sutel
SUPERINTENDENCIA DE TELECOMUNICACIONES

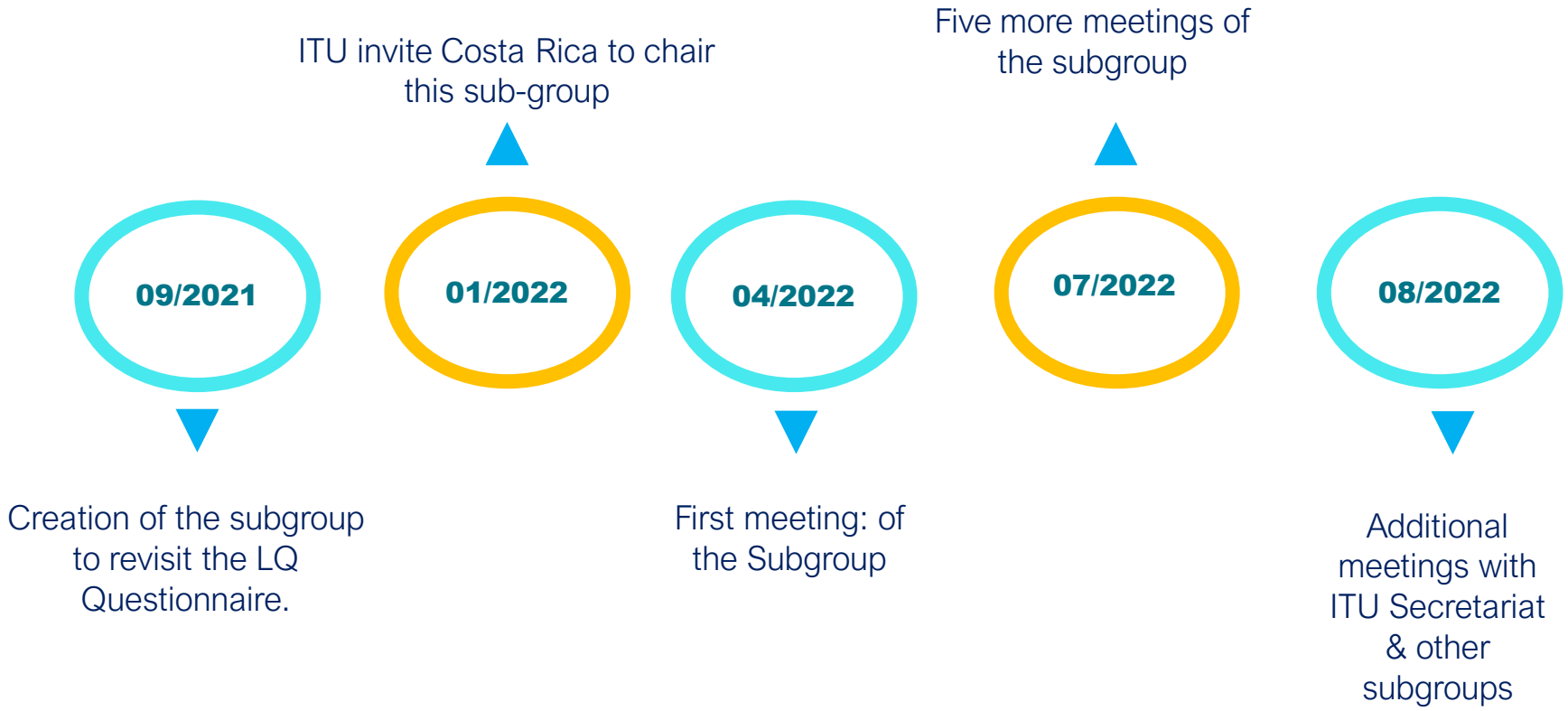
ITU World Telecommunication IT Indicators

Long Questionnaire Review

September, 2022

Subgroup ITU world Telecommunication

ICT indicators Long Questionnaire Review Timeline



Subgroup Members


INACOM (Angola)


Botswana Communications Regulatory Authority (Botswana)


ANATEL (Brazil)


SUTEL (Costa Rica)


