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**Abstract:**

The Study Group-3 of ITU-T established a Focus Group on Costing Data (FG-CD) for affordable data services in March 2023. Key objective the FG-CD is to identify and understand the components of the internet value chain that affect the cost of data services, benchmark best practices that could help the stakeholders in framing a costing/pricing model, collaborate with stakeholders in evaluating the prevalent costing and pricing methodologies and many more.

FG-CD examines the telecommunication/ICT supply chain, analyzes various cost models and pricing strategies for mobile and internet data services, and explores policy, economic, regulatory, and standardization considerations for achieving affordable data access. Additionally, FG-CD investigates best practices in cost assessment methodologies and economic models.

The pricing of data is complex and market driven. The costs involved in managing the lengthy supply chain to provide Internet are being recovered predominantly by directly charging the customers. There is a need to have a focused study on the pricing mechanisms and how the cost recovery should be articulated. FG-CD provides a valuable platform for collaborative research for studying and exploring the various costing models for promoting affordable data services.

There are two main methods for accessing the internet are - wired and wireless. Wired internet connections like DSL, Fiber Optic and Cable are typically faster and more reliable, but they require a physical cable to be connected to your device. Wireless internet connections like Cellular or Wi-Fi are more convenient because they don't require a cable, but they can be slower and less reliable. Presently, accessing the internet via mobile smartphones is rapidly gaining more and more popularity, with over 61% of total internet data is being accessed through these devices. Consequently, there's a growing demand for affordable mobile internet data. To meet this demand, it's imperative to reduce the cost of accessing 1 GB of internet data through mobile smartphones.

To understand global data pricing trends, “[cable.co.uk](https://www.cable.co.uk)” has been conducting regular annual studies since 2019 regarding cost of mobile data globally, providing insights into the average price of 1GB of mobile data in different countries [1]. Their latest report, covering 237 countries (July-Sept 2023), reveals significant variations in cost.

The five most affordable countries for mobile data are Israel (USD 0.02), Italy (USD 0.09), Fiji (USD 0.09), San Marino (USD 0.10), and Cambodia (USD 0.12). Conversely, the five most expensive countries are Zimbabwe (USD 43.75), the Falkland Islands (USD 40.58), Saint Helena (USD 40.13), South Sudan (USD 23.70), and Tokelau (USD 17.24). Country-wise details per GB cost of mobile internet data of 189 ITU member countries is attached as Annexure-I.

As main task of the FG-CD is to analyse the cost model and pricing strategies, it will be appropriate to study the cost model, VAT/GST adopted by member countries, especially the countries providing cheapest internet data.

This analysis can provide valuable insights for developing cost-effective strategies.

### **Inference drawn from a data table placed at Annexure-I**

Some of the inference drawn from Cable.co.uk's study regarding cost of the per GB mobile internet data are as follows.

1. The encouraging trend in mobile internet data costs is the rapid and continuous decline in per GB rates. With the advent of 4G (LTE) & 5G technologies, subscribers have witnessed a significant reduction in the average cost of wireless data usage. The introduction of 4G LTE has not only brought about higher speeds but also enhanced efficiency, thereby prompting users to engage in increased data consumption. However, this heightened usage could potentially result in exceeding data plan limits.

[1] - <https://www.cable.co.uk/mobiles/worldwide-data-pricing/>

2. Israel maintains its position at the forefront of global data pricing, with an average cost of just USD 0.02 per GB, due to its prominence as a global leader in 5G provision.
3. Italy offers the cheapest mobile data in Western Europe.
4. Sub-Saharan region of Africa is the fourth-most expensive region in the world for mobile data, while island nations also among the most expensive.
5. There is a notable disparity in the cost of mobile data across the globe, with prices varying significantly based on location. According to reports from Cable.co.uk, certain countries consistently exhibit prices that are hundreds of times higher than those in others.
6. Compared globally, the UK sits around the middle in mobile data affordability. Their 2023 report places the UK at 58th cheapest, with an average cost per GB of USD 0.62.

**Proposal:**

IAFI aimed to develop a comprehensive proposal addressing data affordability concerns among its member nations. As part of this initiative, IAFI has meticulously designed a draft questionnaire, delineated in Annexure-II, intended to systematically gather relevant information on various factors affecting the cost of data in member states. This questionnaire will be disseminated to all member countries, soliciting their valuable feedback. The received responses will undergo thorough analysis, enabling us to extract insightful perspectives on data affordability strategies and facilitating the development of a deep understanding of the prevailing landscape.

Draft questioner is attached as Annexure-II.

