Surfshark®

Digital Quality of Life

Global research of 65 countries' digital quality of life.

2019

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List of Abbreviations

Digital quality of life	DQL
European Economic Area	EEA
E-government development index	EDGI
European Union	EU
Global Cybersecurity Index	GCI
General Data Protection Regulation	GDPR
International Telecommunications Union	ITU
Online service index	OSI
United Arab Emirates	UAE

Introduction

The world is increasingly hyperconnected.

On average, every day, each adult spends almost 6 hours browsing the web (Marvin, R. 2018). As of 2019, the number of people using the internet has grown to 4.3 billion, equivalent to 57% of the population. Therefore, the quality of people's digital lives profoundly impacts their physical well-being.

As a formation of various factors, digital quality of life is directly related to overall quality of life. However, there is an apparent gap between many countries in terms of the seamlessness of connectivity encompassing connection speed and affordability, the online availability of various services and goods, and the general sense of online safety and empowerment to control one's digital life. Persistent attention to the areas where countries underperform in terms of global median values can lead to significant improvement in people's well-being as much as the country's global development.

This study on digital quality of life (DQL) has been conducted to determine the critical problem areas and the gaps between people's online experience in various nations. The DQL index is a review based on 6 key elements. In the study, extensive study using a combination of desk research and expert opinions was conducted. This is the first incarnation of this type of study, which will be carried out annually from now on.

The methodology used to gather data, index the countries, and produce the weighting system is discussed in detail in Section 3 of the report. It is followed by a detailed Global Outlook, overviewing specific factors that influence the digital quality of life in the selected countries as described in the scope of this research.

Scope

This report considers the quality of people's digital lives in 65 countries in all regions of the world, covering over 5.5 billion people, or 70% of the world's population.

The factors defining the digital quality of life and their weights in the overall index were determined by a panel of experts from various backgrounds as well as quantitative surveys in 10 countries to make up for any potential bias. The final factors that make up the foundation of the digital quality of life were selected from 21 indicators. After taking into account the reliability of data and expert opinion, the final factors were narrowed to:

- affordability of connectivity;
- the speed of connectivity;
- security of citizens' personal information;
- the digital advancement of specific country in terms of its cybersecurity;
- the development of a country in terms of availability of e-services offered by its government;
- the variety of content to access.

The number of countries covered by the final index was determined by the availability, integrity, and viability of data required to achieve objective and comparable results. Another important aspect in selecting the countries was regional coverage. The final DQL covers all regions of the world.

The DQL index is based on data provided by the Freedom House, United Nations, World Economic Forum, Consumers International, and the International Telecommunication Union. The results for internet speed, internet prices, personal data protection legislation, e-government availability, entertainment content availability, and the GCI were weighted to make up the final DQL index.

Each of the indicators and its outcome are discussed in more detail in the Global Outlook, Sections 6-10.

CHAPTER 3

Methodology

The 2019 DQL index is a composite measure derived by an expert panel weighting the importance of each of the factors selected.

The selection process of the factors, their weighting process, sources used for data acquisition, and the panel of experts are discussed in detail in the following sections.

3.1 Composite Factors

The core factors that comprise the final DQL index were determined by the research team. In the first stage of the study, the team listed 21 criteria directly related to people's online experience in various countries. Each of the listed factors were thoroughly analyzed in their potential to improve overall quality of life. During this stage, the list of factors was reduced to 12 as the overall impact of the rejected indicators was determined to be either minor or impossible to measure.

The second stage of building up the DQL involved primary data collection. As one of the core goals of the study was to find comparable and up-to-date data sets in as many countries around the world as possible, some potential indicators were omitted due to unreliable or no data. Among the factors rejected in the second stage were price discrimination, shipping prices, and online censorship. Efforts to measure price discrimination were unsuccessful because of its complex, and in some cases, vague definition as well as its working priciples, although the concept was clearly evident during the research. This is discussed in more detail in Section 4.4.1. The factor of shipping prices, meaning more expensive shipping of the same physical goods to some countries than others, was omitted in order to avoid narrow estimation as goods that are popular in some countries may not be popular in others for various reasons (for instance, local tariffs or taxes), not only shipping costs. Online censorship was not put into the final DQL index because of complications related to measuring its extent in specific markets as well as vague legislative arrangements in some countries.

The third stage of the research involved secondary data collection for the remaining 6 factors and their components (mobile and broadband internet are considered equally important, and thus were not separated in the final 2019 DQL index). Taking into account the data availability, reliability, and comparability for the highest possible number of countries to include in the index, the final 2019 DQL index was determined to be based on the weighted averages of internet speed and its affordability (mobile and broadband), the presence or

absence of personal data protection legislation, e-government availability, entertainment content availability, and cybersecurity of countries. All of the selected criteria are discussed in detail in the following sections of the methodology.

3.1.1 Internet Speed

The internet enables social and economic growth, allowing people to communicate with others, find jobs, and access to education and information (Granryd, 2016). In many countries, the internet has also become an increasingly popular means to acquire goods and services, enjoy entertainment, do business, as well as use and deliver governmental services. The faster the internet, the more one can do online, while limited connection speed capabilities impede the effective usage of available online tools. Hence, internet speed can be considered one of the critical factors when it comes to widespread internet adoption and the core ingredient to the quality of people's digital experience.

The majority of the expert panel selected internet speed as the crucial factor that determines people's digital quality of life. Technadu notes that being able to go online and exchange information with others is at the very core of our digital (and physical) world. According to Comparitech, both internet speed and prices are "key factors in overall broadband adoption and marketplace competitiveness." However, as pointed out by an expert from Chip.de, aside from basic internet speed, for most people there is little to no difference between a 100 Mbps connection and a 200 Mbps or higher connection as such speeds cover most of one's needs in today's digital sphere.

For mobile and broadband internet speeds to be indexed, the available dynamic estimates worldwide in January, February, and March were collected and counted as weighted averages to come to the average mobile and broadband internet speed in each country. Internet speeds were measured using the Speedtest Global Index (Speedtest, n.d.) for both mobile and broadband internet, monitored for three months (see Annex 1). Average speed was divided by the highest average speed (for mobile, Iceland, with 73.93 Mbps; for broadband, Singapore, with 197.34 Mbps) to determine the index value (between 0 and 1). Then the weighted factor of 0.11 for mobile and broadband speeds, respectively, was summed up to determine a 0.22 weighting (Equations 1 and 2). Although the importance of mobile and broadband internet connections differs across countries, in the scope of the 2019 DQL index, they were equally weighted and combined into one indicator. The weighted index figure for mobile internet speed was determined by the following formula:

$$mobile\ speed\ indicator = \left(\frac{avg\ speed}{73.93} \right) \times 0.11$$

Equation 1: Index figure for mobile internet speed

The index figure for broadband speed was determined by the following formula:

$$broadband\ speed\ indicator = \left(\frac{avg\ speed}{197.34} \right) \times 0.11$$

Equation 2: Index figure for broadband internet speed

3.1.2 Internet Prices

Although internet speed is considered a core factor in ensuring the quality of the user's digital experience, especially in times of high-definition content, live streaming, and social communication, it is highly dependent on its affordability. It plays a vital role, especially in less economically affluent countries. Relative internet prices are an essential factor determining the extent of the digital divide.

As the experts at Top10VPN.com point out, "a country can boast lightning-fast internet speeds, net neutrality, and blanket coverage," but if the prices are high, citizens are still kept offline and in the dark, "worsening the worldwide digital divide." Top10VPN experts mention that the UN has declared access to the internet a human right, and human rights must be accessible to all. If internet is expensive, it is only available to the better off, which is "quite literally an infringement on human rights" (Top10VPN.com). Experts at Chip.de point out that in the West, especially for the younger generation, high prices for mobile internet restrict their access and negatively affect their DQL. Tom's Hardware also stresses that high prices limit companies' capacity and willingness to invest in modern infrastructure, thus limiting their competitiveness in the long term.

In the scope of the 2019 DQL index, an indicator of internet prices refers to the affordability of the internet connection, or in other words, how many hours one has to work to afford internet, both the cheapest broadband package (Howdle, 2018a) and the cheapest 1GB mobile internet (Howdle 2018b). When comparing countries, internet connection prices on their own say very little as wages and cost of living vary significantly around the world.

This means that even though the price of the internet subscription in one country might appear high in comparison with the others, this might not necessarily be the case as the level of economic affluence and average wages in that country make the internet more affordable than elsewhere. All of the provided prices are measured in the currency of United States dollars (USD) for comparison reasons. To avoid significant fluctuations in the exchange rates of various currencies, their values were fixed at the date of data gathering.

To determine the number of hours of work needed to afford the cheapest broadband package, the price of the package was divided by the average hourly wage in the country. The same was done for the cheapest mobile internet (1GB plan). The dynamic average wage data was taken from Numbeo (n.d.) in April 2019. Screenshots were taken at the time of data gathering (see Annex 12.1). To calculate the hourly wage from the average monthly wage (net) data provided, the length of the workweek in a country was used (taken from Wikipedia Contributors, 2019b), multiplied by 52 to determine the amount of hours worked in a year, and divided by 12 to determine the amount of hours worked in a month.[1] The average monthly wage was then divided by that number to determine the average hourly wage (Equation 3). Net values of average monthly wages were used to eliminate the tax burden in each of the researched countries.

$$average\ hourly\ wage = \frac{average\ monthly\ wage\ (net)}{((\text{workweek} \times 52) \div 12)}$$

Equation 3: Average hourly wage

The hourly wage calculated in Equation 3 was used to determine how many hours a person in a given country would have to work in order to afford the cheapest broadband package or mobile package by dividing the price for the cheapest broadband/mobile internet by the hourly wage. That was then multiplied by the 0.09 weighting factor to come to the index figure, as shown in Equation 4 and Equation 5.

$$broadband\ internet\ affordability = \left(\frac{cheapest\ broadband}{hourly\ age} \right) \times 0.09$$

Equation 4: Index figure number of hours worked to afford cheapest broadband package

[1] Since regulations for paid and unpaid leave differ per country, these have been left out of consideration to come to as fair an estimate of hourly wage as possible.

$$mobile\ internet\ affordability\ indicator = \left(\frac{cheapest\ mobile\ internet}{hourly\ wage} \right) \times 0.09$$

Equation 5: Index figure number of hours worked to afford 1GB of mobile internet

As with internet speed (Section 3.1.1), the index figure for internet prices is a combination of mobile and broadband prices. The index figures for both mobile and broadband internet were added to come to the 0.18 weighting. The decision to consider the affordability of mobile and broadband internet connection as equally important is explained later in the report.

3.1.3 Personal Data Protection Legislation

According to the Freedom House (The Freedom on the Net 2018 report, Shahbaz, 2018a), "democracy also requires a protected private sphere. [...] If democracy is to survive the digital age, technology companies, governments, and civil society must work together to find real solutions to the problems of social media manipulation and abusive data collection."

The experts from Comparitech ranked personal data protection laws as the most important factor, arguing that the ability to control one's personal data and privacy should be one of the core priorities of today's hyperconnected society. TopVPN.com compares online privacy laws to offline privacy laws: "Just as you wouldn't want to live in a society without laws guaranteeing the protection of its citizens' privacy, the same applies online. The right to use the internet privately, without fear of personal data being collected and abused, is one of the cornerstones of a free and open internet, and has to always come first."

Technadu makes the strongest case for personal data protection laws: "We've witnessed countless privacy intrusions (in the online realm) during the last couple of years, showing us the importance of having legal protection when it comes to our data."

Countries with legislation in place scored one point in the scope of 2019 DQL index. Countries with draft legislation in place scored half a point, and countries without legislation got zero points. In the index, the weight for legislation is 0.17, while the determination process of its value is discussed in Section 3.3 of this report.

3.1.4 E-Government Availability

Electronic government can provide better service delivery at reduced costs and has the potential to increase overall efficiency. E-government also helps to simplify the overall processes, minimize corruption and ensure transparency of the public sector.

Traditional bureaucracy and government required (and in many cases still require) people to go to a physical location and overcome various hurdles to access the desired services, as experts from Chip.de point out. E-government can significantly simplify citizens' lives, saving time and money, according to Technadu. Top10VPN notes that e-government is especially beneficial for the disabled, the elderly, or the otherwise disenfranchised, and they argue that "the internet is the greatest accessibility tool in the world" and that if governments shift as much of their bureaucracy to the internet as possible, this will create a fairer society with equal opportunities for all of its citizens. An expert from Vpngids.nl says that e-government processes need to be easy, fast, automated, and efficient.

To determine e-government availability, the Online Service Index (OSI) was used for its inclusivity. The OSI is a composite part of the United Nations' E-Government Development Index (EGDI). The EGDI is a weighted average of three scores on three dimensions of e-government, namely scope and quality of online services (the OSI), development status of telecommunications infrastructure, and inherent human capital (United Nations Public Administration Network, n.d.). The OSI is thus based on the extent of a country's government's online presence and for the estimates uses a four-stage model:

- Emerging presence (government offering basic information online)
- Enhanced presence (government offering more information online, as well as e-tools and e-services)
- Transactional presence (government offers two-way interactive applications, financial and non-financial transactions online)
- Connected presence (the entire government is online, interactions between government agencies and between citizens and government and vice versa happen online)

The United Nations Public Administration Network obtains data on the country's online presence via surveys sent to member states. Each question answered with "yes" gives that country one point. To build up the final 2019 DQL index, the OSI score was multiplied by the weight factor of 0.16 to obtain the index figure:

$$E\text{-}government\ indicator = OSI\ score \times 0.16$$

Equation 6: E-government indicator

3.1.5 Entertainment Content Availability

The internet has changed the way people consume entertainment. It is predicted that by 2020, video will generate 82% of all internet traffic (Cisco, February 27, 2019). Many platforms and services are offering content to gratify this growing demand. Hence, the availability of different kinds of content despite users' geographical location is one of the critical aspects defining a good digital experience.

Entertainment content can take the form of movies, television, music, books, games, and even pornography. For this study, services that cover most of the overall streaming market share were chosen. Additionally, since the demand for adult content has been high around the world and in order to marginally account for the freedom of content access in the researched countries, the availability of internet pornography was also included in the study.

To determine the composite index value of the availability of content around the world, the access to Amazon Prime (Saba, 2016), Netflix (Netflix, n.d.), YouTube Premium (YouTube Help, n.d.), and adult content was assessed for each country. Countries were given one point for each service that was freely accessible from within each country. Zero points were given if the respective services were not accessible from the countries at the time of data collection. The total of the points for each country were divided by four to get an average value. The average was multiplied by the weight indicator of 0.14 to determine the value of the Content Availability indicator.

3.1.6 The Global Cybersecurity Index

A country's commitment to and the capabilities of its national cybersecurity are critical to the overall well-being of its citizens and economic growth. As stated by the International Telecommunication Union (ITU), since the costs of data breaches have been increasing (by 6.4% in 2018), the projected damage of cybercrime will be $2 trillion USD by the end of 2019.

Also, the ITU stressed that continuous data breaches affect average internet users as well as pose a threat to critical infrastructure and universities. One of the general premises of the DQL index is that the better the country is prepared to face cyber threats on a national level, the better the digital quality of life and the overall well-being of its citizens.

All of the interviewed experts mentioned the importance of being safe online. It should be noted that they had strong opinions on the quality and availability of both global and national

cybersecurity and personal data protection laws. Most experts argued that these things are important, but many expressed distrust in governments' abilities to keep their citizens and countries safe.

TopVPN.com said: "Regulations and technologies designed to keep web users protected are vital. Governments and corporations have to work together to ensure this is the case – without infringing on the digital rights and liberties of citizens." Comparitech notes that a quantification of national cybersecurity is a generalization, and a low score does not necessarily mean that businesses and individuals in the country in question are inherently less secure, but rather that they are less secure if compared to the same aspects in other countries. Vpngids.nl made the point that cybercrime is a big problem with global financial damages of billions of dollars.

Depending on its extent, cybercrime ranges from the personal (hacking private or financial details, identity theft) to the national (interference in the presidential elections or national referendums), and even the global.

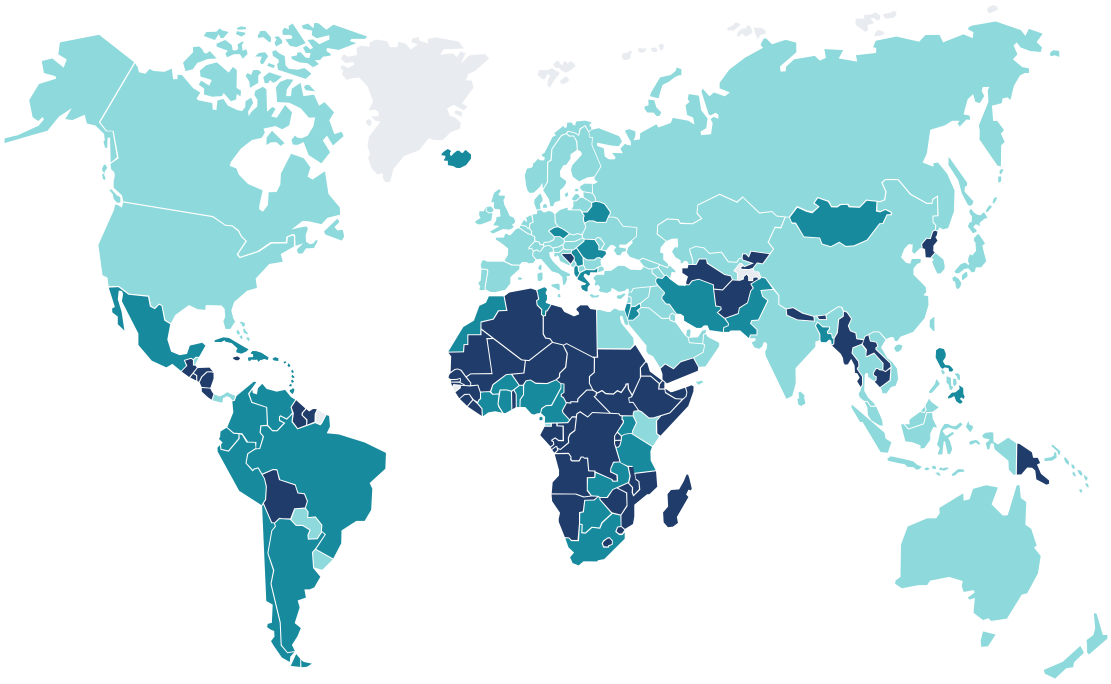
"Cybersecurity refers to the body of technologies, processes, and practices designed to protect networks, devices, programs, and data from attack, damage, or unauthorized access" (Lord, 2019).