INDOTEL (Dominican Republic)


Communications Authority Kenya (Kenya)


Telecommunications Regulatory Authority (Oman)


Pakistan Telecommunication Authority (Pakistan)


ANACOM (Portugal)


CITC (Saudi Arabia)


KAIT (South Korea)


Tanzania Communications Regulatory Authority (Tanzania)


INTT (Tunisia)


Uganda Communications Commission (Uganda)


ZICTA (Zambia)

Independent experts from the Computense University of Madrid, Spain and from Malaysia


WTI LQ working subgroup
Mandates

- The mandate to assess if each indicator should be dropped or kept on the WTI LQ.
- The mandate to re-visit the indicators measuring the coverage of households by different fixed-wired networks, by network broadband technologies.

What is the rationale of each indicator?
Should we eliminate some?

The approach took on the first mandate:

1. To comply with the mandate to assess if each indicator should (and propose to) either be dropped or kept on the WTI LQ, the team:

A.
Reviewed the **rate of responses** registered for each indicator during the last 3 years

B.
Identified if there are some **specific behaviors (regional)** associated with the rate of response for each indicator

C.
Reviewed the **rationale and relevance of each indicator** for measuring digital development of countries and data availability in recent years

D.
Identified & evaluated indicators with **low rate of responses & low relevance** and define if they should be kept or dropped from the LQ

The approach took on the second mandate:

2. To comply with the mandate to re-visit the indicators measuring the coverage of households by different fixed-wired networks, by network technologies, the team:

+

Reviewed and compared the **methodology** proposed at the beginning of the collection of this indicator and **compare with the comments received** among members about coverage of households by different fixed-wired networks, by network technologies

Description of the work done prior to the final decision

The WTI LQ working sub-group executed the following activities:

- **Filtering job** made by sub-group members.
- Analyze the **rate of response** by country in the last 3 years.
- Regional analysis to **identify patterns & correlation**
- Apply an **ad-hoc questionnaire** to complete de information obtained among the sub group members. The ad-hoc questionnaire comprises 11 questions divided into four sections answered by country:
- **Final report & proposals**

Description of the work done prior to the final decision

Ad hoc questionnaire / 4 sections:

Importance and relevance factors

Market relevance: monitor the development of the market and the main consumption trends that prevail in it.

Policy relevance: the indicator provides information that may be important to adopt different or new sectoral policies and regulations.

International comparison: facilitates and provides the execution of markets benchmarks to make decisions based on the experiences of other markets

Technological development issues (prospective): used to identify the or trends of new technological developments

The indicator is **highly demanded indicators for industry, regulatory and academic purposes**

Development of work done by the Subgroup

(3 years of country responses and additional questionnaire)

28 indicators (32%): response rate over 70% & 60 indicators (68%): response rate under 70%.
Lowest response rate: international roaming, quality of service and internet.
Highest response rate: revenue, traffic, and fixed broadband by technology/speed

Group of Indicators	Europa	CIS /	Arab States	Africa	Asia & Pacific	America	Average response rate (Last 3 years)
Bundled telecommunication services	80%	56%	48%	20%	25%	30%	44%
Fixed broadband by technology/speed	86%	65%	62%	49%	53%	61%	66%
Fixed telephony network	85%	56%	68%	44%	50%	52%	63%
International roaming	19%	28%	17%	14%	17%	5%	16%
Internet	48%	48%	41%	37%	37%	29%	41%
Investment	48%	72%	43%	44%	40%	37%	46%
Mobile broadband	80%	59%	68%	60%	58%	56%	59%
Mobile cellular network	64%	50%	59%	44%	47%	46%	54%
Pay tv	75%	64%	13%	24%	34%	42%	44%
Persons employed	58%	67%	67%	78%	49%	50%	64%
Quality of service	18%	36%	34%	23%	30%	16%	25%
Revenue	94%	78%	76%	76%	61%	61%	78%
Traffic	81%	74%	73%	70%	60%	62%	73%
Total	**63%**	**56%**	**53%**	**45%**	**45%**	**44%**	**53%**