**Annexure-I**

**Average cost of 1GB Mobile Internet Data of 189 ITU Countries**

<b>S. No.</b>	<b>Country</b>	<b>Average price of 1GB Mobile Internet Data in USD</b>
1.	Israel (State of)	0.02
2.	Fiji (Republic of)	0.09
3.	Italy	0.09
4.	San Marino (Republic of)	0.10
5.	Cambodia (Kingdom of)	0.12
6.	Pakistan (Islamic Republic of)	0.12
7.	India (Republic of)	0.16
8.	Kyrgyz Republic	0.17
9.	Colombia (Republic of)	0.20
10.	France	0.20
11.	Haiti (Republic of)	0.22
12.	Bangladesh (People's Republic of)	0.23
13.	Sri Lanka (Democratic Socialist Republic of)	0.25
14.	Lao People's Democratic Republic	0.25
15.	Russian Federation	0.25
16.	Ukraine	0.27
17.	Indonesia (Republic of)	0.28
18.	Moldova (Republic of)	0.28
19.	Malaysia	0.28
20.	Uruguay (Eastern Republic of)	0.28
21.	Viet Nam (Socialist Republic of)	0.29
22.	Uzbekistan (Republic of)	0.30
23.	Montenegro	0.32
24.	Trinidad and Tobago	0.32

<b>S. No.</b>	<b>Country</b>	<b>Average price of 1GB Mobile Internet Data in USD</b>
25.	Samoa (Independent State of)	0.36
26.	Poland (Republic of)	0.37
27.	China (People's Republic of)	0.38
28.	Mongolia	0.38
29.	Malawi	0.38
30.	Nigeria (Federal Republic of)	0.39
31.	Brazil (Federative Republic of)	0.40
32.	Ghana	0.40
33.	Kazakhstan (Republic of)	0.41
34.	Thailand	0.41
35.	Monaco (Principality of)	0.42
36.	Nepal (Federal Democratic Republic of)	0.43
37.	Australia	0.44
38.	Republic of Türkiye	0.44
39.	Peru	0.45
40.	Spain	0.48
41.	Somalia (Federal Republic of)	0.50
42.	Austria	0.51
43.	Democratic Republic of the Congo	0.52
44.	Finland	0.52
45.	Kuwait (State of)	0.52
46.	Romania	0.54
47.	Nicaragua	0.55
48.	Rwanda (Republic of)	0.55

<b>S. No.</b>	<b>Country</b>	<b>Average price of 1GB Mobile Internet Data in USD</b>
49.	Serbia (Republic of)	0.58
50.	Kenya (Republic of)	0.59
51.	Philippines (Republic of the)	0.59
52.	United Kingdom of Great Britain and Northern Ireland	0.62
53.	Morocco (Kingdom of)	0.63
54.	Singapore (Republic of)	0.63
55.	Chile	0.64
56.	Egypt (Arab Republic of)	0.65
57.	Belarus (Republic of)	0.67
58.	Mauritius (Republic of)	0.67
59.	Sierra Leone	0.67
60.	Syrian Arab Republic	0.67
61.	Congo (Republic of the)	0.68
62.	Ethiopia (Federal Democratic Republic of)	0.68
63.	Denmark	0.69
64.	Jamaica	0.70
65.	Bhutan (Kingdom of)	0.71
66.	Algeria (People's Democratic Republic of)	0.73
67.	Jordan (Hashemite Kingdom of)	0.76
68.	Honduras (Republic of)	0.78
69.	Mozambique (Republic of)	0.78
70.	Dominican Republic	0.79
71.	Libya (State of)	0.82
72.	Slovenia (Republic of)	0.84

<b>S. No.</b>	<b>Country</b>	<b>Average price of 1GB Mobile Internet Data in USD</b>
73.	Tanzania (United Republic of)	0.84
74.	North Macedonia (Republic of)	0.86
75.	Suriname (Republic of)	0.95
76.	Armenia (Republic of)	0.98
77.	Myanmar (Union of)	0.99
78.	Ecuador	1.00
79.	Angola (Republic of)	1.01
80.	Afghanistan	1.02
81.	Bosnia and Herzegovina	1.03
82.	Paraguay (Republic of)	1.04
83.	Saint Vincent and the Grenadines	1.05
84.	Venezuela (Bolivarian Republic of)	1.05
85.	Iraq (Republic of)	1.07
86.	Iceland	1.08
87.	El Salvador (Republic of)	1.08
88.	Burundi (Republic of)	1.10
89.	Argentine Republic	1.11
90.	Dominica (Commonwealth of)	1.11
91.	Uganda (Republic of)	1.11
92.	Madagascar (Republic of)	1.12
93.	Estonia (Republic of)	1.15
94.	Sudan (Republic of the)	1.16
95.	Guatemala (Republic of)	1.17
96.	Côte d'Ivoire (Republic of)	1.18