As the volume and sophistication of cyberattacks grow, it becomes increasingly important to protect information relating to national security, health, or financial records.

To account for cybersecurity in each of the researched countries, the Global Cybersecurity Index 2018 (GCI), developed by the International Telecommunications Union (ITU), was used for its viability and the extent of data inclusivity.

The GCI uses 25 indicators to oversee the cybersecurity commitment of 194 ITU members to the five pillars endorsed by the Global Cybersecurity Agenda: legal, technical, organizational, capacity building, and cooperation.

The index uses data collected through an online survey with questions on each of the pillars and data collected by the GCI team to ensure accuracy. The report shows a clear gap in the level of cybersecurity engagement between different regions. In the final DQL index, the CGI score was given a weighting of 0.13.



Countries that demonstrate high commitment in all five pillars of the index.

Countries that have developed complex commitments and engage in cybersecurity programmes and initiatives.

Countries that have started to initiate commitments in cybersecurity.

Figure 1: Heatmap of cybersecurity commitment
Source: ITU, 2018, p. 13

3.2 The expert panel

In order to define what is and how to measure the digital quality of life, the research team invited a number of experts to share their expertise and carried out surveys in 10 countries with over 5,000 respondents to confirm or reject primary assumptions.

The panel of experts was gathered by sending out invitations to participate in the research to the acknowledged media outlets in various countries. The 2019 DQL index panel of experts includes the research team from Surfshark as well as representatives, editors, and journalists working in the fields of the internet, information technology, online connectivity, privacy, and security for the following online media outlets: Chip.de, Comparitech.com, Journaldugeek.com, Tomshardware.de, Technadu.com, Vpngids.nl, Top10vpn.com, Bestvpn.co, and Vpnranks.com.

3.3 Scoring process

In the weighting procedure the experts were given a questionnaire with the selected indicators of the DQL index to highlight and explain the most critical factors which have the greatest influence on people's digital wellbeing.

The most notable arguments for each of the expert choices were extensively used throughout this report to support the research results.

The final weighting system of the DQL index (see Table 1) was derived from the weighted averages of the weights highlighted by the experts as well as the research team. The results were used to weight the measured indicators and build up the final index of the digital quality of life in 65 countries.

Final components of the weighting system are distributed as follows:

Internet speed (three month average, mobile & broadband)	0.22
Internet cost (mobile and broadband)	0.18
Personal data protection laws	0.17
E-government availability	0.16
Entertainment content availability	0.14
Global Cybersecurity index	0.13
Total	**1.00**

Table 1: Criteria Weights

CHAPTER 4

Key Findings

4.1 Overall Digital Quality of Life

#	Country	DQL Index	Final score with criterion weight							
			Internet Speed		Internet Prices		Global Cybersecurity Index	E-government availability	Data protection laws	Entertainment content availability
			Mobile	Broadband	Cheapest broadband package	Cheapest mobile 1GB option				
1	Australia	0.7992	0.0893	0.0199	0.0310	0.0938	0.1113	0.1519	0.1667	0.1354
2	France	0.7985	0.0681	0.0620	0.0543	0.0443	0.1148	0.1530	0.1667	0.1354
3	Singapore	0.7854	0.0847	0.1144	0.0291	0.0227	0.1123	0.1541	0.1667	0.1016
4	Norway	0.7607	0.1058	0.0601	0.0236	0.0090	0.1115	0.1487	0.1667	0.1354
5	Japan	0.7606	0.0487	0.0554	0.0881	0.0077	0.1100	0.1487	0.1667	0.1354
6	Canada	0.7516	0.1014	0.0637	0.0253	0.0021	0.1115	0.1454	0.1667	0.1354
7	Denmark	0.7479	0.0780	0.0563	0.0212	0.0276	0.1065	0.1563	0.1667	0.1354
8	South Korea	0.7448	0.0825	0.0771	0.0387	0.0161	0.1091	0.1530	0.1667	0.1016
9	Italy	0.7361	0.0487	0.0286	0.0755	0.0279	0.1046	0.1487	0.1667	0.1354
10	Sweden	0.7360	0.0758	0.0665	0.0220	0.0209	0.1013	0.1476	0.1667	0.1354
11	United States	0.7341	0.0522	0.0665	0.0370	0.0065	0.1158	0.1541	0.1667	0.1354
12	Netherlands	0.7331	0.0919	0.0524	0.0215	0.0091	0.1106	0.1454	0.1667	0.1354
13	Israel	0.7269	0.0364	0.0396	0.0938	0.0619	0.0979	0.1291	0.1667	0.1016
14	Switzerland	0.7223	0.0777	0.0659	0.0439	0.0019	0.0985	0.1324	0.1667	0.1354
15	Spain	0.7061	0.0542	0.0629	0.0226	0.0058	0.1120	0.1465	0.1667	0.1354
16	Iceland	0.7045	0.1144	0.0923	0.0198	0.0396	0.0561	0.1139	0.1667	0.1016
17	United Kingdom	0.7035	0.0463	0.0328	0.0249	0.0280	0.1164	0.1530	0.1667	0.1354
18	Finland	0.7033	0.0646	0.0337	0.0179	0.0272	0.1070	0.1508	0.1667	0.1354
19	Germany	0.6914	0.0488	0.0396	0.0450	0.0043	0.1061	0.1454	0.1667	0.1354
20	New Zealand	0.6872	0.0694	0.0504	0.0140	0.0041	0.0986	0.1487	0.1667	0.1354
21	Belgium	0.6690	0.0761	0.0365	0.0266	0.0034	0.1018	0.1226	0.1667	0.1354
22	Austria	0.6687	0.0618	0.0221	0.0194	0.0244	0.1033	0.1356	0.1667	0.1354
23	Lithuania	0.6553	0.0636	0.0458	0.0352	0.0042	0.1135	0.1248	0.1667	0.1016

24	**Hungary**	**0.6529**	0.0716	0.0690	0.0261	0.0015	0.1015	0.1150	0.1667	0.1016
25	**Portugal**	**0.6478**	0.0510	0.0461	0.0072	0.0014	0.0948	0.1454	0.1667	0.1354
26	**Poland**	**0.6442**	0.0459	0.0380	0.0234	0.0214	0.1019	0.1454	0.1667	0.1016
27	**Russia**	**0.6439**	0.0297	0.0282	0.0248	0.0114	0.1045	0.1432	0.1667	0.1354
28	**Estonia**	**0.6431**	0.0645	0.0308	0.0168	0.0086	0.1131	0.1411	0.1667	0.1016
29	**Slovenia**	**0.6302**	0.0509	0.0317	0.0192	0.0477	0.0876	0.1248	0.1667	0.1016
30	**Ireland**	**0.6242**	0.0360	0.0336	0.0144	0.0110	0.0980	0.1291	0.1667	0.1354
31	**United Arab Emirates**	**0.6215**	0.0801	0.0330	0.0224	0.0032	0.1009	0.1476	0.1667	0.0677
32	**India**	**0.6165**	0.0158	0.0164	0.0161	0.0615	0.0899	0.1487	0.1667	0.1016
33	**Romania**	**0.6110**	0.0534	0.0769	0.0225	0.0158	0.0710	0.1031	0.1667	0.1016
34	**Qatar**	**0.6057**	0.0925	0.0282	0.0117	0.0077	0.1075	0.1237	0.1667	0.0677
35	**Turkey**	**0.6049**	0.0539	0.0120	0.0232	0.0021	0.1066	0.1389	0.1667	0.1016
36	**Slovakia**	**0.5867**	0.0514	0.0319	0.0255	0.0034	0.0911	0.1150	0.1667	0.1016
37	**Mexico**	**0.5846**	0.0340	0.0158	0.0092	0.0007	0.0786	0.1443	0.1667	0.1354
38	**Croatia**	**0.5832**	0.0689	0.0174	0.0115	0.0059	0.1050	0.1063	0.1667	0.1016
39	**Latvia**	**0.5791**	0.0465	0.0390	0.0265	0.0012	0.0935	0.1042	0.1667	0.1016
40	**South Africa**	**0.5738**	0.0427	0.0108	0.0357	0.0046	0.0815	0.1302	0.1667	0.1016
41	**Malaysia**	**0.5727**	0.0309	0.0390	0.0084	0.0095	0.1116	0.1389	0.1667	0.0677
42	**Uruguay**	**0.5702**	0.0422	0.0212	0.0101	0.0045	0.0851	0.1389	0.1667	0.1016
43	**Ukraine**	**0.5639**	0.0270	0.0249	0.0339	0.0046	0.0826	0.0890	0.1667	0.1354
44	**Chile**	**0.5624**	0.0287	0.0359	0.0076	0.0031	0.0548	0.1302	0.1667	0.1354
45	**Czech Republic**	**0.5598**	0.0746	0.0274	0.0145	0.0020	0.0711	0.1020	0.1667	0.1016
46	**Albania**	**0.5564**	0.0719	0.0151	0.0058	0.0016	0.0789	0.1150	0.1667	0.1016
47	**China**	**0.5548**	0.0456	0.0508	0.0504	0.0033	0.1035	0.1345	0.1667	0.0000
48	**Greece**	**0.5534**	0.0668	0.0129	0.0106	0.0011	0.0659	0.1280	0.1667	0.1016
49	**Georgia**	**0.5499**	0.0432	0.0118	0.0080	0.0029	0.1071	0.1085	0.1667	0.1016
50	**Azerbaijan**	**0.5312**	0.0450	0.0080	0.0107	0.0037	0.0816	0.1139	0.1667	0.1016
51	**Philippines**	**0.5252**	0.0228	0.0112	0.0039	0.0010	0.0804	0.1378	0.1667	0.1016
52	**Brazil**	**0.5002**	0.0336	0.0181	0.0124	0.0009	0.0721	0.1443	0.0833	0.1354

53	**Argentina**	**0.4967**	0.0309	0.0138	0.0135	0.0022	0.0509	0.1172	0.1667	0.1016
54	**Armenia**	**0.4903**	0.0418	0.0131	0.0158	0.0017	0.0619	0.0879	0.1667	0.1016
55	**Iran**	**0.4821**	0.0467	0.0076	0.0455	0.0029	0.0801	0.0987	0.1667	0.0339
56	**Morocco**	**0.4740**	0.0345	0.0080	0.0034	0.0021	0.0536	0.1042	0.1667	0.1016
57	**Indonesia**	**0.4604**	0.0163	0.0095	0.0056	0.0087	0.0970	0.0890	0.1667	0.0677
58	**Thailand**	**0.4265**	0.0271	0.0379	0.0091	0.0021	0.0995	0.0998	0.0833	0.0677
59	**Nepal**	**0.4079**	0.0142	0.0102	0.0074	0.0017	0.0325	0.1074	0.1667	0.0677
60	**Ecuador**	**0.3956**	0.0340	0.0088	0.0055	0.0026	0.0459	0.1139	0.0833	0.1016
61	**Pakistan**	**0.3192**	0.0184	0.0048	0.0063	0.0020	0.0509	0.0857	0.0833	0.0677
62	**Egypt**	**0.3010**	0.0264	0.0039	0.0132	0.0010	0.1053	0.0835	0.0000	0.0677
63	**Iraq**	**0.2915**	0.0100	0.0084	0.0042	0.0012	0.0329	0.0499	0.0833	0.1016
64	**Ethiopia**	**0.2328**	0.0242	0.0066	0.0007	0.0001	0.0348	0.0987	0.0000	0.0677
65	**Algeria**	**0.1865**	0.0093	0.0025	0.0049	0.0018	0.0328	0.0336	0.0000	0.1016

To reiterate, the DQL is based on 6 selected factors (Table 1), which were weighted by the expert panel. Since the median value of 2019 DQL index is 0.6110 of 1.000, this indicates that there is substantial room for improvement of people's digital well-being across all the indexed countries. Overall, none of the 65 countries made it past a 0.8000 DQL index score (Table 2), but two were very close: Australia (0.7992) and France (0.7985). Five of the 10 highest-ranking countries are in Europe (France, Norway, Denmark, Italy, and Sweden), three in Asia (Singapore, Japan, and South Korea), one in Oceania (Australia), and one in North America (Canada).

The ten countries with the highest DQL

Country	DQL
Australia	**0.7992**
France	**0.7985**
Singapore	**0.7854**
Norway	**0.7607**
Japan	**0.7606**
Canada	**0.7516**
Denmark	**0.7479**
South Korea	**0.7448**
Italy	**0.7361**
Sweden	**0.7360**

Table 2: Countries with highest DQL

Out of the 10 countries with the lowest DQL (Table 3) indices, five are located in different parts of Asia (Iraq, Pakistan, Nepal, Thailand, and Indonesia), four are in Africa (Algeria, Ethiopia, Egypt, and Morocco), and one is in South America (Ecuador). In the scope of this research, with only a few exceptions, these countries received low scores on all indexed criteria. Most notably, the internet speed and affordability (both mobile and broadband) indicators, which have the biggest influence on the quality of people's digital lives, were exceptionally low. Also, people in these countries have fewer opportunities to legally access popular entertainment content databases and do not enjoy universal availability of e-government services, which suggests a widespread presence of traditional bureaucracy and an overall lack of institutional effectiveness. Nevertheless, the situation in these countries is

not universally insufficient in the scope of the DQL. For example, Egypt and Thailand are above the median positions in terms of cybersecurity, while Indonesia is among the countries with the most affordable mobile internet, but the entirety of all of the composite factors eventually weighs down the final results.

The ten countries with the lowest DQL

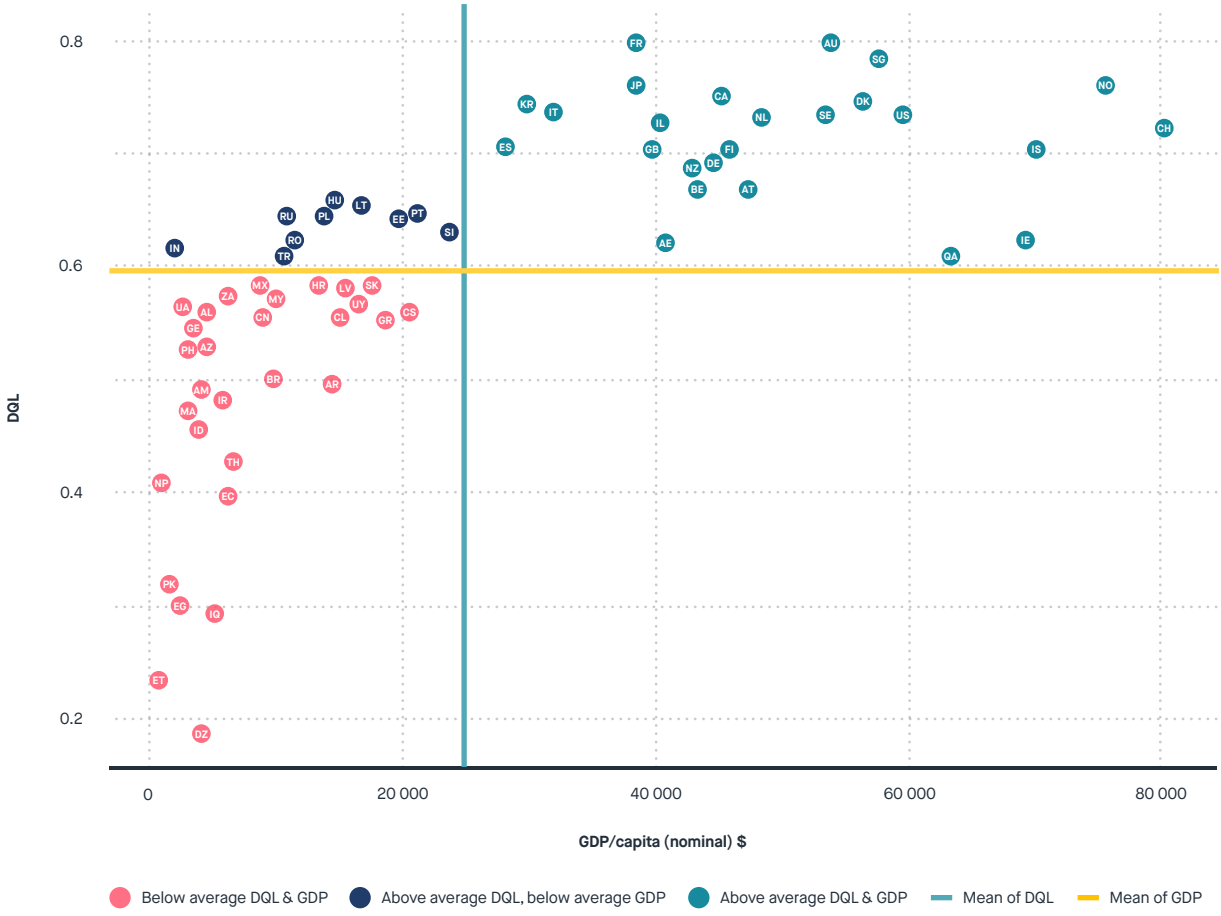
Country	DQL
Algeria	**0.1865**
Ethiopia	**0.2328**
Iraq	**0.2915**
Egypt	**0.3010**
Pakistan	**0.3192**
Ecuador	**0.3956**
Nepal	**0.4079**
Thailand	**0.4265**
Indonesia	**0.4604**
Morocco	**0.4740**

Table 3: Countries with lowest DQL

For the comparative analysis, each country's GDP per capita (PPP) was taken into account (World Bank, n.d.). The general tendency is that countries with higher GDPs per capita have a higher DQL score, as indicated by the correlation displayed in Graph 1.

Nevertheless, there are a few exceptions. For example, Qatar and Ireland, despite their high GDPs per capita, scored relatively low in DQL index 2019 due to such factors as, most notably, lower than the median internet affordability.

At the same time, some countries with lower GDP per capita (India, Russia, Poland, Hungary, and Lithuania) than any of the top 10 countries have comparatively high DQL scores because the internet there is generally faster than the global median as well as highly affordable.