Average response rate (last 3 years) according to each group of indicators

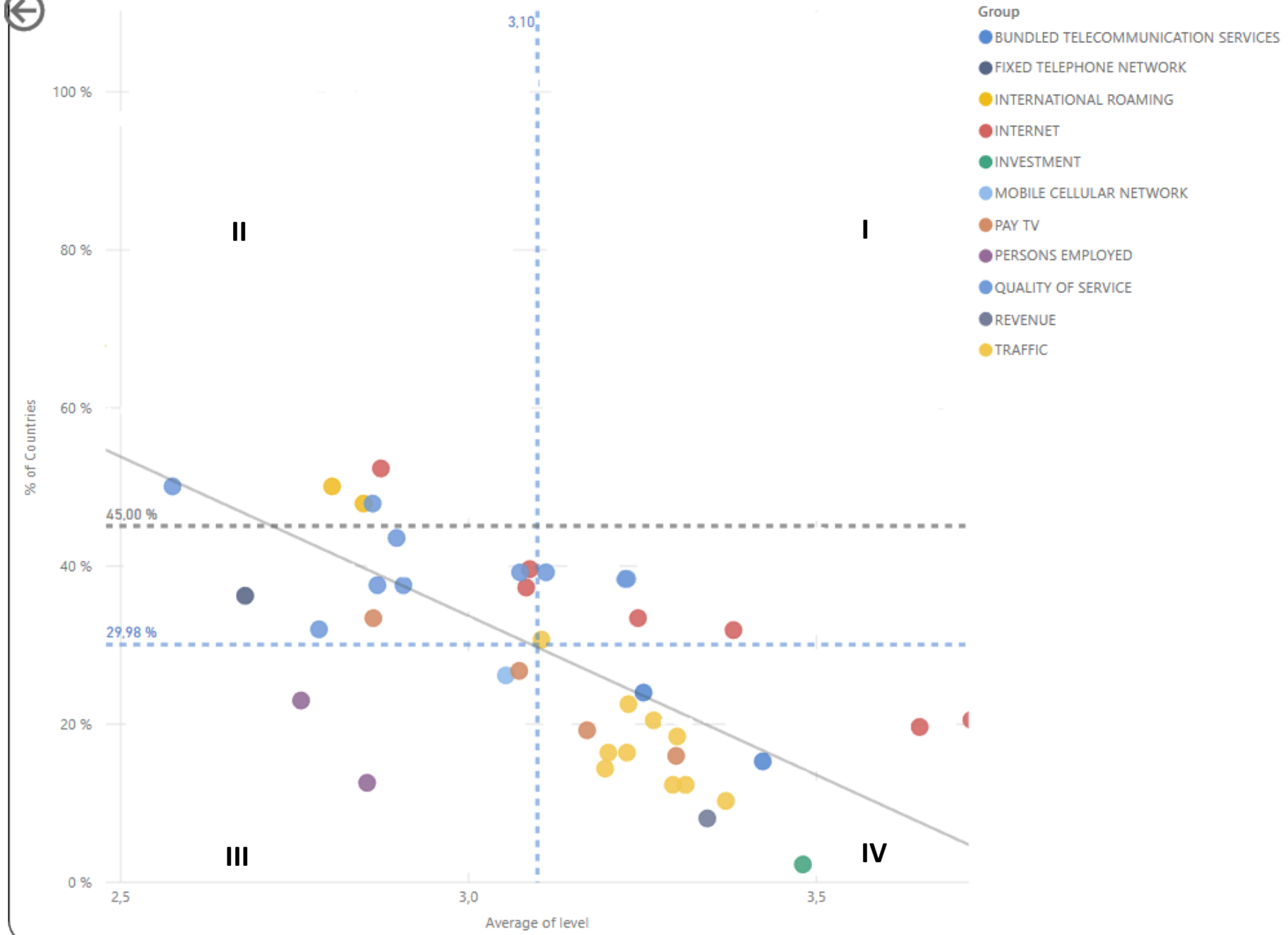
Regional behavioral analysis

Response rate **correlation analysis among countries and regions**.

