO on which access seekers and the NRA provide comments. A revised offer is produced, and further comments are considered before a final RO is

⁹ European Commission, ‘[Recommendation on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation](#)’, 11th February 2003. Revised on 17th December 2007, 19th October 2014 and 18th December 2020.

¹⁰ European Commission, ‘[Regulatory incentives for the deployment of VHCNs](#)’, 21st September 2021. Pages 156-160.

¹¹ BEREC, ‘[Monitoring implementation of the BEREC CP WLA, WCA,WHQAFL - Phase 3](#)’, 25 November 2016.

published.^{10,12,13} In Italy, the SMP operator works with the NRA to determine the KPIs in its offers in a multi-stakeholder process. This ensures that the KPIs in each RIO are relevant to the service offered and accepted by the market but don't burden the SMP operator with unnecessary restrictions.¹⁰

In recent years, much less attention has been paid to the other seven service categories (those other than Traffic Conveyance Service; Local Unbundling Access Services; Bitstream Unbundling Access Services; Leased Lines) those other than defined by the TRC. However, where SLAs and KPIs exist, the list of KPIs varies widely between services due the very different nature of each business, as seen in recent offers from Altice, Portugal.^{14,15} It is unusual for an NRA to determine a single common list of indicators to be reported across a range of services as varied as those identified by the TRC.

In wholesale markets, each Reference Offer should have its own SLAs and KPIs, and its own enforcement procedure. The European Commission's (EC's) rules on wholesale KPIs and SLAs are set out in the provisions regarding reference offers:¹⁶

“National regulatory authorities shall ensure the publication of a reference offer taking utmost account of the BEREC guidelines on the minimum criteria for a reference offer, shall ensure that key performance indicators are specified, where relevant, as well as corresponding service levels, and closely monitor and ensure compliance with them”.

The guidelines that the Bureau of European Regulators of Electronic Communications (BEREC) developed in response to the above is brief and straightforward, stating that reference offers should contain:¹⁷

- *“Service level agreements (SLAs) for ordering, delivery, service (availability) and maintenance (repair), including specific time scales for the acceptance or refusal of a request for supply and for completion, testing and hand-over or delivery of services and facilities, for provision of support services (such as fault handling and repair)*
- *the quality standards that each party must meet when performing its contractual obligations including the specification of key performance indicators (KPIs) with respect to SLAs, where relevant*
- *service level guarantees (SLGs) for ordering, delivery, service (availability) and maintenance (repair), including the amount of compensation payable by one party to another for failure to perform contractual commitments as well as the conditions for eligibility for compensation”*

This brief and straightforward set of guidelines has tended to result, in practice, in lists of SLAs and KPIs which are tailored to be relevant to each type of reference offer. In other words, they differ from the TRC's approach of parameterising and generically applying the same list to all service categories indifferently. In practice, each reference offer contains SLAs and KPIs relevant to the services it covers.

¹² BNETZA, '[Veröffentlichung der Regulierungsverfügung bezüglich des Zugangs zur Teilnehmeranschlussleitung](#)', 1 September 2016

¹³ BNETZA, '[Veröffentlichung der Regulierungsverfügung bezüglich des Bitstromzugangsmarkt \(Markt Nr. 3b \(2014\) bzw. Markt Nr.5 \(alt\)\)](#)', 28 October 2015

¹⁴ Altice, '[Oferta de Referência de Acesso a Conduas](#)', 31 July 2024.

¹⁵ Altice, '[Oferta de Referência de Acesso ao Lacete Local](#)', 31 July 2024.

¹⁶ European Commission, '[European Electronic Communications Code](#)', 11th December 2018. Article 69.

¹⁷ BEREC, '[Guidelines on the minimum criteria for a reference offer](#)', 5th December 2019. Paragraph 3.3.