Graph 1: DQL score and GDP per capita correlation

Analyzing the correlation between DQL and GDP per capita (Graph 1), it can be estimated that for every additional $10,000 in the given country's GDP per capita, it would score an additional 0.0300 in the DQL index 2019. Although this estimate plays a role in measuring the affordability of the internet, it's important to note that DQL does not solely depend on GDP per capita.

4.2 Highest DQL (Australia)

Australia has the highest DQL, with a 0.7992 index value. This high score was mainly determined by a very high affordability of mobile internet, comparatively high mobile internet speeds, and a solid level of cybersecurity in the country. However, the score could have been higher if not for Australia's underdeveloped broadband infrastructure, which ranked the country in the lower end of corresponding indicators of broadband speed and affordability. This makes it an exception, since among the selected countries for DQL 2019, Australia is ninth in GDP per capita and has the fifth highest average wage (net).

Australia's average mobile internet speed is 57.71 Mbps and its average broadband speed is 34.26 Mbps. This makes Australia one of the few indexed countries in which mobile internet is faster than broadband. Also, one only has to work 21 seconds to afford the cheapest 1GB of mobile internet and 1.36 hours for the cheapest broadband package. Additionally, Australia ranks high because of well-developed e-government services (OSI score of 0.9722), its cybersecurity (GCI score of 0.8900), as well as comparatively extensive legislation on personal data protection. Finally, the most popular forms of entertainment content, namely Netflix, Amazon Prime, YouTube Premium, and internet porn, are all available for unrestricted access from within the country. Even though the weighting factor of the significance of availability of entertainment content is on the lower end in the scope of this research, it is important to note that people living in around two-thirds of the indexed countries do not have unrestricted access to at least one of the four researched services.

Indicator	
DQL	**0.7992**
Mobile internet speed	57.71 Mbps
Broadband speed	34.26 Mbps
Hours work for mobile internet	0.01 hours
Hours work for broadband	1.36 hours
OSI	**0.9722**
GCI	**0.8900**
Personal data protection legislation	Yes
Content availability	Netflix, Amazon Prime, YouTube Premium, internet porn

Table 4: Australia country overview (highest DQL 2019)

4.3 Lowest DQL (Algeria)

Algeria has the lowest DQL score out of 65 countries covered by this report, with an index rating 0.1865. The country's performance regarding all of the DQL criteria was low. The final ranking was mainly impacted by low mobile and broadband internet speeds, low affordability of mobile and broadband internet, poor e-government development, and the second lowest score in cybersecurity. Algeria has a nominal GDP per capita of $4,055.25, which ranks it in 55th place out of all DQL index 2019 countries.

Average mobile speed in Algeria is 6.00 Mbps and average broadband speed is 4.33 Mbps. Algeria has a higher mobile speed than broadband internet speed, which suggests that the latter is underdeveloped in comparison to the former, although its mobile internet has a lot of potential for future development, as shown by the case of its neighboring country Morocco. To afford the cheapest 1GB of mobile internet in Algeria, one needs to work 18 minutes, and for the cheapest broadband package, one needs to work 8.58 hours. This makes mobile internet a far better value than broadband in the country, which is a common case in

Indicator	
DQL	**0.1865**
Mobile internet speed	6.00 Mbps
Broadband speed	4.33 Mbps
Hours work for mobile internet	0.30 hours
Hours work for broadband	8.58 hours
OSI	**0.2153**
GCI	**0.2620**
Personal data protection legislation	No
Content availability	Netflix, Amazon Prime, internet porn

Table 5: Algeria country overview (lowest DQL 2019)

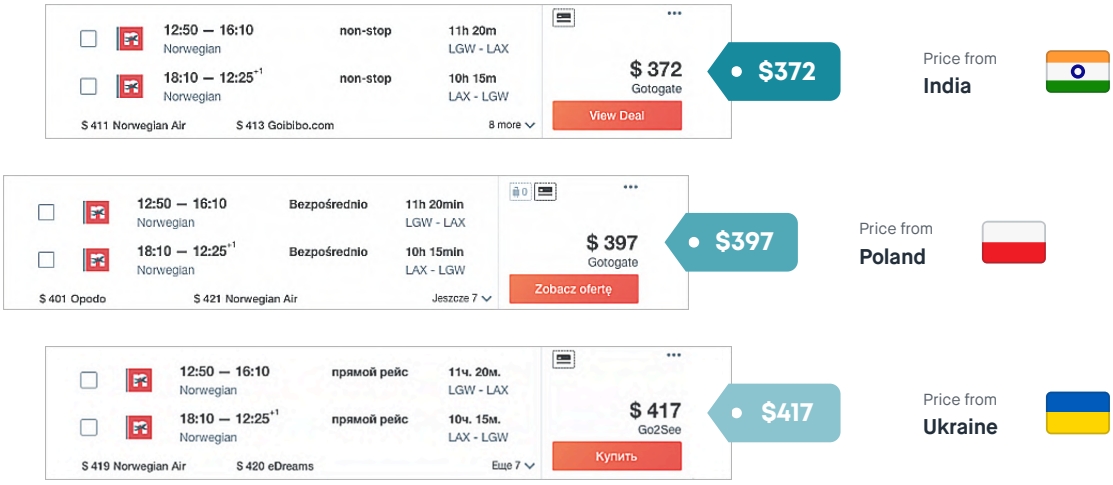
4.4 Other Important Insights

As discussed in the Scope and Methodology sections, a few issues that have an impact on people's digital quality of life and were observed during the research were omitted in building the final index due to a lack of comparative data. Nevertheless, in the following sections, the complicated factors of price discrimination and censorship will be reviewed. Additionally, the digital well-being in China is discussed in more detail.

4.4.1 Price Discrimination

Price discrimination is the practice of charging different prices for the same thing based on customer characteristics, such as their location or assumed demographic aspects, such as race, religion, and many other factors. This principle can take mild or beneficial forms, for

example, student discounts or discounts for the unemployed or retired. However, it can also be more nefarious. For instance, the American company Home Depot was proven to charge visitors of its online shop different prices depending on their postcode (Howe, 2017), which reveals the level of economic affluence of the area they live in, and in turn, whether they are willing to pay higher prices. Various studies have revealed that people from higher-income countries tend to pay more for the same goods and services than people from lower-income countries (Ray, 2019).



During the research, it was observed that price discrimination is a widespread practice in all of the indexed countries. It is especially evident in the sphere of e-commerce. In the scope of this research, the industries of airline tickets, hotel booking, car hire, and several online services were analyzed. In most of the studied cases, prices for the same goods and services varied across countries, indicating in a rather vague sense the prevalence of price differentiation. Although the existence of price discrimination is undeniable (Longman 2019), the extent of it is complicated to measure, since local taxes, tariffs, laws, and other factors also affect the final prices. In order to prove the practice and forecast its expected extent, more studies should be done in the field.

Taking into account the complexity of the concept, it was left out of the final list of criteria of the DQL 2019, but it should be considered an important factor that affects online well-being.

4.4.2 Censorship

By definition, censorship is a repression of speech, communication, or information. While the term has a negative connotation, censorship is not considered a universally unfavorable practice. For instance, the balance between laws guaranteeing free speech and those preventing hate speech differs per country, which indicates a thin line between censorship

being a form of repression and protection. In the context of this section, the report focuses specifically on systematic and pervasive censorship of the internet that limits access to information and suppresses discussion among citizens. The expert panel of the report agreed that the inability to access some kind of desired information has the most direct impact to one's digital life. This research does not cover self-censorship, which can be done for a variety of reasons, including moral, religious, economic, or due to intimidation or fear of consequences.

Worldwide, internet censorship is carried out mostly for political, moral, or religious reasons. Some countries are locked down to the point that it is nearly impossible to assess how far censorship reaches (e.g. North Korea), while others have an extensive censorship apparatus that is relatively well known (e.g. China, see Section 4.5).

If a country wants to block access to certain information, it is thus faced with the challenge of preventing access. The hurdles of preventing access to certain websites or types of websites are usually legal and physical as in many cases such websites might not be located in that country. Prevention of access is usually performed using blocking and filtering systems, the effectiveness of which is entirely based on the amount of resources, both technical and human, the censoring authority is able to devote to the issue.

Internet censorship is often increased in response to events. For example, the Arab Spring and the rise of fake news have been used to justify restrictive media laws in Egypt and Iran (Shahbaz, 2018a). Around the world, the internet is growing less free. A number of countries are embracing the Chinese model (Section 4.5) of censorship and digital authoritarianism. The Freedom on the Net 2018 report (Shahbaz, 2018a) shows that between June 2017 and May 2018, internet freedom has declined in 26 countries and improved in 19 countries. Declines were often related to upcoming elections.

As discussed in the previous sections, the indicator of internet censorship was not included in building the final 2019 DQL index because of difficulties related to assessing the presence and execution of censorship-related laws in all of the indexed countries. Although considered for inclusion, the censorship indicator was left out due to a lack of verifiable information. Nevertheless, being an inherent quality to influence one's digital life, the presence and the extent of internet censorship should be and will be sought to be investigated in future DQL studies.

4.5 The Case of China

China has the greatest number of internet users of any country (Shahbaz, 2018b). However, most major international news websites are blocked in China, as are other globally popular web services, such as Google, Facebook, Instagram, Whatsapp, and Netflix. Local equivalents (QQ, Baidu, WeChat, Youku, etc.) are available and universally prevalent there. These services offer the same or better functionality than their global counterparts. For instance, China is one of the leading countries in the development of mobile payments, and in some places, other payment options are rarely used. People in China have local alternatives for almost any available global online service, but their offerings, especially in the case of online content, are limited.

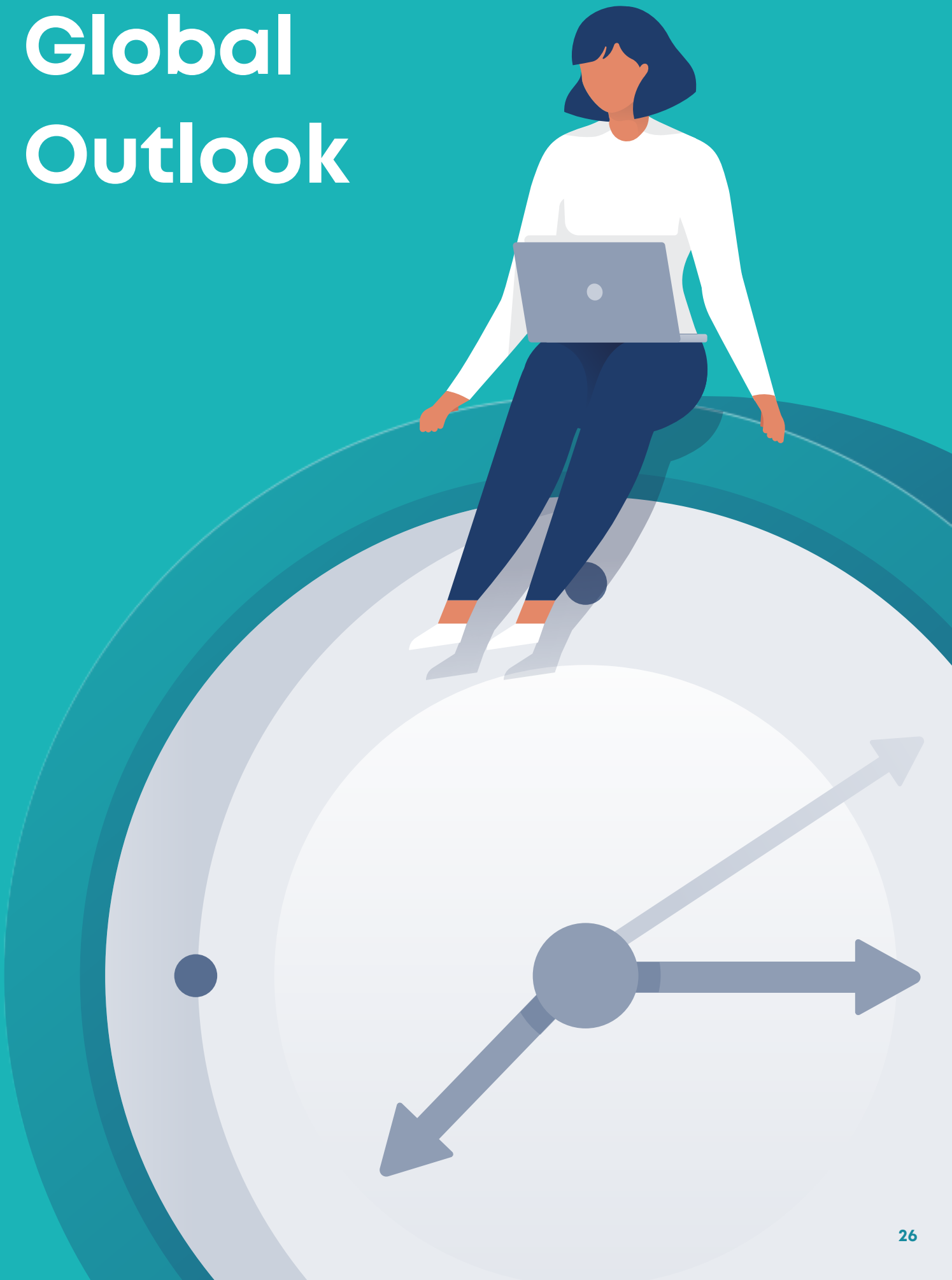
China's online retail infrastructure is also well-developed. Since online and offline retailers have been merging to provide better services (called the "new retail") for customers, the country's e-commerce market is "on an overall upward trajectory," with predictions of further growth (Bali, V. 2018 January 31).

Despite China’s digital progress, most of local online services, or at least their full functionalities, are only available for Chinese citizens or people who have a living permit there. Also, access to the internet there is hindered by a lack of infrastructure in rural areas and extensive censorship. According to the Freedom on the Net 2018 report (Shahbaz, 2018a; 2018b), China is the world’s worst abuser of internet freedom and has been for several years. It has an incredibly sophisticated censorship apparatus (the "Great Firewall”) that blocks suspected online criticism of individuals, policies, or events related to the political system. News related to health and safety and topics such as the Cultural Revolution, the Tiananmen Square protests, Taiwanese independence, repression of minorities, etc. is also commonly censored. Criticism of censorship is itself also censored.

Internet freedom continues to decline in China, and new laws increase censorship. National and international companies can either comply, face penalties, or be shut down. However, international businesses choose to comply, as with more than a billion inhabitants, China has a large potential user base. Nevertheless, the advancement and the availability of local online services that cover most people's needs in China, particularly in the biggest cities, makes the digital quality of life there comparatively great, but difficult to objectively estimate in the scope of this research. Also, considering the overarching censorship practices of the local government as well as the decision to omit the censorship factor from building up the 2019 DQL index, China has been taken out of the overall index for the sake of objectivity and impartiality.

CHAPTER 5

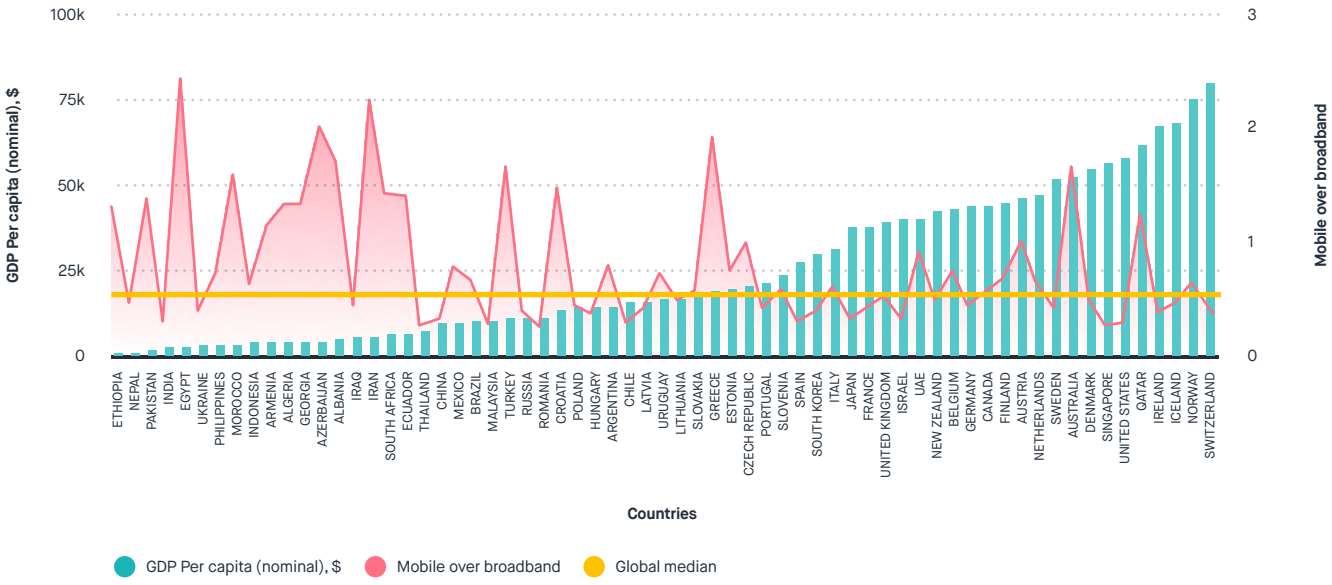
Global Outlook



5.1 Internet speed

Graph 2 and Graph 3 reveal a trend: In higher-income countries, mobile speed is usually lower than broadband speed.

This is natural considering the difference in inherent technological capabilities (radio waves vs. optics), which also directly depend on user base and network penetration.