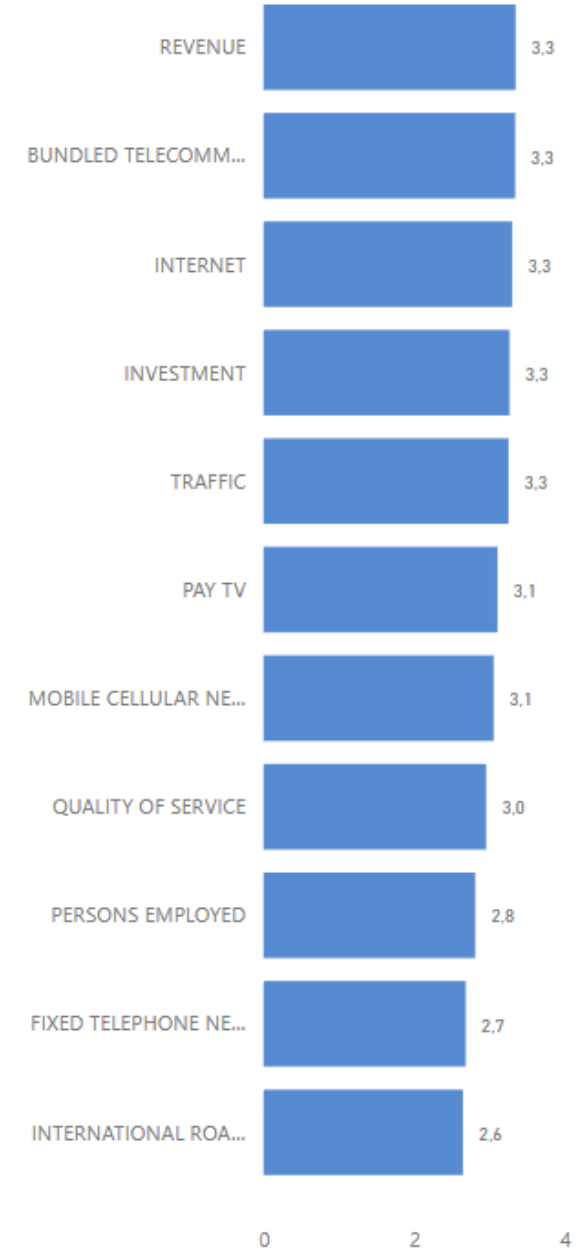
Some common patterns:.