In its 2021 survey of KPI monitoring practices the EC highlighted Hungary as an interesting case, whose NRA stipulated the following KPIs:⁹

- “(i) Supply time for access service*
- (ii) Ratio of fault repair time within 24 and 72 hours*
- (iii) Supply time for change of service provider*
- (iv) Supply time for change of wholesale service*
- (v) Supply time for relocation of access service.”*

The Hungarian NRA requires an SMP operator (roughly equivalent to Jordan’s Designated Licensee) to produce these KPIs for the following access products: Local Loop Unbundling, VULA and “central” (similar to Bitstream) access to broadband services.

The Hungary case supports the following ideas:

- There is no need to impose KPIs for service categories other than those listed in the table at the start of this section (Traffic Conveyance Service; Local Unbundling Access Services; Bitstream Unbundling Access Services; Leased Lines)
- The KPIs should refer to service orders contemplated by the Reference Offer and be relevant to business issues faced by purchasers of the service. For example, the Hungary list above contains: KPI for “supply time for change of wholesale service”. To achieve the same effect, the TRC’s “generic matrix” approach relies on the Reference Offer containing a price for an order for “change of wholesale service” (for example, a speed upgrade from 100Mbps to 200Mbps). The Reference Offer Zain has seen⁵ does not contain any such type of order. So, this KPI will not be able to be measured in Jordan.
- The KPIs can focus on a subset of Reference Offer service orders which are of most relevance to purchasers of wholesale services.

Whilst often covering similar elements in the provision of wholesale services, ordering, fault repair etc., reference offers for the same service in different countries are typically different, reflecting the diversity of issues identified by the NRA and/or access seekers in each country.

Reference offers for different services in the same country typically contain very different SLAs. The table below demonstrates this in Italy for Market 1 and Market 3a.

SLAs in the Reference Offer for Market 1 - Collection, Termination and Transit services in the fixed public telephone network ¹⁸	SLAs in the Reference Offer for Market 3a - Wholesale unbundled copper access ¹⁹
Time to activate a_GbE VoIP port	Time to activate an unbundled line on an <u>active</u> line, with respect to <u>expected delivery date</u> : <ul style="list-style-type: none"> • Unbundled copper loop • Unbundled copper sub-loop • VULA • Move/change Many of the remaining SLAs in this column have the above structure, i.e. a different SLA for the above three or four bullet points.
Time to provision each additional call admission control module	Time to activate an unbundled line on an <u>inactive</u> line, with respect to <u>order reception date</u>
Time to deliver a 2Mbps interconnect kit	Time to respond to access seeker's reports that an order was erroneously unfulfilled
Time to repair fault on GbE VoIP port	Time to send notification of rejection of unbundling activation order
Time to repair fault on 2Mbps interconnect kit	Time to send notification of fulfilment of unbundling activation order
Time to configure a service node (e.g. for operator selection/preselection)	Time to send notification of rescheduling of unbundling activation order
Time to repair a fault on a service node (e.g. for non-geographic numbers, etc)	Time to send notification of rescheduling of multiple unbundling activation orders
Time to provision number portability	Number of orders in the backlog
Times to communicate refusal of number portability order	Time to repair a fault (different SLAs depending on the class of service: normal, "plus", "gold" etc and the time of day that the fault is reported)
Time to repair a fault on number portability	Time to repair a service "degradation"
Time to provision carrier preselection	Number if reoccurring faults
Time to repair a fault on carrier preselection	

In the table above we have presented the example of Italy, at a particular recent point in time. As with any wholesale situation, reference offers and SLAs are subject to frequent updating. The above lists are therefore subject to change. It is to be expected that when updates occur the lists become more divergent, not less.

It is worth noting that the example of Jordan makes the same point as the example of Italy. The Service Level Offering (SLO) for interconnection is quite different in scope and scale to that of wholesale local access.