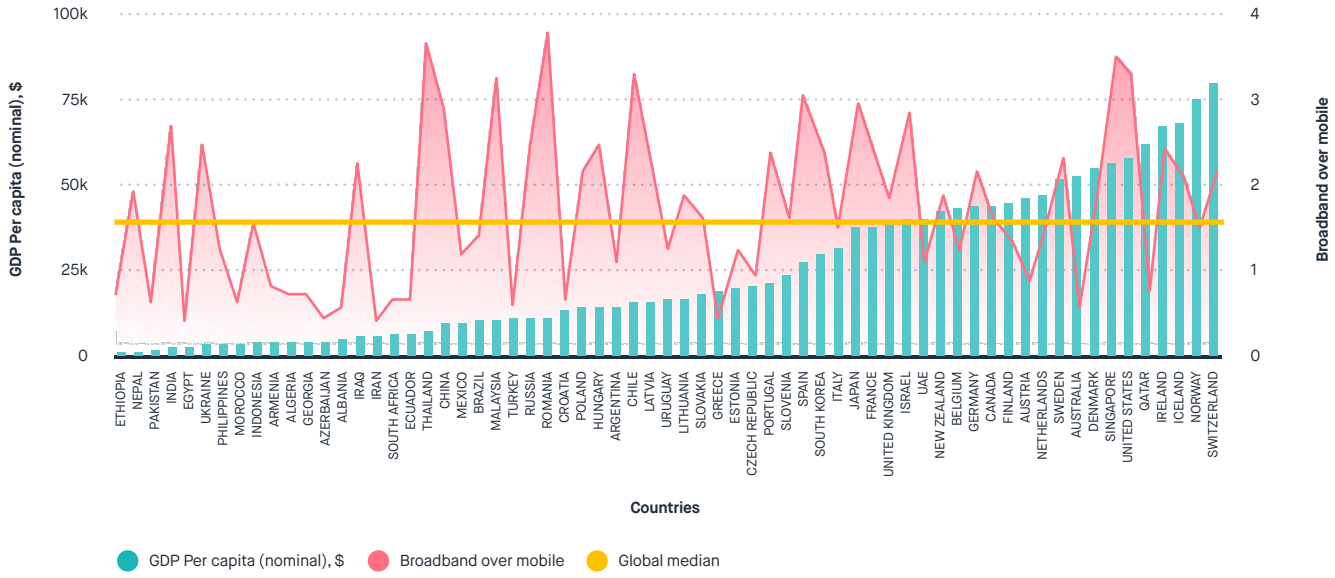


Graph 2: Mobile speed divided by broadband speed. Shows how many times mobile speed is faster (>1) or slower (<1) in a given country

The exceptions are Qatar, where mobile speed is 1.2 times faster than broadband, and Australia, where mobile is 1.7 times faster. This indicates the underdevelopment of broadband infrastructure in both countries. As a fully functional and inclusive broadband network requires heavy investment as well as extensive human resources, in countries with lower GDPs per capita, mobile penetration is much deeper, and its speeds tend to be faster – for instance, Egypt (mobile internet there is 2.7 times faster than broadband), Pakistan, and Morocco.

This tendency can be explained by the fact that the costs of developing broadband internet in such countries are usually financially unjustifiable due to such factors as the size of the country or complicated landscape (mountainous terrain, deserts, etc.).

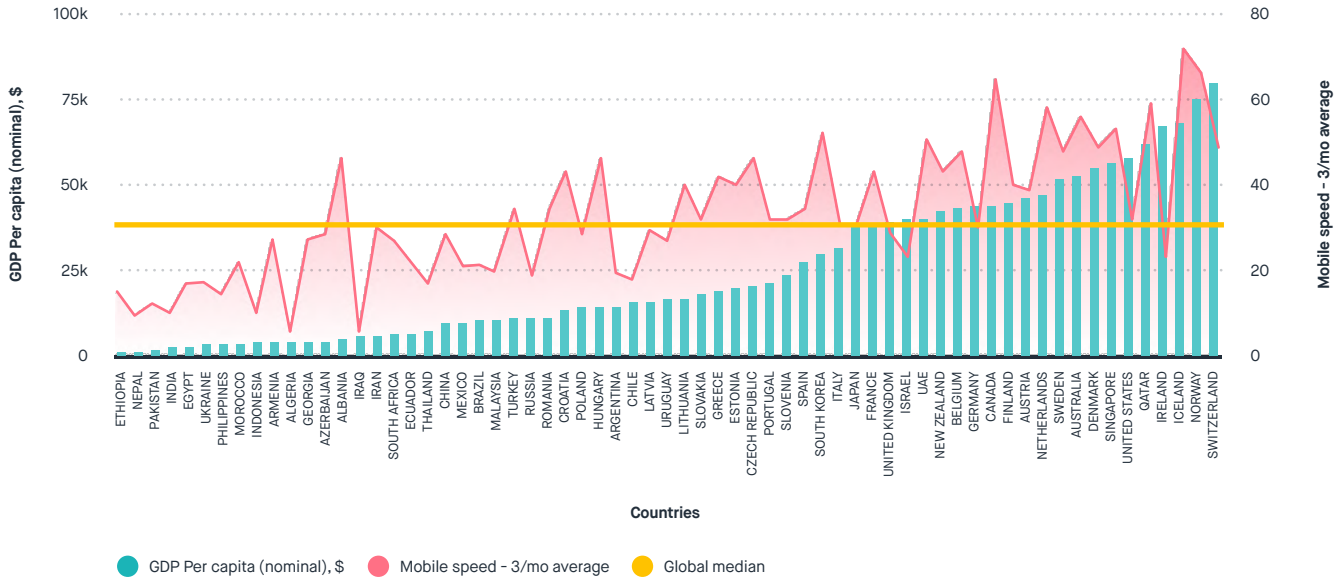
Ensuring wide coverage of mobile networks is cheaper, and its development requires fewer resources and is more conveniently maintained, while its implementation can easily be scaled.



Graph 3: Mobile and broadband speed comparison

5.1.1 Mobile Internet

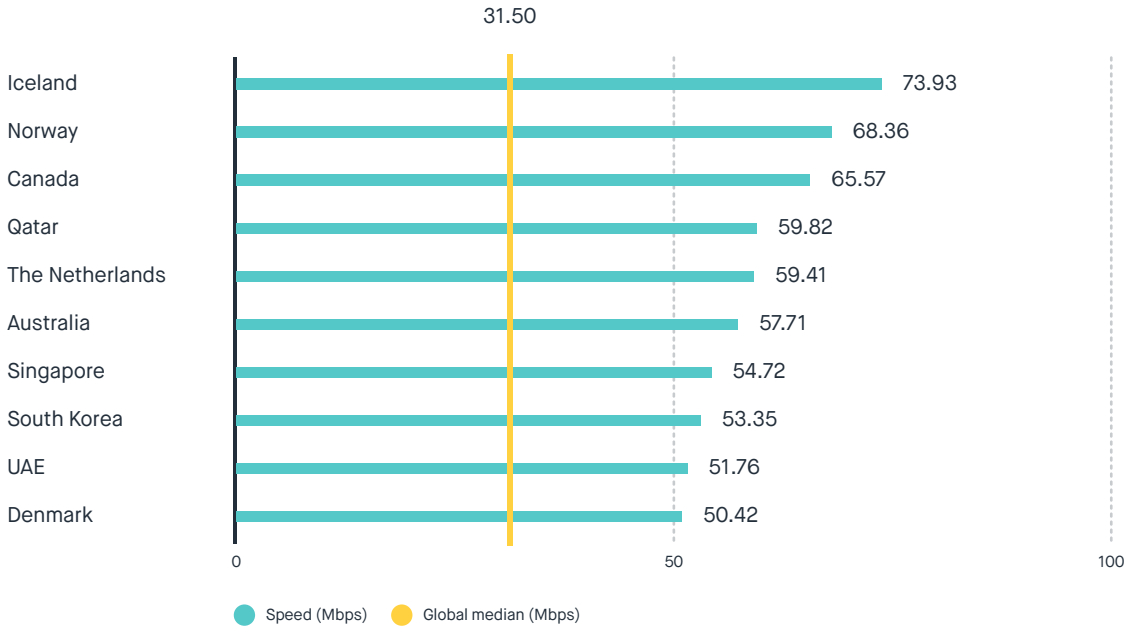
The gathered data indicates that the global median for mobile internet speed is 31.50 Mbps, meaning that half of the researched countries have faster mobile internet connections than the other half. Mobile internet speeds vary extensively across the world, ranging from 6.00 Mbps in Algeria to 73.93 Mbps in Iceland. It is important to note that for Iceland, no measurements were available for February and March, so this figure is based on January results only. Nevertheless, the general tendency is that speed test results have no significant fluctuations throughout time, so the countries with the highest mobile internet monthly speed remain in the same range for extended periods of time.



Graph 4: Mobile internet speed and country wealth

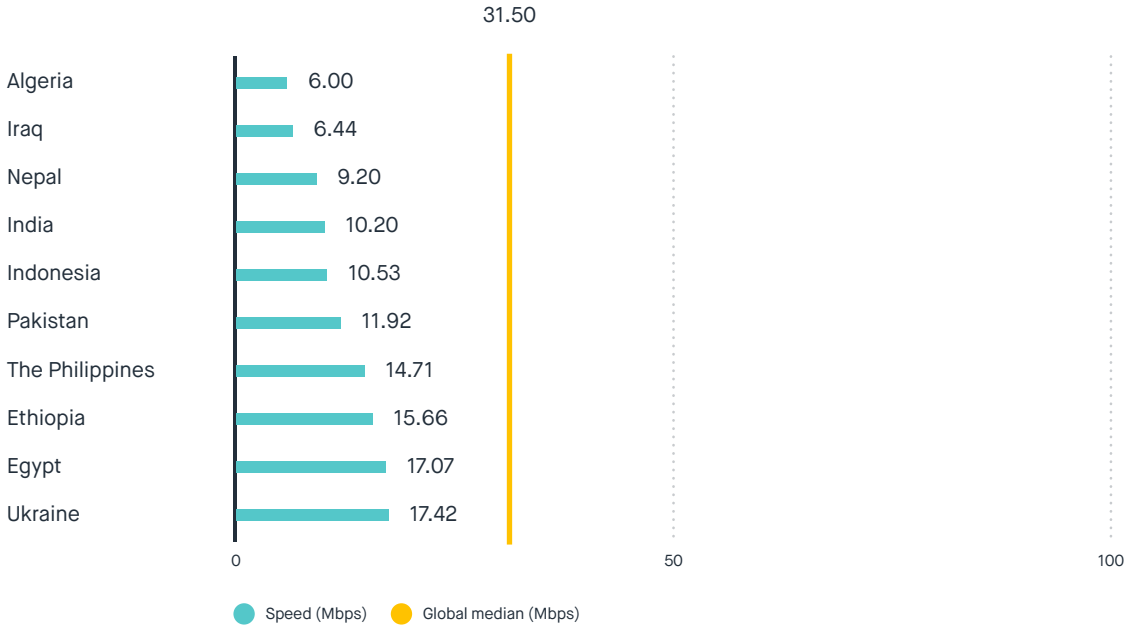
Overall, mobile internet speed correlates with the country's economic well-being (Graph 4): Higher-income countries tend to have better speeds. Some exceptions are Ireland, Germany, and Israel – countries with higher GDPs per capita where mobile speeds are below the global median.

Although all of these countries have highly penetrated mobile networks, the results suggest a lack of network capacity to maintain the network quality for increasingly active mobile internet usage and the need for further investment in the field. Countries with lower GDPs per capita (in the scope of this research), namely Albania, Turkey, Hungary, Romania, and Croatia, can also be considered exceptions, because the recorded speeds there are above the global median value. This suggests either lower usage of mobile networks (which is likely not the case in today's highly connected world) or simply more effective network management as well as faster adoption of innovative mobile technologies in these countries.



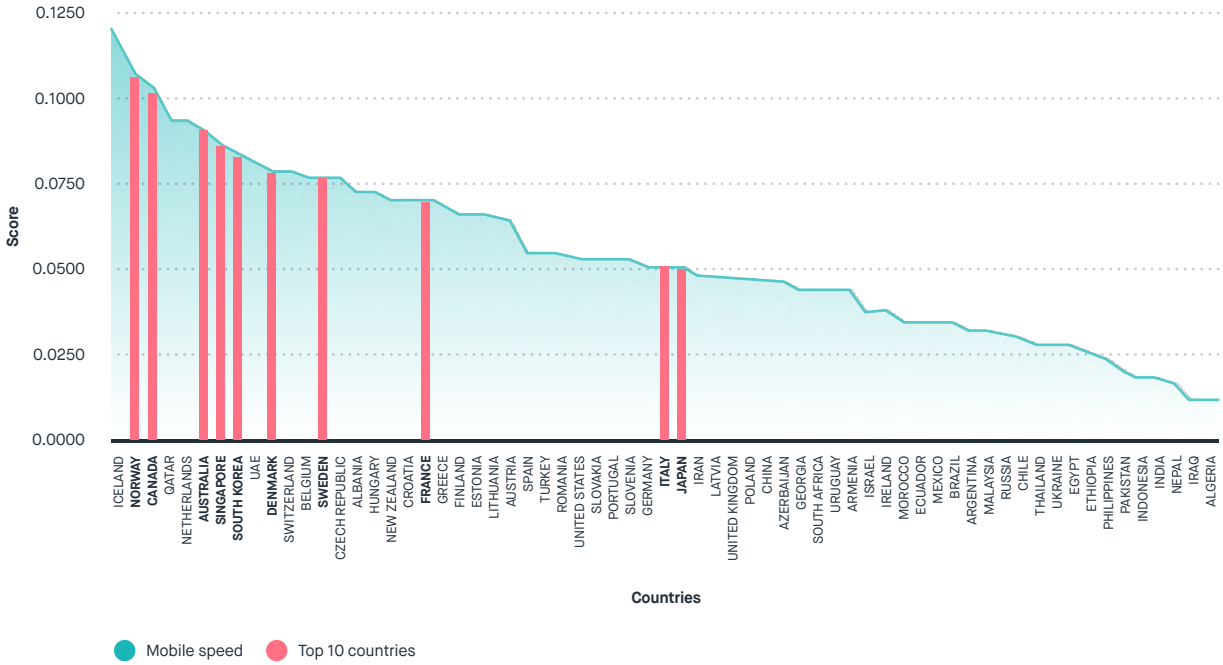
Graph 5: Countries with the fastest mobile internet

The fastest mobile internet was recorded in Iceland, followed by Norway (Graph 5). The lowest mobile speeds were measured in Algeria (6.00 Mbps) and Iraq (6.44 Mbps) (Graph 6). Although mobile internet is of great significance in developing economies (Section 5.1.1.1), the lowest-ranking countries in mobile speed are still those with lower GDPs per capita. This correlation indicates that people's digital well-being is dependent on the country's economic affluence, but to determine the causation, more research is needed. Additionally, the difference between the highest- and lowest-ranking countries is also substantial, suggesting that there is a lot of space for improving mobile connectivity, which in turn would improve people's digital quality of life, and in a way, the overall quality of life there.



Graph 6: Countries with slowest mobile internet

For instance, Japan and Italy, despite being among the top 10 highest-ranking countries in DQL, are only in the middle in terms of mobile speed (Graph 7), which suggests that improving their network capabilities or investing in innovative mobile technology might positively and notably influence their overall positions.



Graph 7: Mobile speed and performance of the top 10 highest-scoring DQL countries

5.1.1.1 The Importance of Mobile Internet For Economic Growth

> *"The internet has become one of the most profound enablers of social and economic growth in our time."*
>
> *– Granryd (2016)*

In 2019, there are 4.39 billion internet users (Kemp, S. 2019). However, although the world as a whole is becoming more connected, the distribution in access to and use of the internet is still uneven. This is called the digital divide. Globally, there is a digital divide between the developed and developing countries in terms of internet access.

Providing access requires investment in infrastructure on a regional or national level, as well as expenditures on a personal level to acquire the technology needed to get online, such as a computer or an internet-enabled mobile phone.

The term "digital divide" does not necessarily refer to the gap between those who have access and those who do not; it can also refer to the difference in quality of devices and speed of access. Internet subscription, including availability of broadband and mobile connections, has improved worldwide, but the digital divide remains, especially in the case of broadband internet (Broadband Commission for Sustainable Development, n.d.).

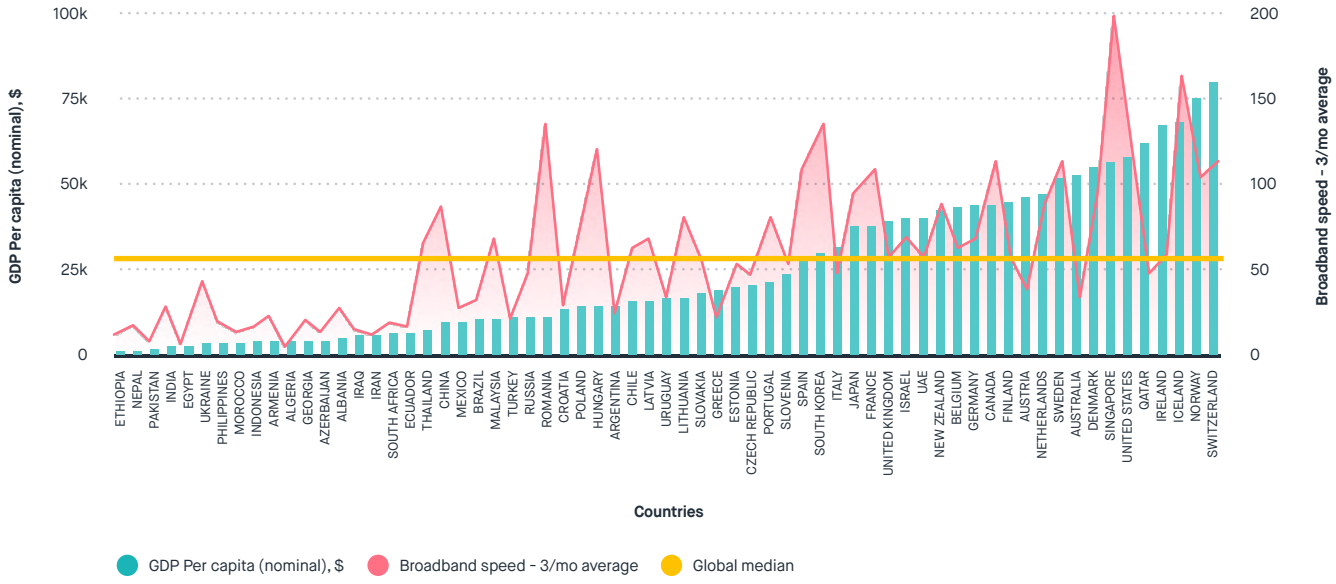
Since access to mobile internet is far cheaper than access to broadband internet, it is likely that, especially in developing countries, mobile internet will grow in importance and accessibility.

5.1.2 Broadband

Collected data shows that the global median for broadband speed is 54.62 Mbps, which means that broadband internet is faster in 50% of the researched countries than in the other half. For instance, streaming Netflix Ultra HD requires a steady internet connection speed of 25.00 Mbps (Netflix, n.d.).