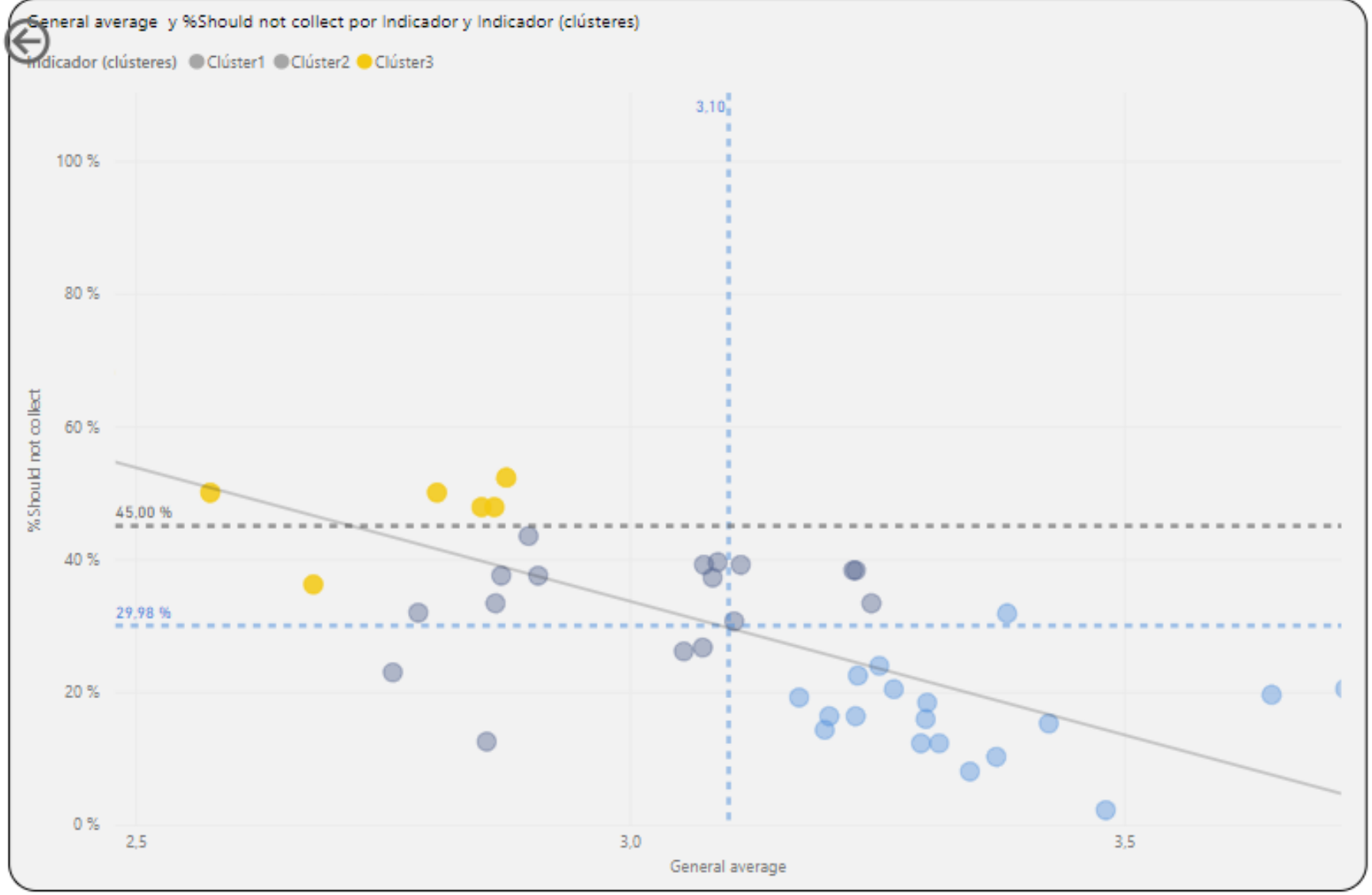
- The indicator groups with **the greatest differences among regions** due to their behavior patterns are Traffic, Bundled Telecommunications, and Pay TV.
- The indicator groups with the **greatest similarities among regions** due to their behavior patterns are International Roaming, Mobile Cellular Network, and Broadband.
- In general, the **America and Europe have similar behaviors** in responses given for International Roaming, Mobile Broadband, and Bundled Telecommunications Services indicators.
- There is a greater pattern of similarity in the behavior of responses given among **Africa, Arab States, and Asia-Pacific** in International Roaming, Fixed Telephony Network, Internet, and Mobile Broadband Network indicators.

Comparison between % of countries that indicate this indicator should be not collected in the LQ vrs Average level from 5 categories



General average by group





Fault Resolution Period for Fixed Broadband Service, in hours

Fixed-telephone numbers ported

Number of countries with which there is a country-level roaming agree...

Number of countries with which there is an operator-level roaming agre...

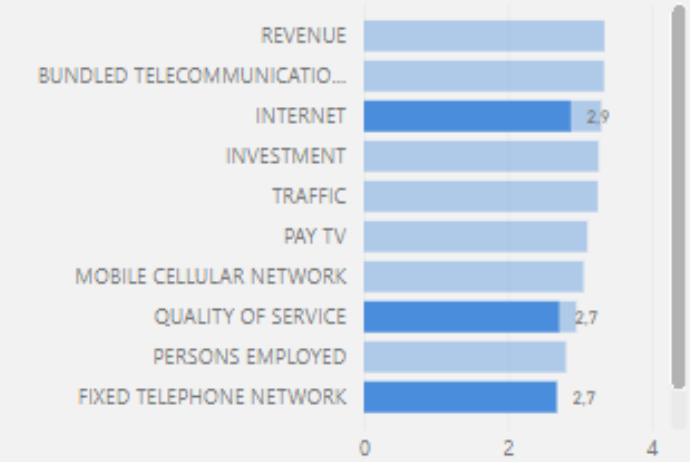
Number of households covered by the traditional public switched teleph...