<b>S. No.</b>	<b>Country</b>	<b>Average price of 1GB Mobile Internet Data in USD</b>
97.	Croatia (Republic of)	1.19
98.	Liechtenstein (Principality of)	1.19
99.	Tonga (Kingdom of)	1.19
100.	Namibia (Republic of)	1.20
101.	Djibouti (Republic of)	1.26
102.	Lithuania (Republic of)	1.26
103.	Eswatini (Kingdom of)	1.26
104.	Tunisia	1.28
105.	Bahrain (Kingdom of)	1.31
106.	Mauritania (Islamic Republic of)	1.32
107.	Papua New Guinea	1.36
108.	Togolese Republic	1.45
109.	Saudi Arabia (Kingdom of)	1.49
110.	Ireland	1.50
111.	Iran (Islamic Republic of)	1.50
112.	Equatorial Guinea (Republic of)	1.51
113.	Guinea (Republic of)	1.51
114.	Saint Kitts and Nevis (Federation of)	1.54
115.	Vanuatu (Republic of)	1.54
116.	Saint Lucia	1.58
117.	Netherlands (Kingdom of the)	1.61
118.	Cameroon (Republic of)	1.63
119.	Niger (Republic of the)	1.63
120.	Panama (Republic of)	1.63



<b>S. No.</b>	<b>Country</b>	<b>Average price of 1GB Mobile Internet Data in USD</b>
121.	Senegal (Republic of)	1.63
122.	Tajikistan (Republic of)	1.65
123.	Luxembourg	1.70
124.	Hungary	1.71
125.	Azerbaijan (Republic of)	1.76
126.	Portugal	1.79
127.	South Africa (Republic of)	1.81
128.	Grenada	1.81
129.	Costa Rica	1.86
130.	Bolivia (Plurinational State of)	1.87
131.	Brunei Darussalam	1.89
132.	Georgia	1.91
133.	Lebanon	1.91
134.	Timor-Leste (Democratic Republic of)	1.92
135.	Oman (Sultanate of)	1.95
136.	Lesotho (Kingdom of)	1.96
137.	Botswana (Republic of)	1.99
138.	Mexico	2.03
139.	Germany (Federal Republic of)	2.14
140.	Maldives (Republic of)	2.16
141.	Comoros (Union of the)	2.18
142.	Belgium	2.23
143.	Sweden	2.33
144.	Guyana	2.36

<b>S. No.</b>	<b>Country</b>	<b>Average price of 1GB Mobile Internet Data in USD</b>
145.	Malta	2.36
146.	Benin (Republic of)	2.37
147.	Qatar (State of)	2.40
148.	Cyprus (Republic of)	2.41
149.	Sao Tome and Principe (Democratic Republic of)	2.41
150.	Liberia (Republic of)	2.50
151.	Slovak Republic	2.68
152.	Cuba	2.71
153.	Guinea-Bissau (Republic of)	2.72
154.	Barbados	2.75
155.	Greece	2.79
156.	Belize	2.92
157.	Nauru (Republic of)	3.09
158.	Czech Republic	3.12
159.	Kiribati (Republic of)	3.19
160.	Antigua and Barbuda	3.20
161.	Latvia (Republic of)	3.21
162.	Cabo Verde (Republic of)	3.24
163.	Burkina Faso	3.27
164.	Japan	3.48
165.	Gambia (Republic of the)	3.56
166.	Norway	4.07
167.	Gabonese Republic	4.09
168.	Chad (Republic of)	4.09



**Annexure-II**

**Questioner regarding the cost structure and factors affecting Internet data affordability:**

1. What are the cost components associated with data services, and what are the primary factors influencing the affordability of these services? Please provide a breakdown of the cost components involved in mobile data services, such as infrastructure, spectrum acquisition, network maintenance, and administration.
2. How does the expense of spectrum acquisition through auctions impact both capital expenditure (CAPEX) and operational expenditure (OPEX), consequently influencing long-term cost models for data services?
3. Is investment in new technologies a crucial factor that could potentially contribute to lowering the cost of mobile data services?
4. How significantly does the expense of maintaining passive network elements, such as towers for last-mile connectivity, impact the affordability of data services?
5. Which cost model, top down, bottom up, LRIC and LRIC+ with bottom up approach or any other model is adopted, for calculating mobile data rate?
6. What are the biggest challenges to achieving affordable data access in your country?
7. What is the prevailing rate of value-added tax (VAT) or Goods and Services Tax (GST) on telecommunication services? To what extent does this tax impact the affordability of data services?
8. What are the future trends you see in the data services market in your country?
9. Are there any additional pertinent insights you would like to contribute regarding the affordability of data services in your country?

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