Singapore, Iceland, Canada, and South Korea, which are in the top 10 of the countries with the fastest mobile internet, are among the leaders in broadband speeds as well. Singapore's speeds are significantly higher than the others, with a broadband speed of 197.34 Mbps.

Since the nation is considered to be "a digital R&D hub" in Asia, attracting investment from major tech players, the country's economy relies heavily on its digital infrastructure (Singapore Economic Development Board, 2017). This leadership can be attributed to the small size of the country, meaning there is comparatively less investment in infrastructure needed to cover the area with the optical fiber network than in countries much bigger in terms of land area.

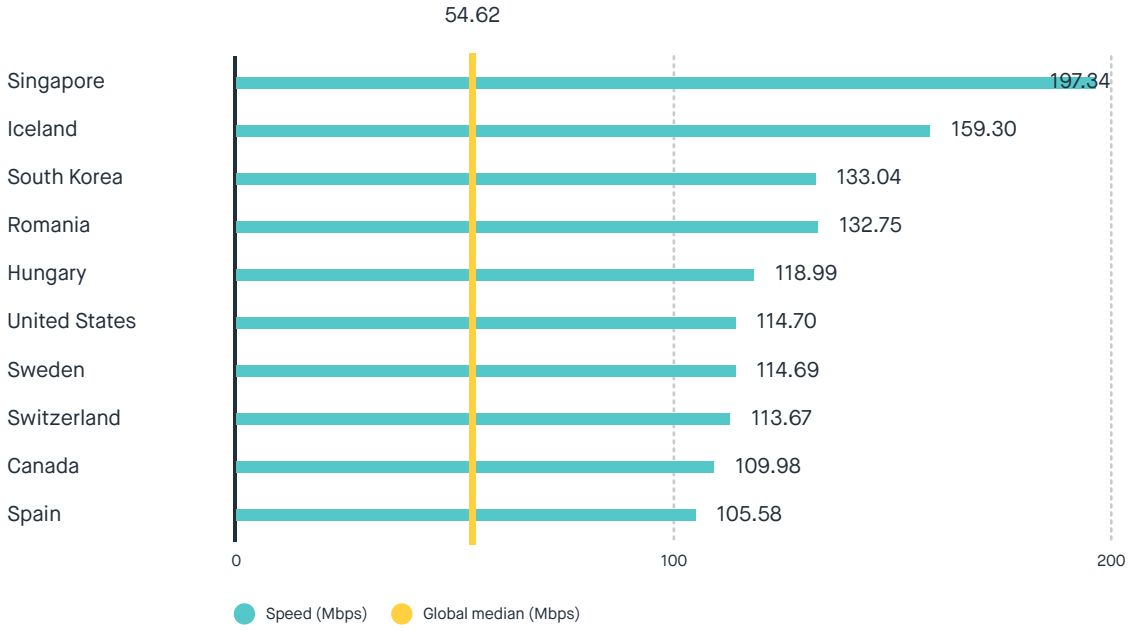


Graph 8: Broadband internet speed and country wealth

As in the case of mobile connectivity, broadband speed generally correlates with the country's economic wealth (Graph 8): Higher-income countries tend to have better speeds.

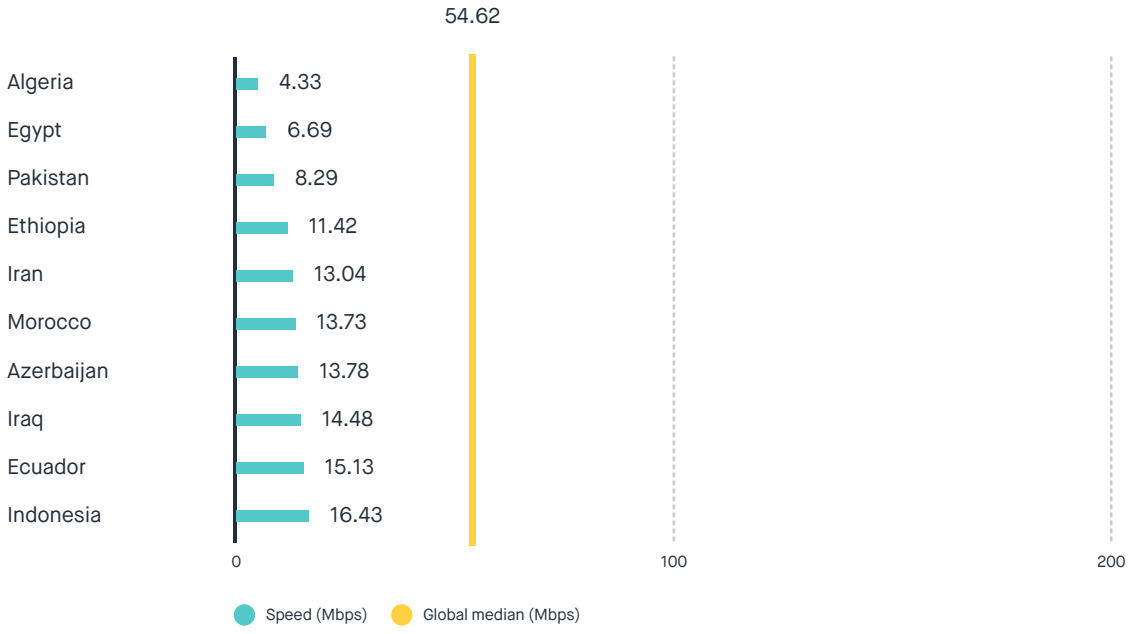
However, there are some exceptions. Although Qatar, Australia, Austria, and Italy have comparatively high GDPs per capita, their broadband speeds are below the median. All of this can be explained by the complicated terrain of these countries (there are lots of deserted and unpopulated areas in Australia and Qatar, and mountainous landscapes in Austria and Italy). There might also be other factors in play that need additional investigation not covered by the scope of this research.

Nevertheless, slow home broadband speeds suggest inadequate optical fiber internet infrastructure. On the contrary, Thailand, China, Malaysia, Romania, and Hungary have lower GDPs per capita, but their broadband speeds are above the global median value. This indicates better adoption of innovative technologies and development of digital infrastructure, which plays a key role in the economic development of various Asian countries.



Graph 9: Countries with fastest broadband internet

Out of all 65 countries, Algeria and Egypt have the lowest broadband speeds at 4.33 Mbps and 6.69 Mbps, respectively (Graph 10). Also, in Algeria, fixed broadband speed is even lower than its average mobile speed, which can only suggest an extremely low development level of the fiber network in the country. This North African country is the only country in this research with a broadband speed slower than the slowest overall mobile internet speed.

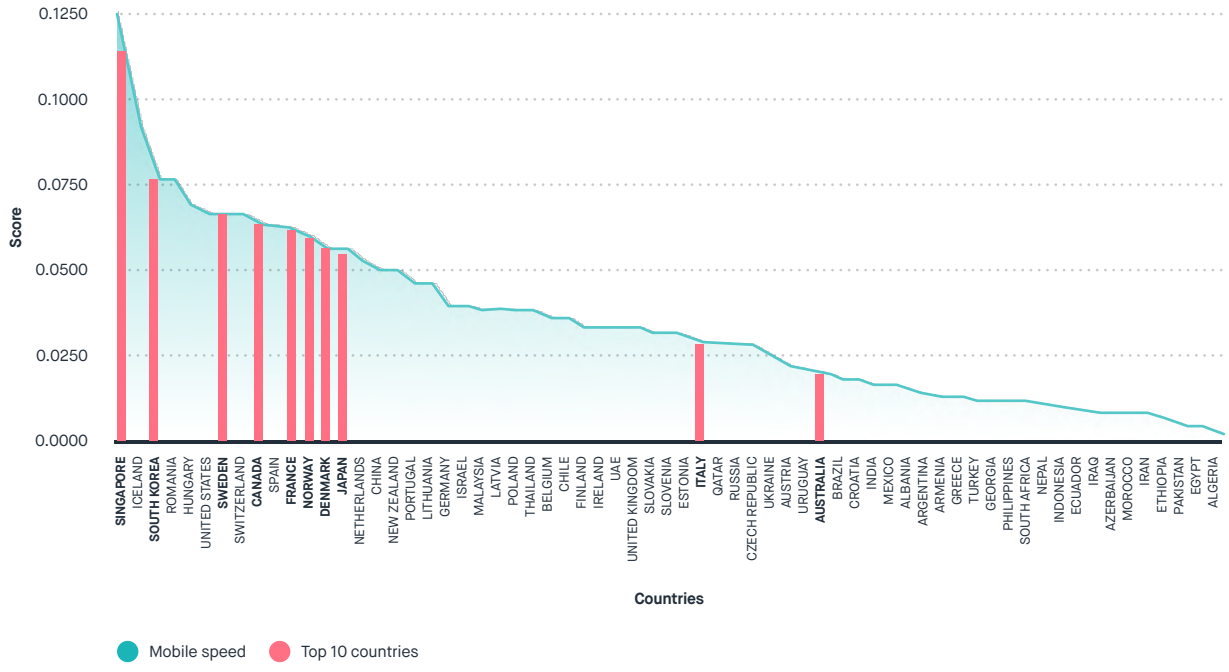


Graph 10: Countries with the slowest broadband internet

However, there are other countries (e.g. Pakistan, Egypt, Turkey) where mobile speeds are higher than broadband speeds. As explained in the Section 5.1.1.1, this is due to higher mobile infrastructure penetration rates and lower levels of investment needed to offer a fully functional mobile internet connectivity, even for people living in rural and remote areas.

Regarding broadband speed (Graph 9 and 10), a factor with one of the most substantial weights in the 2019 DQL index, Singapore and Iceland scored significantly higher than the rest of the top 10 countries, but this was still not enough for either country to be ranked higher than Australia in the final index. Interestingly, Iceland ranks first in mobile and second in broadband speeds, but takes only the 16th position in the final DQL index. However, it is important to note that broadband speed data in Iceland was not available in February and March, so these calculations were made based on the data that was available in January.

Due to the underdevelopment of its broadband network (News.com.au 2019 March 9, and Section 4.2), Australia stands in the lower half of countries in broadband speed (Graph 11). The fixed internet speed is also very low in Italy as a result of poor infrastructure in rural and mountainous territories, also called "white areas" (Ministero dello Sviluppo Economico (n.d.).



Graph 11: Broadband speed and performance of the top 10 highest-ranking DQL 2019 countries

Broadband speeds are slower than mobile speeds in the following countries: Algeria, Egypt, Pakistan, Ethiopia, Iran, Morocco, Azerbaijan, Ecuador, Indonesia, Nepal, the Philippines, Georgia, Turkey, Greece, Armenia, Albania, Croatia, Australia, Austria, the Czech Republic, and Qatar. Austria ranks in the top half among 65 countries in the overall DQL 2019 index, but it could have scored higher if not for its comparatively slow broadband speed.

It is slower than in Russia, Thailand, and Malaysia, which have lower rankings in the final index.

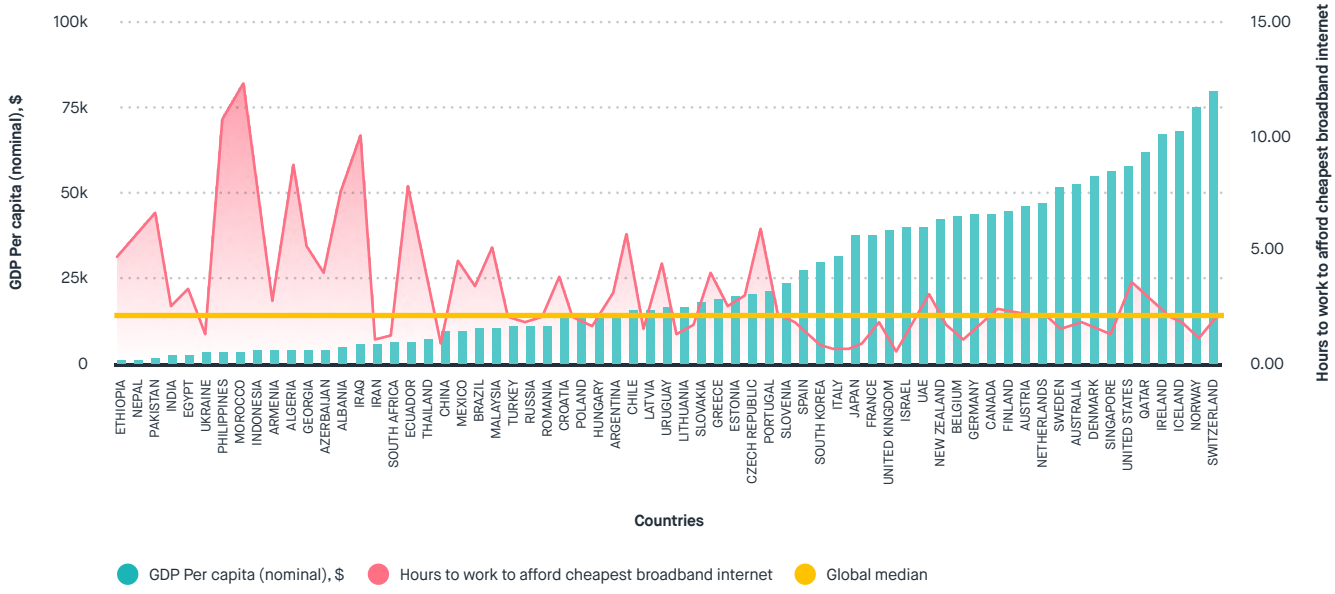
5.2 Internet Affordability

Below, the report first gives prices for the cheapest broadband and mobile packages and then the number of hours one needs to work to afford them.

Broadband and mobile internet prices were obtained from Howdle (2018a and 2018b, respectively). Screenshots taken at the time of data gathering are provided in Annex 1.

5.2.1 Broadband

In the broadband calculations, only the amount of work needed to afford the cheapest package available in the respective country is considered, irrespective of what that package offers. It is important to highlight that although low figures may appear to illustrate inexpensive broadband connectivity, the very cheap packages in these countries may be very basic, with only minimal speed or download allowance.

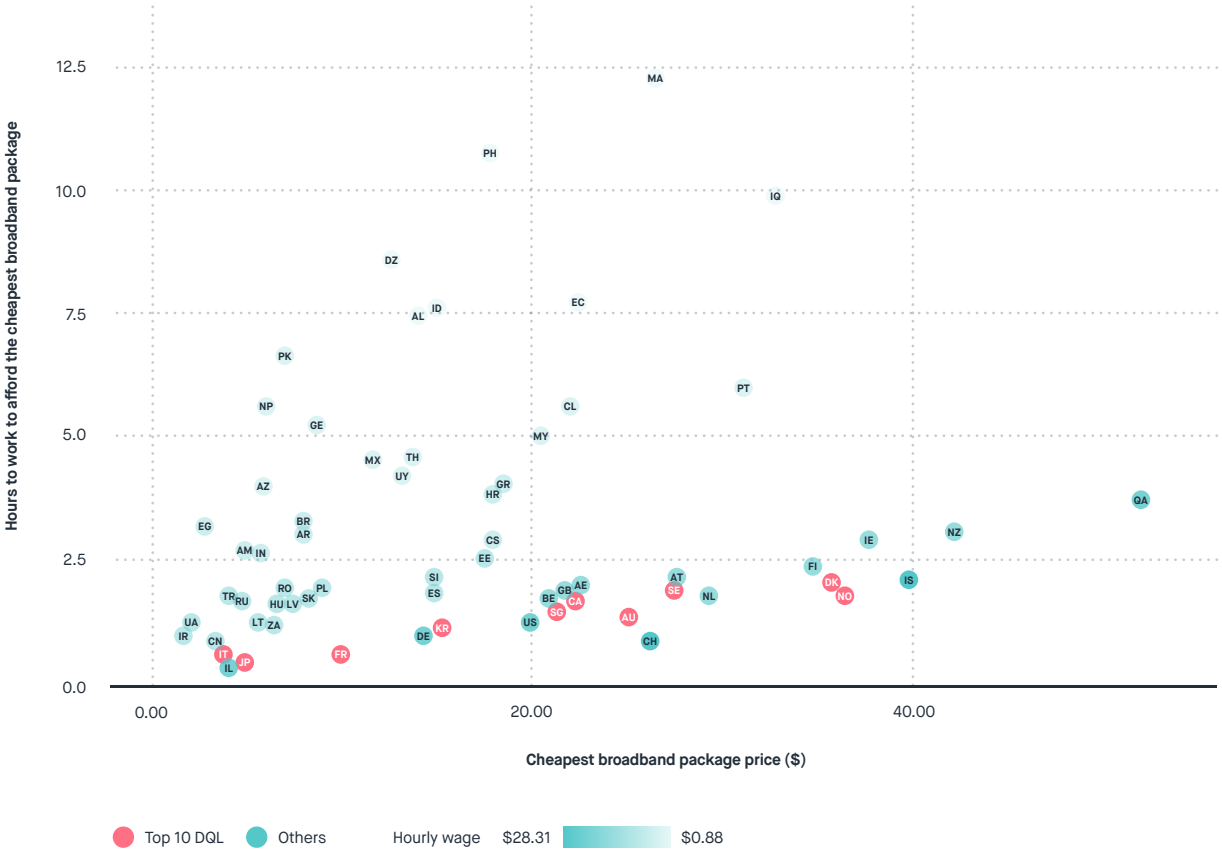


Graph 12: Internet affordability and country's wealth. Important note: Ethiopia has by far the highest number of hours one needs to work to afford internet, so it was taken out of this chart.

Qatar, Ireland, and New Zealand have higher GDP per capita (Graph 12) in comparison to most other countries, but the broadband internet connectivity is less affordable there than in countries with lower GDPs per capita, such as Ukraine, Iran, South Africa, Turkey, and Russia.

In this graph, the red line indicates the number of hours one needs to work to afford the cheapest broadband package in relation to the country's nominal GDP per capita, thus the higher its values, the less affordable its broadband internet.

Collected data shows that the global median of the broadband price is $15.09 (not including the installation costs) (Graph 13). However, as mentioned above, this does not necessarily indicate its affordability as in some countries with lower GDPs per capita, this type of internet is more affordable than in some more affluent economies.