Packet Latency for Mobile Broadband, in milliseconds

Roaming by foreign subscribers (inbound roaming), in minutes

Roaming by home subscribers abroad (outbound roaming on CLRAs), i...

Filtros

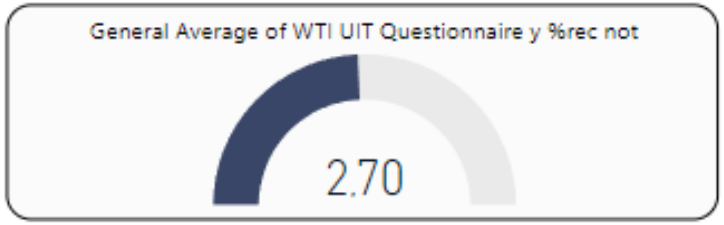


Total of countries

56

Indicator´s total

8

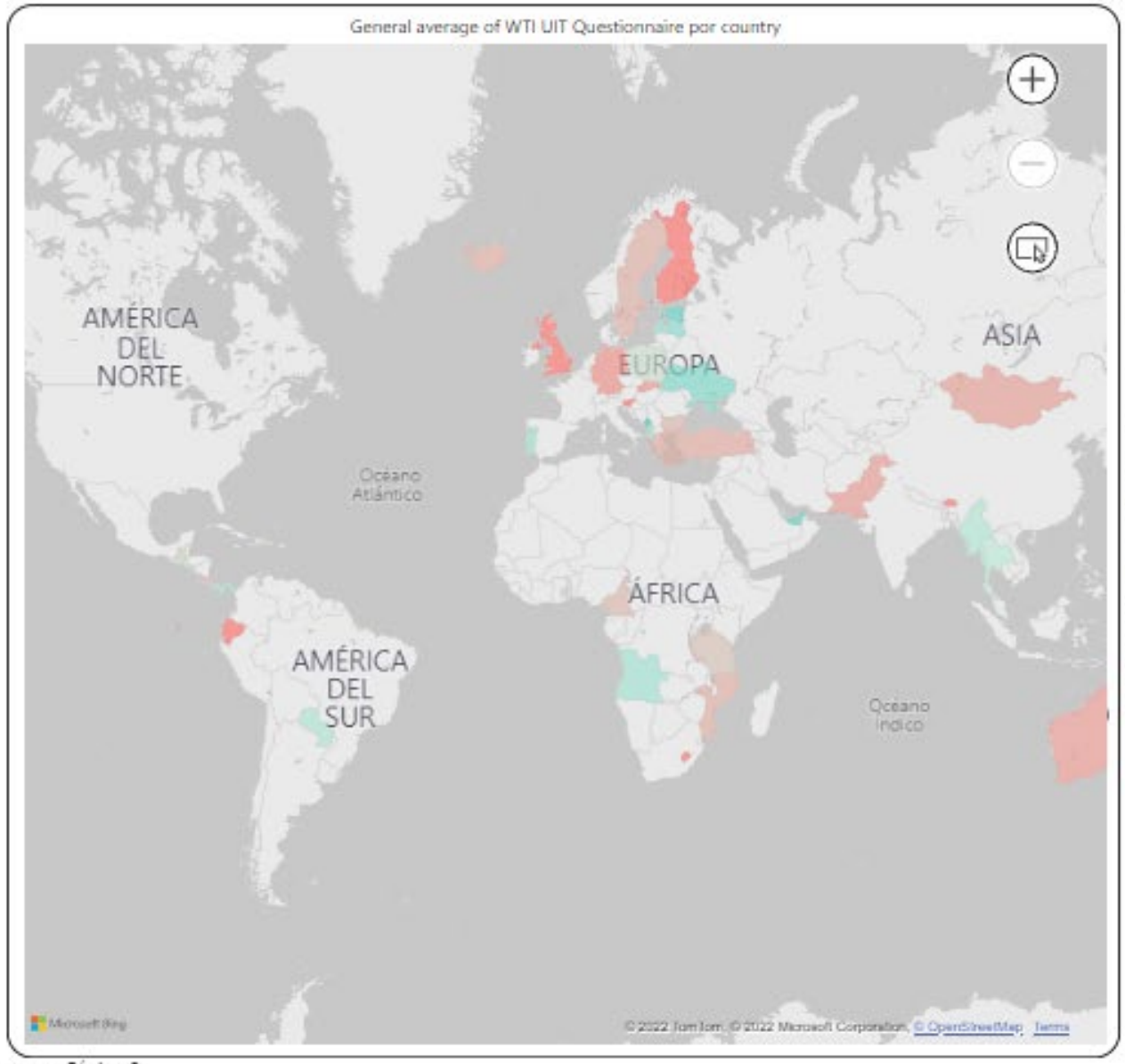


Resumen, clústers

The lowest average of relevance indicators

Indicator	Average level of relevance
Number of countries with which there is a country-level roaming agreement	2,4
Number of countries with which there is an operator-level roaming agreement	2,5
Fault resolution period for fixed broadband service, in hours	2,6
Fixed telephone number porting	2,7
Persons employed by all telecommunication operators, female	2,8
Roaming by home subscribers abroad (outbound roaming on CLRAs), in minutes	2,8
Service activation time for fixed broadband service (in days)	2,8
Other TV subscriptions	2,8
Full-time equivalent telecommunication employees	2,9
Packet latency for mobile broadband, in milliseconds	2,9

Thanks to the additional questionnaire, the sub-group can present the average of indicator importance from 1 to 5 by country and indicator.



Indicador (clústeres)	General Average	Average of Technological development issues (prospective)	Average
Cluster1	3,34	3,12	
Cluster2	3,01	2,87	
Clúster3	2,70	2,58	
Total	3,10	2,93	

Indicators	General Average of relevance
Roaming by home subscribers abroad (outbound roaming on CLRAs), in minutes	2,80
Roaming by foreign subscribers (inbound roaming), in minutes	2,85
Packet Latency for Mobile Broadband, in milliseconds	2,86
Number of households covered by the traditional public switched telephone network	2,88
Number of countries with which there is an operator level roaming agreement	2,47
Number of countries with which there is a country level roaming agreement	2,44
Fixed telephone numbers ported	2,68
Fault Resolution Period for Fixed Broadband Service, in hours	2,58