¹⁸ TIM, '[Service Level Agreement di Telecom Italia 2021 per i servizi di raccolta, terminazione e transito](#)', 24th March 2022

¹⁹ TIM, '[Service Level Agreement Servizi di accesso disaggregato all'ingrosso alle reti e sottoreti metalliche di Telecom Italia](#)', 15th June 2023

5. Monitoring and reporting

A telecoms wholesale market is a ‘small world’ with a small number of buyers and sellers who know each other. They are familiar with each other’s networks and capabilities. To illustrate this with a hypothetical example, if Operator ‘A’ were to refuse service to Operator ‘B’ on the basis of a spurious excuse “there are no spare ports on my switch”, Operator ‘B’ (the customer) is usually well placed to know whether Operator ‘A’ (the supplier) genuinely has run out of capacity, or whether it is hoarding the capacity for itself or for some other customer. This is because by virtue of participating in a telecoms wholesale market, the market participants regularly visit, and become familiar with, the facilities of their fellow market participants. The special characteristics of the telecoms industry in any country cause the number of such market participants to be in the low single digits – as is the case in Jordan.

Telecoms wholesale market participants also tend to be large and expert companies, able to negotiate and enforce contracts through commercial means, including via dispute resolution. Non-compliance with SLAs and KPIs set forth in the annexes of a wholesale contract can be expected to give rise to the associated contractual penalties without the need for appeal to a referee, in a significant number of cases. For this reason, in most cases it will be sufficient for telecoms wholesalers to report to each other privately.

In the relatively smaller number of situations in which international best practice suggests the regulator get involved, KPIs are not generally made available to the general public. Whilst there are examples of European markets where KPIs are published by the NRA or operator itself, this is not the norm. It is typical for KPIs to be provided only to wholesale customers seeking the information, and occasionally to NRAs. Publishing a provider’s data to competitors and the public at large does not incentivise transparency in the data it provides. BEREC’s common position on best practice states that KPIs should be available to all operators in the market (rather than the general public):²⁰

“The results of monitoring KPIs should be made available to all operators in the market”

The important point is not data collection and publication as such. Much more important is the design of the wholesale KPIs so that they represent a manageable data set while at the same time assisting buyers (for example, Licensees who purchase wholesale broadband access from a Designated Licensee) to technically replicate the retail services of the Designated Licensee. Technical replication means, among other things, being in a position to promise end users similar lead times and fault repair times to those of the Designated Licensee. The Hungary example cited above is example of such a manageable and relevant data set. Of course, the Hungary examples cannot be copied and pasted onto the Jordan reality. Instead, buyers of wholesale broadband access from the Designated Licensee should be involved in a process in which a Jordan-specific manageable and relevant KPI data set is designed. The TRC’s “generic matrix” is not such a set, and significant extra work is required.

Before leaving the topic of publication, it is with noting that the TRC wants total discretion on which KPIs to publish. This is not reasonable: the decision on which KPIs to publish should be taken before the results are known.

²⁰ BEREC, [Monitoring implementation of the BEREC CP WLA, WCA, WHQAFL - Phase 3](#), 25 November 2016, page 70.

6. Costs

The introduction of the Instruction can be expected to generate a significant cost due to the required adaptation of IT systems for each of the (minimum) 10 services to fit whatever they currently produce into the straitjacket of the Instruction's 16 KPIs. Costs will also be incurred by access seekers as they manage the required mirroring process. The continuous collection of these KPIs and any required updates will generate long-term costs to both sides. In its consultation response to the European Commission, the European Telecommunication Network Operators' Associated noted that:²¹

“Using KPIs generates costs to update, upgrade, and maintain them in parallel to the information system and operating system's costs. Using KPIs also puts under constraints the access seeker which must properly manage the mirroring processes: a fluid ordering system, a good and reliable diagnosis of the defaults incurred, and order qualification”

Defining tailored sets of KPIs for each service should minimise the set-up and maintenance costs incurred by the Designated Licensee and access seekers.

²¹ European Commission, [Regulatory incentives for the deployment of VHCNs](#), 21st September 2021. Page 159.