Graph 13: Broadband internet affordability and hourly wage

The highest-priced broadband packages are found in Qatar ($54.93), New Zealand ($42.35), Iceland ($39.52), and Ireland ($37.55) (Graph 14). Nevertheless, in terms of the number of hours of work needed to afford this kind of internet connectivity, it is relatively affordable in all of these countries.

An exceptional case is Israel, a country with a comparatively high nominal GDP per capita, but

relatively low broadband prices. For this reason, broadband internet in Israel is the most affordable for its citizens, which ensures better quality of their digital lives.

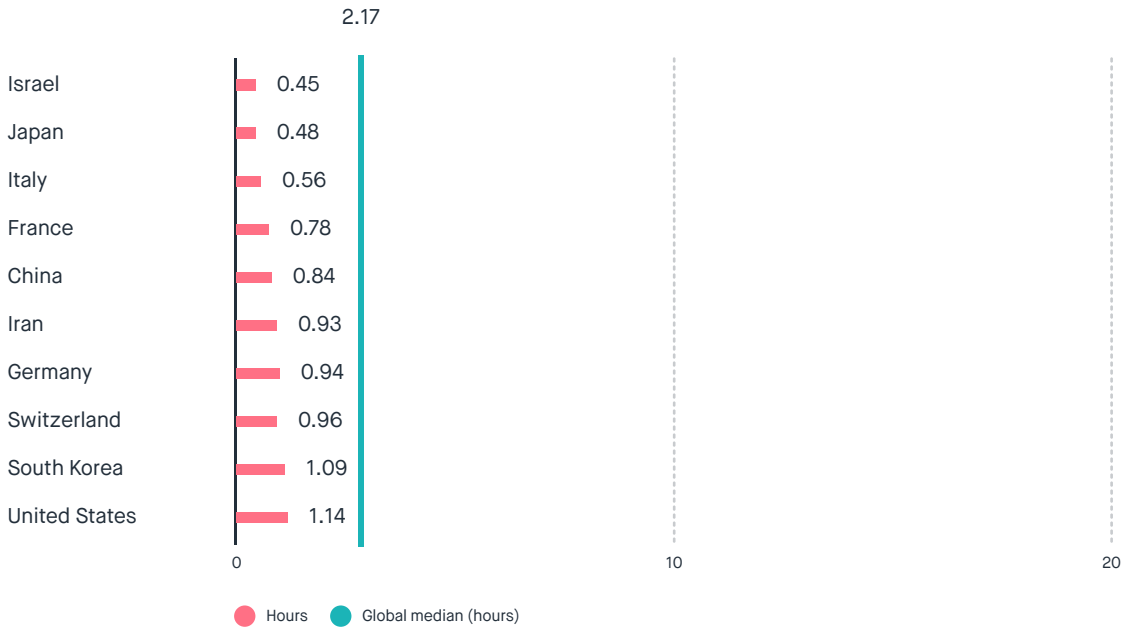
Graph 14: Countries with the highest broadband prices

Only two European Union (EU) countries, Lithuania and Italy, are among the ones with the lowest prices for broadband connectivity (Graph 15), but this does not rank them among the top 10 countries with the highest broadband internet affordability.

Graph 15: Countries with the lowest broadband prices

Except for China and Israel, none of the countries with the lowest broadband prices make the top 10 in terms of affordability criteria. Despite this, broadband internet is comparatively affordable in all of them with the exception of Egypt and Armenia, where affordability is below the global median. The affordability criteria has one of the most substantial weights in the 2019 DQL index. Therefore, making the internet more accessible, not only in terms of infrastructure but pricing as well, will make the digital well-being as well as the overall quality of life for people residing there better.

The median number of hours of work needed to afford the cheapest broadband package is 2.17 hours. Israel and Japan are the countries in which one needs to work the fewest hours to afford the cheapest available broadband package, at 0.45 hours and 0.48 hours, respectively (Graph 16). Except for China and Iran, countries with the most affordable broadband connections also are among the top ones in terms of economic well-being, having higher than median GDP per capita indicators.



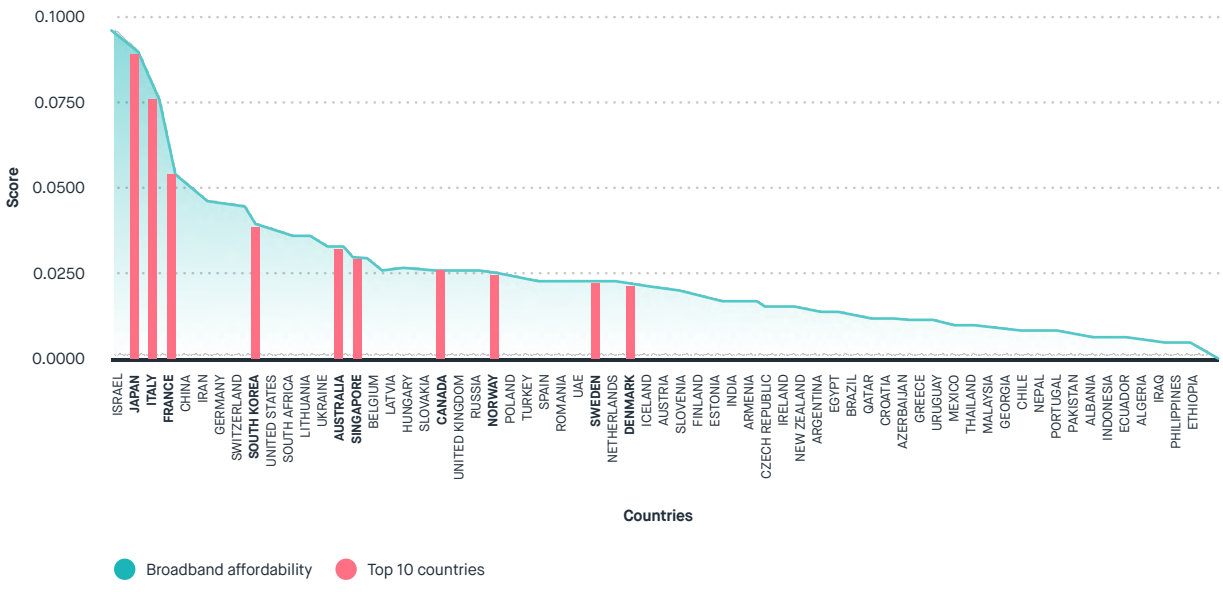
Graph 16: Hours worked to afford cheapest broadband package: high affordability

In Ethiopia, one has to work by far the most hours to afford the cheapest broadband package, at 61.50 hours (Graph 17). Considering the length of an average workweek there, broadband connectivity is generally accessible only to the wealthy. As in the case of mobile connectivity in Ethiopia, the underdevelopment of infrastructure is clearly visible throughout all the factors of this research that relate to internet accessibility. This suggests the need for investment in internet infrastructure to improve not only people's digital lives and their general well-being, but also, in the longer term, boost the country's economic development, as discussed in Section 5.1.1.1.

Graph 17: Hours worked to afford cheapest broadband package: low affordability

Although the Nordic countries, Denmark, Sweden, and Norway, are among the most economically developed countries, they rank in the middle of the global spectrum in terms of broadband affordability.

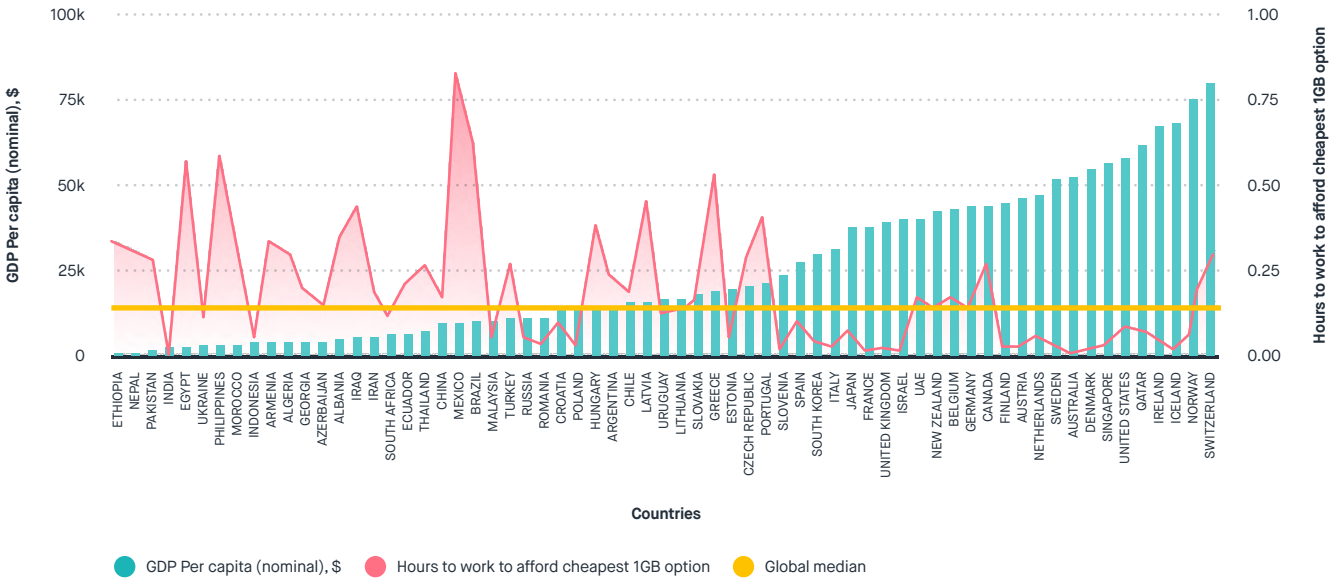
Still, even though this factor has a substantial weight in the final DQL index, it is only one of the composite parts of it and does not determine the overall standing. One example is Israel, a country with the most affordable broadband internet, which only ranks 13th in the final DQL index (Graph 18).



Graph 18: Comparing broadband internet affordability and the top 10 DQL countries

5.2.2 Mobile

The global median for the price of a 1GB mobile internet data plan is $0.51. The lowest value is in India, at $0.02 for 1GB.

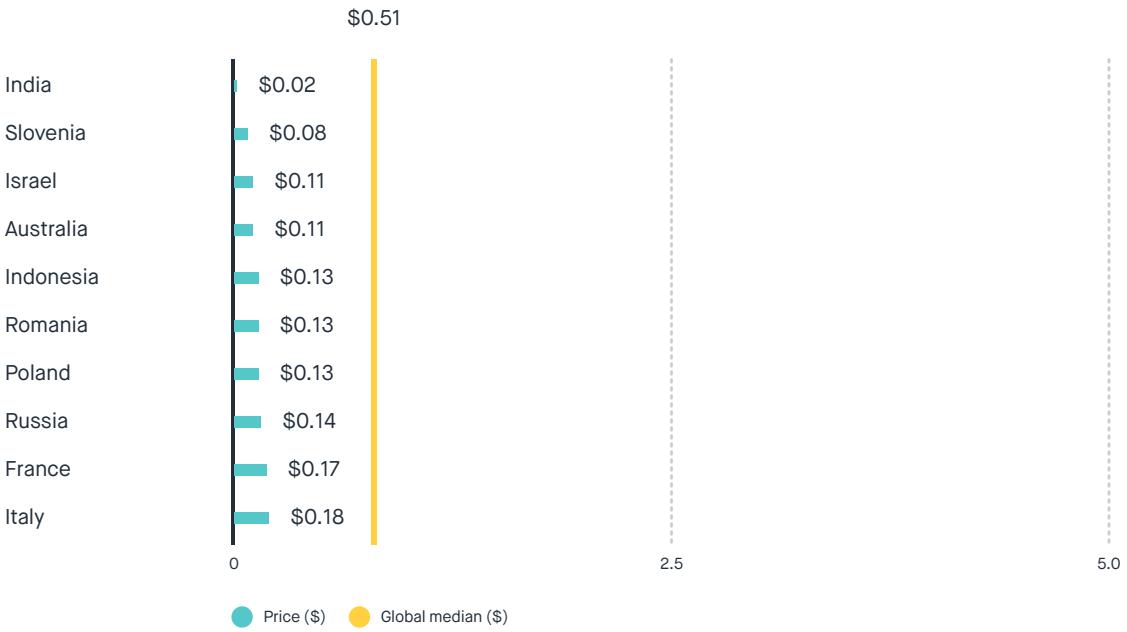


Graph 19: Mobile internet affordability and country's wealth. Important note: Ethiopia has by far the highest number of hours one needs to work to afford the internet, so it was taken out of this chart for the sake of scaling.

Mobile internet tends to be more affordable in countries with higher GDPs per capita (Graph 19). Although the correlation is clear, there are a few exceptions. For instance, in Switzerland and Canada, one needs to work as much to afford sufficient mobile connectivity as in less economically affluent countries such as Turkey or Thailand, which disturbs the digital quality of life for people living there. Also, people living in countries on the higher end of the economic spectrum, namely Norway, Germany, New Zealand, and Israel have above the median hours-to-work to afford the cheapest mobile internet. At the same time, people in Pakistan, Egypt, Morocco, Iraq, Brazil, Turkey, Russia, Romania, and Croatia have below the median hours-to-work to afford cheapest mobile internet. These numbers suggest that in countries where mobile internet is more affordable, there might be a higher level of competition between the operators of mobile networks. Lower costs to develop the network in terms of the country's size and landscape might also play a role in making it more affordable.

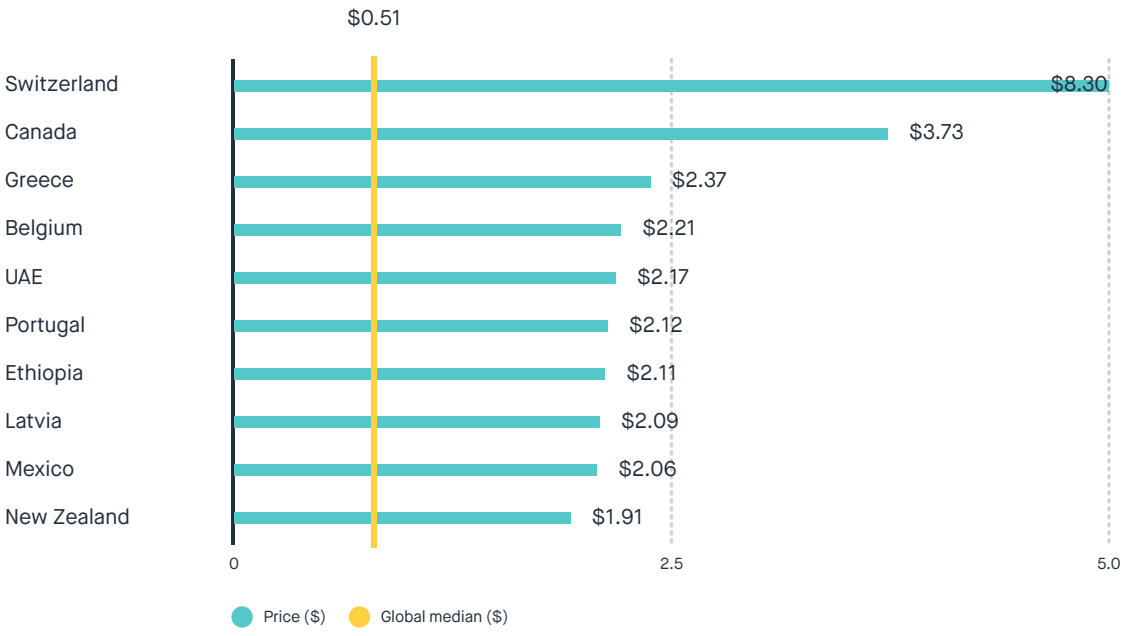
Interestingly, some countries with lower GDPs per capita, namely India, Indonesia, and Malaysia, stand out because its residents have to work less than in many other countries to afford 1GB of mobile internet. This makes the internet more accessible to a bigger part of the population, which is a significant factor positively influencing the digital quality of life there.

Five of the 10 countries with the lowest mobile internet prices are in the European Union, which highlights the tendency that people in the EU can much more easily afford mobile internet than people in other regions (Graph 20). This also makes the EU one of the regions with the highest digital quality of life in the world.



Graph 20: Countries with the lowest mobile internet prices

Mobile internet prices are the highest in Switzerland, where it costs $8.30 for 1GB of data (Graph 21).

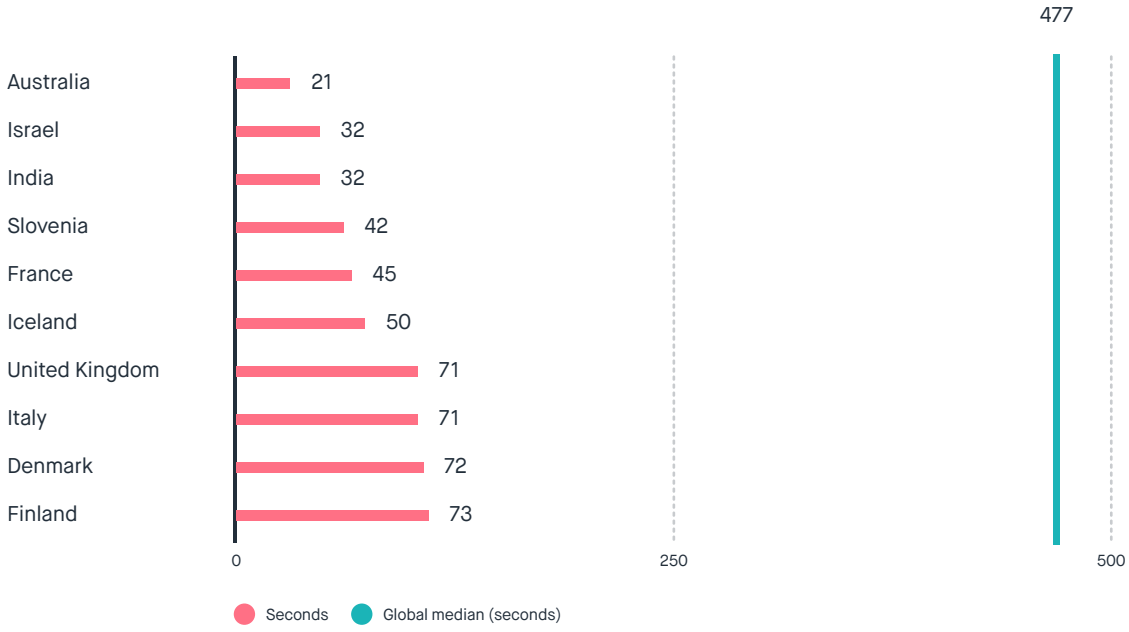


Graph 21: Countries with the highest mobile internet prices

However, the high price of mobile connection does not appear to significantly influence its affordability, as with the highest average wage among the researched countries, Switzerland ranks just below the median internet affordability. Still, if mobile internet was more affordable for people in Switzerland, its position in the DQL index would be higher.