Total	**2,70**

Filtros

Resumen, Página 2

Conclusions & Proposals

Final decisions considerations

- Each Member State has different realities in terms of development of the sector.

  This process helped us to better understand these differences.

- The sub-group analyzed the information and opinions related to each of the 44 indicators discussed. In the end, the final proposal is to reduce the number of indicators in WTI LQ by 9 indicators in the short term, and a possibility to revisit 7 more in the medium term depending on a new revision.

The final proposal

1. Directly drop 1 indicator from the LQ but still on *Handbook*

i147t: Service activation time for fixed broadband service (in days)

WHY?

Competition will reduce this to the minimun.

There are differences among operators and simple average computing do not reflect that. From regulatory side service activation time **is not usually established as a requirement for concessions or authorizations.**

2. Keep “On Hold” 7 of the 44 analyzed

- i147ul: Average upload throughput for fixed broadband, in bits
- i146mwul: Average upload throughput for mobile broadband, in bits
- i133crm: Number of countries with which there is a country-level roaming agreement
- i133rm: Number of countries with which there is an operator-level roaming agreement
- i147f: Fault resolution period for fixed broadband service, in hours
- i147l: Packet latency for fixed broadband, in milliseconds
- i146mwl: Packet latency for mobile broadband, in milliseconds

WHY?

Still in pilot phase and there is insufficient data to judge.

It is important to **keep in order to see the evolution (data & responses).**

Some countries are struggling with methodology (need refinements)

To be discussed in the context of pilot review.

It could be a good practice to stablish a trial period each time an indicator is added 2 years after it´s collection starts.