7. Other comments

The TRC says (Paragraph 30) that it has taken into consideration “international best practice and the recommendations of international standards organisations”. However, the TRC does not say which “best practice” countries, nor which “international standards organisations”, it referred to. This is important, because the TRC seems to have copy-pasted some concepts without specifying what they mean; for example, “Service Credits” (KPI C2 in the table under Paragraph 53): Service Credits are a means of calculating the compensation a wholesaler will pay to its customer if it fails to meet the service level. For example, Openreach’s SLA for Generic Ethernet Access (equivalent to VULA) uses Service Credits.²² Service Credits should be defined on a case-by-case basis, as in the Openreach case, not as a generic line in a list of KPIs such as the TRC’s. Openreach’s Service Credits are measured in money, Other units of measurement are possible. Jordan Telecom’s service credits have on occasions been measured in “days”.⁴ The TRC does not state the units of measurement, but just says “number” of Service Credits, which makes no sense without further explanation.

Please note that our comment in the paragraph above is not ‘about’ service credits *per se*. It is about the need for the TRC to share its benchmarking so that we can correctly understand why they selected the KPIs they chose to recommend. Similar issues come up numerous times. For example, the TRC’s KPI C3 mentions the “correct” (in quotes) billing amount, without defining what “correct” means. As the TRC does not cite its source, it is impossible to understand or appraise.

Paragraph 18 repeats Paragraph 37. Paragraph 29 repeats Paragraph 41.

Paragraph 24 says the report must be prepared less than a month after the end of the reporting period. That is a very tight deadline for the very extensive and highly technical report the TRC is specifying. Paragraph 24 also proposes six monthly reporting. As we have already explained, these reports are not required at all. However, if they must be produced, then an annual cycle would be more appropriate for the wholesale market, which is slower-moving and smaller than the retail markets for which such reports are more appropriate.

Paragraph 26 says each Licensee shall be identified and reported separately in the report for each Service, without any materiality threshold. This causes the total set of KPIs to be reported to balloon even further than the many hundreds already identified. If the numerator or denominator of a given KPI is very low for a given Licensee-service pair, the KPI could be omitted, or else grouped up with other individually immaterial Licensee-service pairs.

Paragraph 27, “Audit”. We did not find anything about who pays for the audit. Furthermore, this paragraph proposes records and supplementary information be maintained but does not specify for how long. SLAs and KPIs in wholesale markets are typically based on operational support system (OSS) and network operations centre (NOC) databases, which consist of much larger data sets than financial databases used for more typical financial audits. While it might be reasonable to expect financial data to be kept for several years to facilitate audit, it is not feasible to preserve copies of OSS and NOC data for such long periods. The audit, if any, will have to be done immediately following the production of that data. It will have to be concluded on a similar timescale to that allowed for the production of the report. That is to say: months, rather than years.

Paragraph 41: penalties and fines “as per the Telecommunication Law and the License”. This is potentially arbitrary and subjective. It would be more usual to specify the penalties and provide ranges

²² Openreach, ‘[Conditions for Generic Ethernet Access Service. Schedule 4 –Service Level Agreement](#)’, 29th November 2022. The formulas are set out in Section C, Article 6, over several pages.

of monetary values for each one. Therefore, this should be expanded to include the possibility of commercial negotiation.

Paragraph 44: “The TRC has the right to mandate the thresholds”. This allows the TRC a high degree of subjectivity, especially for an organisation not expert in some of the required technical detail. Furthermore, it would be against the principle of transparency for the TRC to have complete discretion to set any such thresholds – changes to the thresholds should be consulted upon. Where international best practice is used to guide the setting of thresholds, the corresponding benchmarking should be transparently shared as part of the consultation.

8. Conclusion

In this report, we have discussed the changes that the TRC proposes to existing procedures and practices regarding reporting of KPIs. We described the existing obligations on the Designated Licensee in this regard, and explained how the TRC's proposals are too generic and parameterised to be of much help to the current situation. We offered examples of international practices in definition and reporting of *wholesale* KPIs and noted that general and parameterised approaches are more typical of *retail* markets than wholesale ones. We observed how the proposed procedures can be expected to raise costs. We also listed a series of additional observations on specific drafting points in the proposals.



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