In Australia, mobile data is the most affordable as one needs to work just 21 seconds to afford the cheapest 1GB mobile data package. This is mostly influenced by the country's high average monthly salary and comparatively inexpensive mobile data. With the exception of India, where the average monthly salary is on the bottom end of the researched countries, other countries with the most affordable mobile internet are among the most affluent economies in the world.

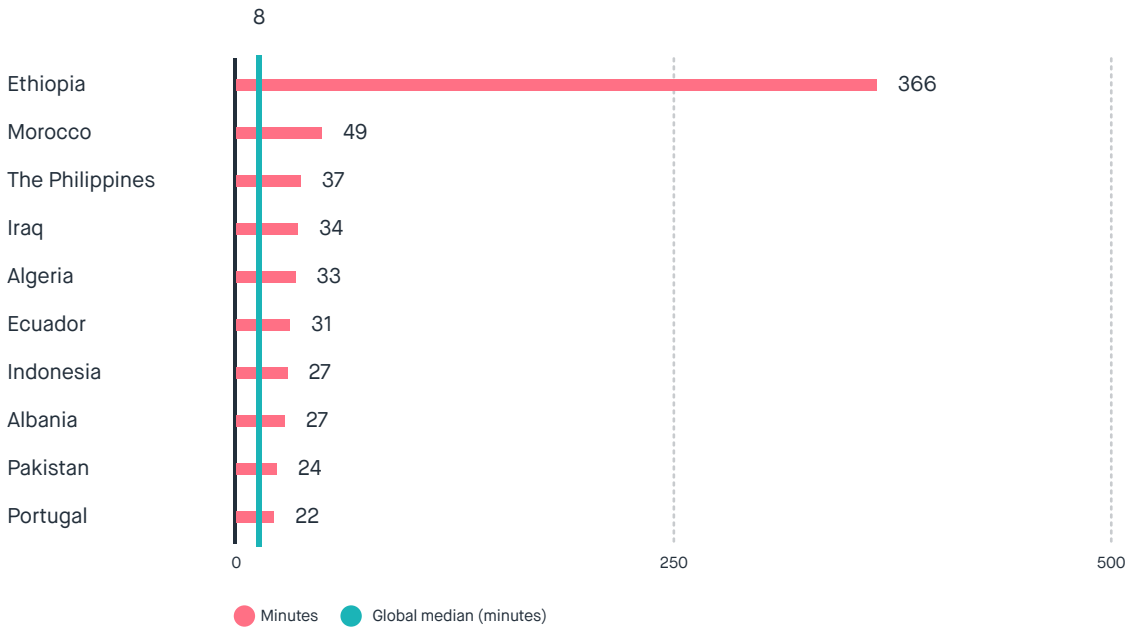
The affordability of mobile data is very high in Israel, India, Slovenia, France, and Iceland, where one has to work less than a minute to afford the cheapest 1GB package. This is closely followed by the UK, Italy, Denmark, and Finland, where less than two minutes of work are needed to afford a relatively sufficient amount of mobile data to cover one's basic internet needs (Graph 22).



Graph 22: Seconds required to work for cheapest 1GB of mobile internet: cheapest countries

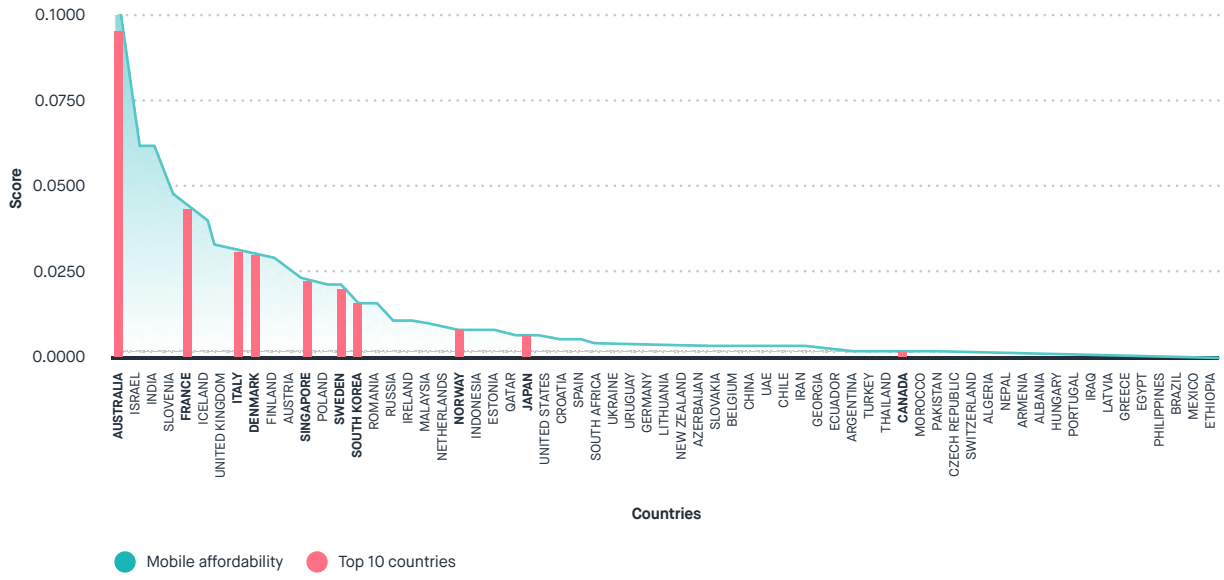
Overall, figures for mobile internet affordability are low throughout the globe, meaning that mobile data is highly affordable in most of the researched countries. The global median is 8 minutes of work to afford the cheapest 1GB data package. With the exception of Ethiopia, where one needs to work 6 hours and 6 minutes to afford 1GB of mobile internet, all countries remain under one hour of work for 1GB of internet (Graph 23). Even in countries where people

need to work more to afford the cheapest mobile internet, these figures are far lower than the amount of hours needed to work to afford the cheapest broadband. Once again, this proves the fact that the infrastructure necessary for mobile connectivity is easier to create, maintain, and scale than that which is needed for broadband internet. Also, it prevails over the latter in terms of accessibility, making it possible to cover wider areas with fully sufficient internet connectivity, even in places with complicated landscapes.



Graph 23: Minutes required to work for cheapest 1GB of mobile internet: most expensive countries

A noteworthy exception was revealed when comparing the affordability of mobile internet in a specific country with its position in the final DQL index.



Graph 24: Comparing mobile internet affordability in the top 10 DQL countries

As shown in Graph 24, although most of the highest-ranking countries stand above the global median values in terms of mobile affordability, Canada stands out because of its comparatively less affordable mobile internet. Taking into account its final position in the index (sixth), making mobile internet even slightly more affordable there would not only improve the digital well-being of people living there, but also its position among the countries offering the highest digital quality of life.

CHAPTER 6

Entertainment Content Availability

In most of the researched countries, the availability and choice of entertainment content, as defined in the Scope of the DQL study, was high.

That is why it was not the determining factor in the final country ranking. Also, the expert panel of this research attributed one of the lowest values to this factor, making its influence to the final index slight.

The core finding of the investigation of content availability is that in most countries, accessing different entertainment content online is not a general obstacle, which could negatively affect the digital quality of life. However, indicator scores of less than 1.000 suggest that although one or more content libraries defined by the scope of this research were not accessible from within these countries, there is a great likelihood that other libraries that were not considered during the investigation might also be unavailable in the indexed countries. This finding might have overreaching consequences on digital quality of life there as a lack of desired content is often related to higher internet piracy rates, which in turn affects any country's general well-being. However, to examine this assumption, further investigation is needed.

Three of the researched verticals to define content availability, namely Netflix, Amazon Prime, and internet pornography, have high availability in most countries. The exception is YouTube Premium, which at the time of writing, is available in only 50 of the 65 countries.

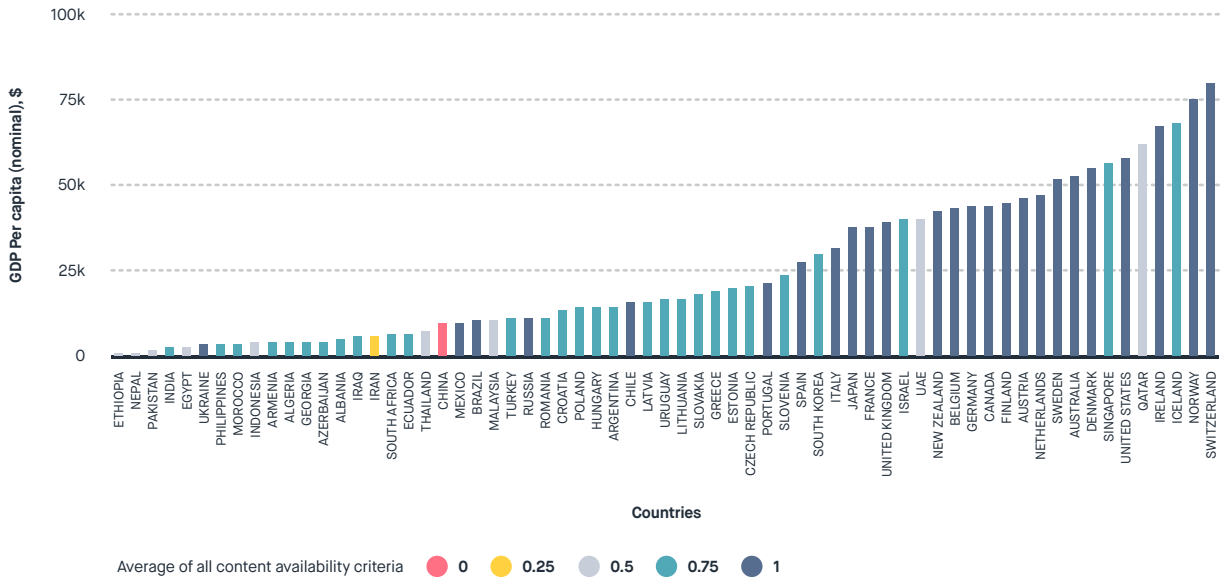
At the time of research, all of the selected content verticals were available for unrestricted access in Australia, Austria, Belgium, Brazil, Canada, Chile, Denmark, Finland, France, Germany, Ireland, Italy, Japan, Mexico, the Netherlands, New Zealand, Norway, Portugal, Russia, Spain, Sweden, Switzerland, the UK, Ukraine, and the USA (adding up to the highest 1.000 score).

In fact, with the exception of South Korea, where access to internet pornography was restricted, the main reason for countries getting a score of 0.7500 (three out of four assessed types of content libraries available) was the unavailability of YouTube Premium. 54 out of the 65 countries have a score of 0.7500 or higher, indicating that the digital quality of life there in terms of entertainment content availability is sufficiently high.

It is important to note that although Netflix and Amazon Prime have wide global coverage, the content these services offer differs across countries. The differences in library sizes as well as a different distribution of content is affected by the streaming services' business

strategies, policies, licensing agreements with content creators, and other factors, such as the local television landscape (Annamaneni, 2018).

At the time of writing[2] , internet pornography was generally available in Western Europe, the Americas, Russia, India, Australia, and South Africa, and generally illegal in Asia and Africa. It was considered restricted in the UK, due to recent changes in the country's legislation, making it the only EU country with restricted access. Internet pornography was blocked in Bahrain, Bangladesh, China, Indonesia, Iran, Kuwait, Malaysia, Nepal, North Korea, Oman, Pakistan, Papua New Guinea, Qatar, Saudi Arabia, South Korea, Sudan, Syria, Thailand, Turkey, Turkmenistan, UAE, and Yemen.

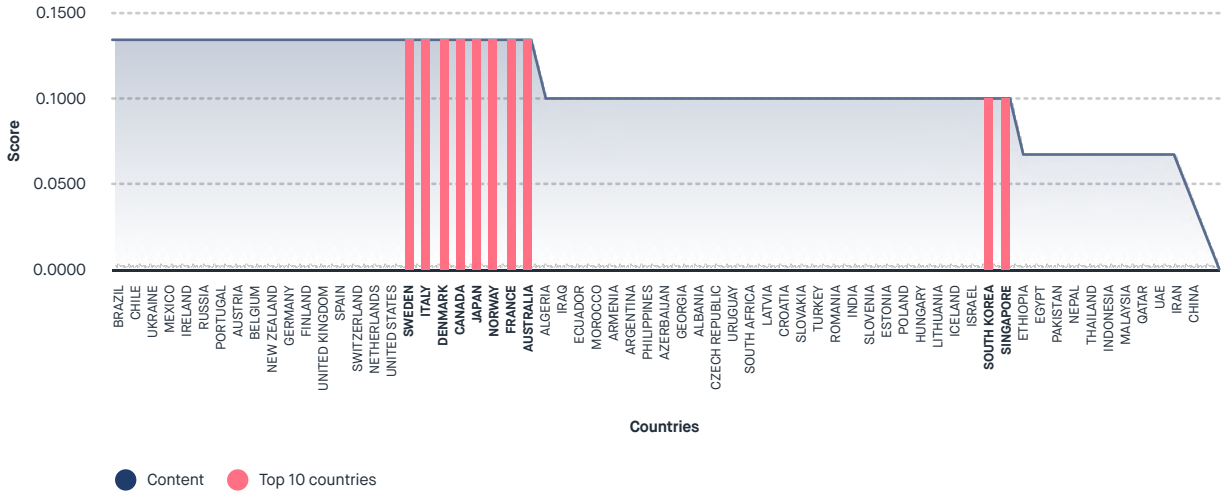


Graph 25: Content availability and GDP/capita

In most of the more economically affluent countries, all of the content libraries were available to reach from within. However, Iceland and Singapore did not receive the highest scores due to no availability of YouTube Premium. As discussed above, although the content factor did not have a major influence on the final ranking in the case of most countries, a few would be ranked higher if the missing streaming service was available there. Also, researched countries in the Arabian Peninsula with high GDP per capita numbers, namely Qatar and UAE, impose strict content restrictions, which is evident from their 0.500 score (Graph 25). Interestingly, the availability of entertainment content is similar in Algeria, the country with the lowest score in the 2019 DQL index. According to the Freedom of the Net Report (Shahbaz, A. 2018), this is because, for instance, the internet in the UAE is considered to be not free, while Qatar is regarded as a country that heavily censors access to

[2] Tested by Surfshark's researchers while connected to different servers

the internet (The Net Monitor, n.d.) This censorship is not limited to entertainment content, but also includes access to information. This represents a threat to freedom in these countries that negatively affects people's well-being.



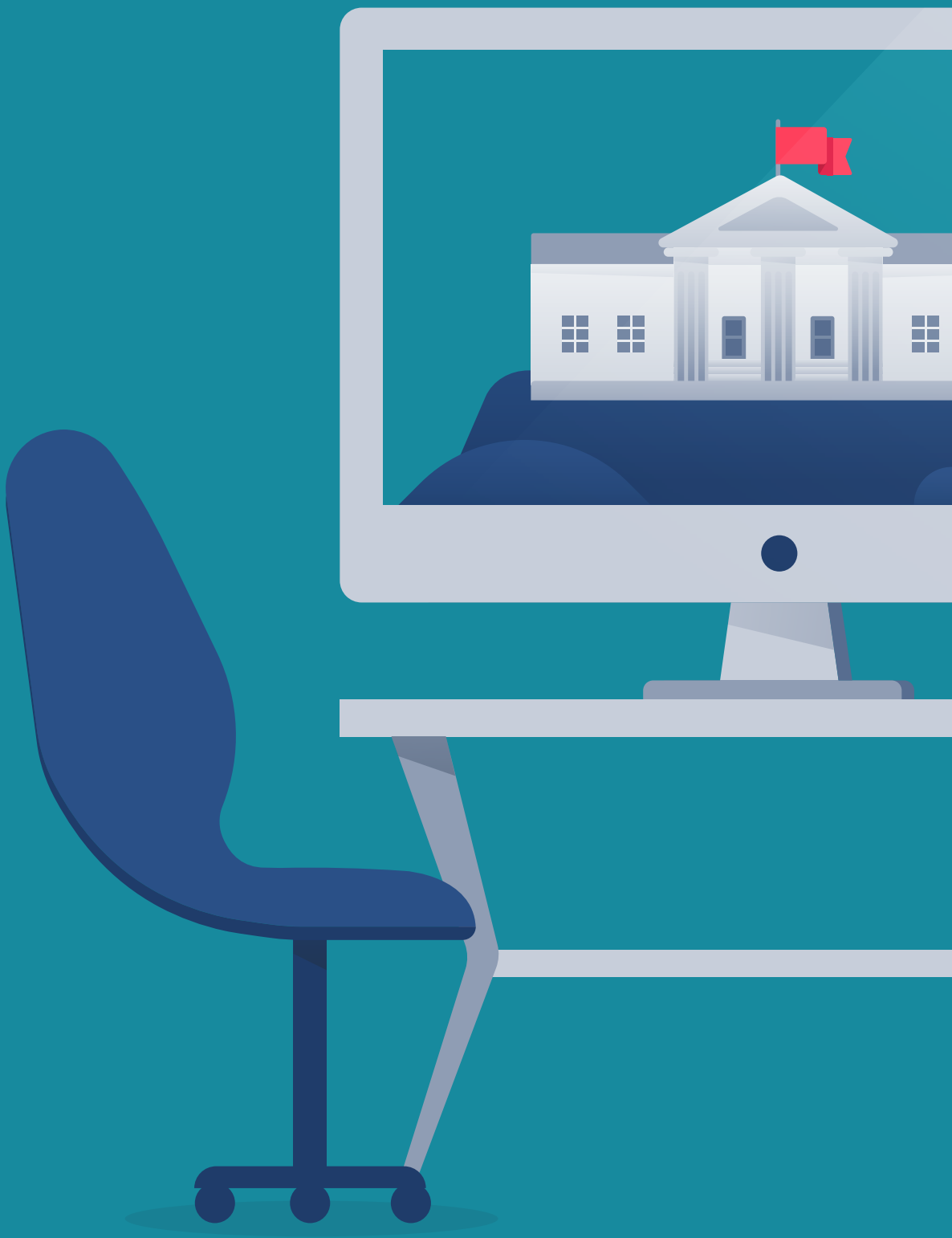
Graph 26: Comparing content availability criteria and the top 10 DQL countries

An interesting case regarding content availability is Singapore, a country with one of the highest DQL index scores. If other composite factors of its final index score were unchanged, except for content availability, and more content libraries would be possible to reach from within the country, Singapore would have received the highest rating of all indexed countries. The country received a lower score because not all of the content libraries as defined by the scope of this study were available there, namely YouTube Premium. South Korea also did not receive the full score because of limited availability of internet porn (Graph 26).