3. Simplification of 14 indicators of the 44 analyzed but still on *Handbook*

- i131m: Domestic fixed-to-fixed telephone traffic, in minutes
- i1313wm: Fixed-to-mobile telephone traffic, in minutes
- i1335wm: Incoming international traffic to mobile network, in minutes
- i132mi: International incoming fixed-telephone traffic, in minutes
- i132m: International outgoing fixed-telephone traffic, in minutes
- i1332wmf: Outgoing mobile traffic to fixed networks, in minutes
- i1333wm: Outgoing mobile traffic to international, in minutes
- i4213cv: Number of households covered by a fixed wired network
- i4213cv_cab: Number of households covered by cable TV networks
- i4213cv_dsl: Number of households covered by digital subscriber line networks (excluding VDSL/VDSL vectoring)
- i4213cv_vdsl: Number of households covered by digital subscriber line networks (VDSL/VDSL vectoring)
- i4213cv_fttp: Number of households covered by fiber-to-the-premises networks
- i4213cv_o: Number of households covered by other fixed-wired networks
- i4213cv_pstn: Number of households covered by the traditional public switched telephone network

WHY?

To **increase response rate** helping countries to collect it easily.

The final proposal
Some Traffic indicators

Code	Indicator	Final Assessment
i131m	Domestic fixed-to-fixed telephone traffic, in minutes	Total outgoing voice traffic from fixed (originated in) networks
i1313wm	Fixed-to-mobile telephone traffic, in minutes	
i1335wm	Incoming international traffic to mobile network, in minutes	Total incoming voice traffic to fixed networks (fixed network destination)
i132mi	International incoming fixed telephony traffic, in minutes	
i132m	International outgoing fixed telephony traffic, in minutes	Total outgoing voice traffic from (originated in) mobile networks
i1332wmf	Outgoing mobile traffic to fixed networks, in minutes	
i1333wm	Outgoing mobile traffic to international, in minutes	Total incoming voice traffic to mobile networks (mobile destination) and total international outgoing traffic

The final proposal
Some Internet indicators

Code	Indicator	Final assesment
i4213cv	Number of households covered by a fixed wired network	Number of households passed by the traditional copper-based network
i4213cv_cab	Number of households covered by cable TV networks	
i4213cv_dsl	Number of households covered by digital subscriber line networks (excluding VDSL/VDSL vectoring)	
i4213cv_vdsl	Number of households covered by digital subscriber line networks (VDSL/VDSL vectoring)	Number of households covered by fiber-based or cable modem networks
i4213cv_fttp	Number of households covered by fiber-to-the-premises networks	
i4213cv_o	Number of households covered by other fixed-wired networks	Number of households with fixed wireless access
i4213cv_pstn	Number of households covered by the traditional public switched telephony network	Total number of households covered by fixed networks

The final proposal

4a. Keep it but flag the need for methodological refinements for data collection or reporting 3 indicators

- i112pt: Fixed telephone number porting
- i271pt: Mobile-cellular number porting

WHY?

Some countries do not have portability, but it is relevant to have the indicator so it could help to modify the indicator.

Clarification needed: Make sure to explain that it is not a cumulative number; it is "during the reference year"

Collect absolute values (continuity of the serie), but report these figures as % of total subscriptions (ITU dissemination of the data).

The final proposal

4b. Keep it but flag the need for methodological refinements for data collection or reporting 3 indicators.

- i841f: Annual foreign investment in telecommunications

WHY?

Collect it in local currency & also report it in terms of PPPs

Propose to EGTI to **review the data collection methodology since subgroup members indicated that many were applying different methodologies**

The final proposal

5. Keep directly 19 of the 44 indicators analyzed.

WHY?

Importance and Relevance analysis

Continuity of the data series

Still needed for monitoring the characteristics of the markets considering differences among countries

For discussion with the floor

Directed by Mr. Banda (Chair)

1. **Directly drop** 1 indicator from the LQ but still on *Handbook*
2. **Keep "On Hold"** 7 of the 44 analyzed
3. **Simplification** of 14 indicators of the 44 analyzed but still on *Handbook* (reduce to 8)
4. **Keep it but flag** the need for methodological refinements for data collection or reporting 3 indicators
5. **Keep directly** 19 of the 44 indicators analyzed.

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