None of the four platforms used in this research are available in China, although it has alternatives to some of the major platforms. The situation in China is discussed in more detail in Section 4.5. In Iran, Netflix is the only available service, although the size of its library is unknown. In Egypt, Ethiopia, Indonesia, Malaysia, Nepal, Pakistan, Thailand, Qatar, and UAE, internet porn and YouTube Premium are unavailable. With the exception of South Korea, as mentioned above, internet porn is available in all other countries. Countries that restrict internet porn tend to be more culturally conservative.

CHAPTER 7

E-Government Availability



E-Government availability and development shows significant geographical differences (Table 6).

High OSI (the Online Service Index) ratings translate to what the United Nations Public Administration Network (n.d.) calls "connected presence," the highest level in online government initiatives, which reveals that technologies and innovations in the public sector significantly impact everyday lives. The expert panel of this study weighed the OSI indicator with a 0.16, highlighting the importance of the development of e-government services as a highly determining factor of one's digital well-being.

Half of the top 10 countries with the highest OSI scores are the member states of the European Union (Denmark, France, the UK, Finland, and Italy), and there is one country each in Southeast Asia (Singapore), East Asia (South Korea), and Oceania (Australia). Moreover, India is the only regional representative of South Asia in the OSI top 10.

Country	OSI
Denmark	**1**
Singapore	**0.9861**
United States	**0.9861**
France	**0.9792**
United Kingdom	**0.9792**
South Korea	**0.9792**
Australia	**0.9722**
Finland	**0.9653**
India	**0.9514**
Italy	**0.9514**

Table 6: Highest OSI ratings

Looking at the other side of OSI spectrum reveals a general tendency that countries with lower OSI scores are also low-income (Table 7). Nevertheless, income figures might not be the best indicator to analyze e-government development level as India, generally a low-income country, has managed to reach a higher level of government online presence and advancement than many economically affluent countries. This suggests that investment in online availability and inclusivity of e-government services might not necessarily require

substantial financial investments into the necessary infrastructure, but rather more into strategic planning of resources, data management, and processes. However, being out of the scope of this research, India's case needs more thorough study to assess these assumptions.

The general finding regarding e-government development globally is that any improvement in OSI rating would potentially increase people's digital quality of life. It would generally do that by lowering the level of traditional bureaucracy, making it more efficient in terms of time and resources, as well as more sustainable in the long-term. However, ensuring the cybersecurity of governmental e-services is another important matter, which is discussed in more detail in the following section.

Country	OSI
Algeria	**0.2153**
Iraq	**0.3194**
Egypt	**0.5347**
Pakistan	**0.5486**
Armenia	**0.5625**
Indonesia	**0.5694**
Ukraine	**0.5694**
Iran	**0.6319**
Ethiopia	**0.6319**
Thailand	**0.6389**

Table 7: Lowest OSI ratings

CHAPTER 8

The Global Cybersecurity Index

Geographical distribution among the highest Global Cybersecurity Index (GCI) scoring countries varies.

Half of the countries with the highest GCI score are member states of the European Union (the UK, France, Lithuania, Estonia, Spain) (Table 8), while Norway, although not a part of the EU, belongs to the European Economic Area. It is notable that Singapore and Malaysia, Southeast Asian countries, demonstrate a high commitment to national cybersecurity, both ranking among the nations best prepared for potential cyber threats. Moreover, two of the biggest countries of the North American region, the U.S. and Canada, demonstrate a high commitment to cybersecurity as well.

Country	GCI
United Kingdom	**0.9310**
United States	**0.9260**
France	**0.9180**
Lithuania	**0.9080**
Estonia	**0.9050**
Singapore	**0.8980**
Spain	**0.8960**
Malaysia	**0.8930**
Norway	**0.8920**
Canada	**0.8920**

Table 8: Highest GCI ratings

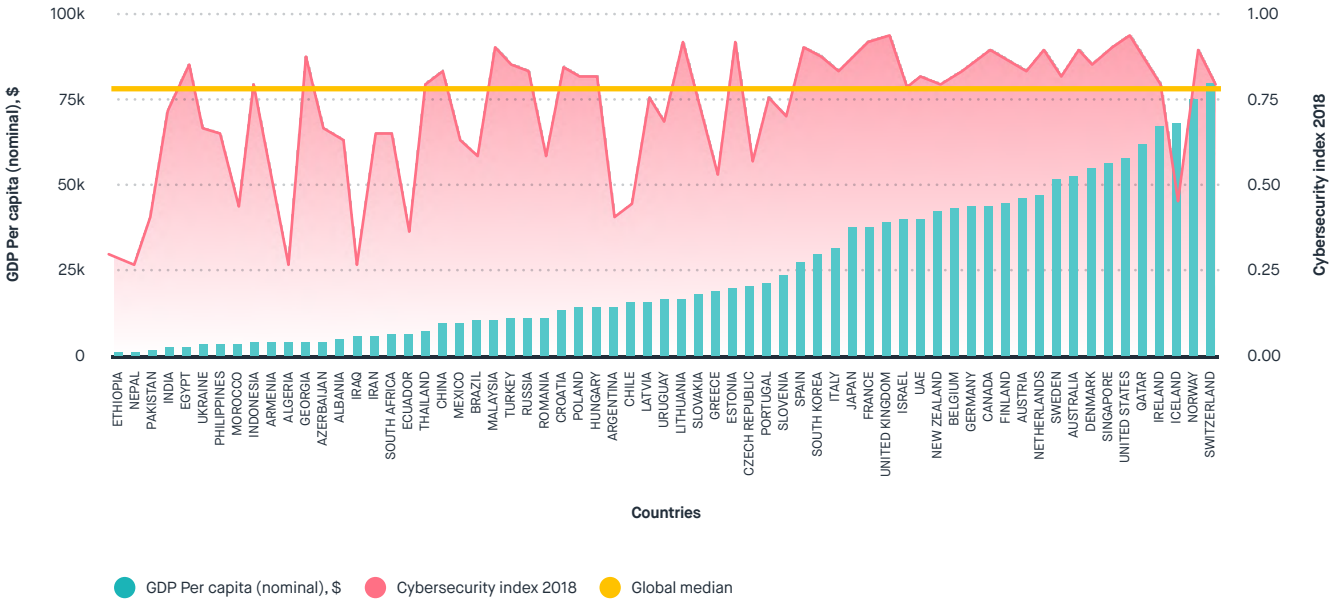
Most of the top 10 countries scored high marks in the legal and organizational pillars, two of the most important components of the GCI, indicating operational readiness to cope with potential cyber threats. The high level of cybersecurity in the EU is a result of the EU's continuous efforts to strengthen the cybersecurity of its member states. In 2018, the European Parliament, the Council, and the European Commission agreed on the Cybersecurity Act. It reinforces the mandate of the EU Agency for Cybersecurity, European Union Agency for Network and Information and Security (ENISA), to better support member states with tackling cybersecurity threats and attacks, and establishes an EU framework for cybersecurity certification (European Commission, 2018).

The geographical distribution of the lowest scoring countries is also diversified (Table 9) as it is comprised of three South American region countries (Ecuador, Argentina, and Chile), two North African countries (Algeria, Morocco), two South Asian countries (Nepal and Pakistan), one East African country (Ethiopia), and one Western Asian country (Iraq). Interestingly, the lower-ranked countries of the GCI index do not have a strong correlation in regards to their economic affluence.

Country	GCI
Nepal	**0.2600**
Algeria	**0.2620**
Iraq	**0.2630**
Ethiopia	**0.2780**
Ecuador	**0.3670**
Pakistan	**0.4070**
Argentina	**0.4070**
Morocco	**0.4290**
Chile	**0.4380**
Iceland	**0.4490**

Table 9: Lowest GCI ratings

The case of Iceland, a Northern European country, is special. Unlike all of the other countries in its region (Norway, Sweden, Finland, and Denmark), Iceland received a low GCI score. Additionally, Graph 27 reveals that Iceland, despite having the third highest GDP per capita among all the countries on the DQL 2019 list, is far below the median value of the GCI score. As stated in the Global Cybersecurity Index (International Telecommunications Union, ITU, 2018), the low score is due to a lack of infrastructure maintenance and a lack of regular updates to reflect the changing needs, bringing into question its ability to adapt to the swiftly changing online environment. Then again, some countries such as Egypt, Indonesia, Georgia, Thailand, and Malaysia, which did not receive high scores when analyzing other composite parts of the DQL index and have low GDPs per capita, are comparatively well prepared to counter cyber threats.



Graph 27: GCI and country wealth

Historical GCI data shows that the overall situation, meaning the level of commitment to national cybersecurity and awareness, has been gradually improving globally. However, as presented above (Tables 8 and 9), there is still a wide gap in cybersecurity commitment around the world, inducing lower-scoring countries to take the necessary steps in protecting their cyberspace. Consequently, a lack of preparedness to counter virtual threats poses potential threats to one's digital quality of life in an increasingly connected and interdependent environment, as it can likely be corrupted at any point in time by unexpected outside factors.

CHAPTER 9

Personal Data Protection Laws

> *"In this hyperconnected world data is generated continuously, thus being in control of it becomes of high significance."*
>
> *– Burt, A. (2019)*

In 2018, 12,499 authentic data breaches and 14.9 billion raw identity records circulating across the web were discovered (4iq (n.d.)). To protect people's online well-being, legal regulations play an essential role in what happens with an individual's data, laying the foundation for its storage, management, protection, responsibility, and legal accountability.

As noted by the Freedom of the Net Report, many countries have been passing laws that grant individuals control of their online data: "At least 15 countries considered data protection laws since June 2017, and at least 35 already have a data protection law on the books." During the research for DQL 2019, it was observed that 62 of 65 countries had personal data protection laws, or at least drafted versions of such kind, in place – all except for Algeria, Egypt, and Ethiopia.

However, some members of the expert panel of the DQL index warned of potential negative consequences of data protection laws, highlighting concerns that such laws in some countries have been used to justify surveillance rather than protect citizen rights. According to Vpngids.nl, many laws are "trivial and hard to enforce by governments, or are enacted in violation of people's privacy."

The research revealed that although labeled as personal data protection laws, in some countries, their intention can be considered as equivocal. However, as explained in the Methodology section of this study, potential implications of such laws were not investigated in more detail due to the legal complexity of the topic.

An exceptional case is the country that received the overall highest DQL index score, Australia. Although it received the highest indicator score for the presence of personal data laws, recent legislative developments and the encryption backdoor law passed in the Parliament of Australia (n.d.) might implicate the digital quality of life there in the future. The law, which requires companies to add backdoors to their encrypted technologies, was criticized by academics (Schneier B., 2017) for potential hazards to citizens' security. Similar concerns were expressed in the Freedom of the Net 2018 report (Shahbaz, A. 2018), stating: "Such a policy would effectively create security vulnerabilities in the companies' services, driving away users and facilitating intrusions not just by friendly governments, but by hostile powers and criminals as well."

Nevertheless, there have been positive developments regarding the protection of one's privacy in Europe. On the 25th of May 2018, the EU's General Data Protection Regulation (GDPR) came into force. Its aim is to provide stronger rules on data protection and give people more control over their personal data (European Commission, n.d.). The regulation requires controllers (entities that collect and process customer data) to have measures in place to protect one's personal information. In every country in the EU, such data may only be collected with citizens' explicit consent, while people must know exactly what aspects of their data are collected, for what reasons and how are processed for, and by whom. Collected data may not be shared unless with the explicit consent of the citizen. While the GDPR is far-reaching and inclusive, there is rising uncertainty about the extent of the requirements and the complexities involved in implementing them.

The investigation of the data protection laws revealed that in most countries, the legislation (if present) is obscure, which makes it challenging to implement. It is also essential to accentuate that the level of the regulation differs and that passing privacy laws in any country does not mean that they are certain to be effective. The general tendency is that the more profound and up-to-date the legal system is, the higher the citizens' quality of life.

CHAPTER 10

Conclusions

This study on digital quality of life combines 6 key indicators into one figure to compare and analyze people's online experiences in 65 countries, covering a population of approximately 5.5 billion in every major region of the world.

The first embodiment of this kind of research brings together weighted averages of selected factors that encompass current legislative measures, the country's online security, connectivity in terms of speed and affordability, as well as the availability of online services, into a composite index that reflects the gap between people's online well-being in various nations and highlights critical problem areas.

The median value of the 2019 DQL index is 0.6110 of 1.000, which indicates that there is substantial room for improvement in digital quality of life across all the indexed countries. It is notable that even the countries that received the highest index scores did not obtain more than 0.8000 in the overall index due to shortcomings in certain factors that resulted in lower evaluations. The study reflects that even the most digitally affluent countries have room for improvement in terms of the experience of their citizens within the online sphere, which, as assumed prior to the DQL research and confirmed by its findings, has a direct correlation with the overall quality of life in any country.

The key findings of this research reveal a strong interconnection between a country's wealth (in terms of GDP) and its citizens' digital quality of life. Affluent economies tended to outperform other countries in the areas of cybersecurity, affordability, and internet speed. These areas generally indicate comparatively prudent legislative and executive systems, as well as more proficiently developed internet infrastructure and its competitiveness compared to the countries ranked in the lower end of the DQL index.

Also, the study suggests that every additional $10,000 in any given country's GDP per capita can consequently improve the digital well-being of its citizens and add up an additional 0.0300 to its DQL score. This economic improvement would not necessarily have a short-term impact on any one specific factor, but rather a long-term spillover effect on most of the components of the index.

The causation between economic development and digital quality of life arguably works both ways, which means that investment in internet infrastructure, its competitiveness, and the country's cybersecurity, together with a well developed legislative basis that defines and defends the framework of one's personal data, has positive effects on any country's

economic development.

Forty percent of the final DQL index score was determined by factors that define the accessibility of the internet, namely internet affordability and its speed. A positive correlation between internet speed (both mobile and broadband) and other composite index factors proves its importance to one's digital quality of life.

The research confirmed that mobile internet is of crucial importance in today's world as it is much easier to install and scale, requires less investment, and can cover a larger population than broadband. These factors are of utmost importance for countries with complicated landscapes, substantial land areas, or less affluent economies. Cheaper and easily scalable mobile technology allows for better affordability than broadband, which is generally much less affordable throughout the world. Nevertheless, people living in countries that have the best combination of internet speed and affordability factors are digitally better off.

In the wake of heightened awareness of data privacy fueled by millions of data breaches worldwide, Europe's GDPR served as a de facto benchmark for governments and global companies to strengthen their legal pillars. The DQL index shows that most of the countries are data protection-conscious, with 62 out of 65 having laws or drafts of laws in place. However, in some cases, this apparent commitment is illusory. The general tendency suggests that data protection regulation is in its early stages in the majority of the researched countries. Due to differences in legislative regulation and common ambiguity, current data protection laws vary from having a nearly invisible impact to some that might potentially have adverse effects in the long-term. Although the complexity of such regulation was not accounted for in 2019 DQL index, the findings suggest there is room for improvement, especially in making these laws serve the citizens.

The values of the other two highly institutional factors of the DQL index – the availability of e-government services and the cybersecurity level of the country – with some exceptions, once again proved the correlation between a country's economic development and the digital quality of life there. People living in countries with higher e-government availability values have better digital lives as institutional apparatuses there are more effective and less bureaucratic. At the same time, countries with higher index values in terms of cybersecurity have forward-looking approaches to their citizens' digital well-being and take the necessary actions to protect their populations against the unexpected digital threats that can potentially have a severe impact on overall quality of life.

The first DQL index was built up by the research team convened by Surfshark to lay the foundation for future studies on people's digital well-being around the world because it

already has, and will continue to have, a determining influence on their overall quality of life. The index and the study are intended to be used as reference material for improving critical areas in terms of digital quality of life in any country.

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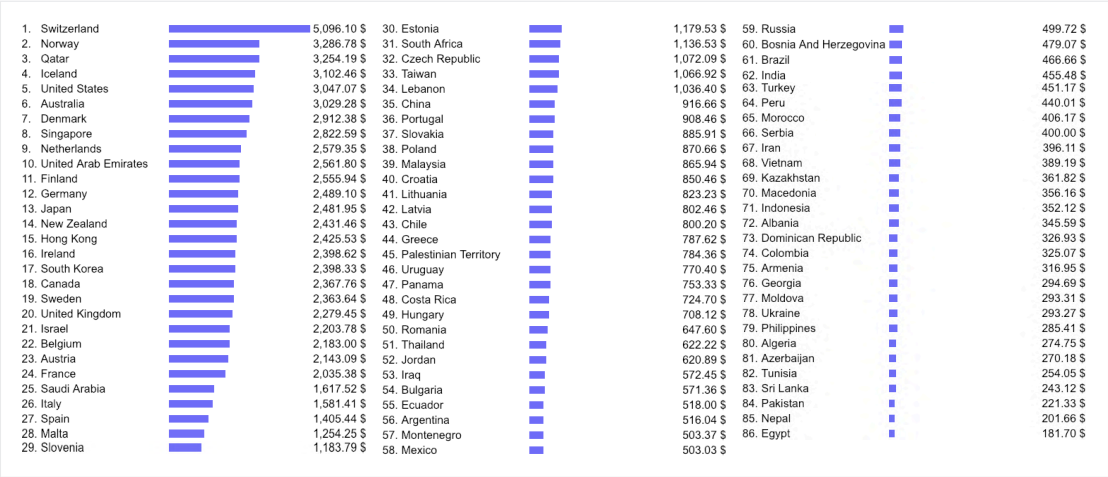
Annex 1:
Dynamic Criteria

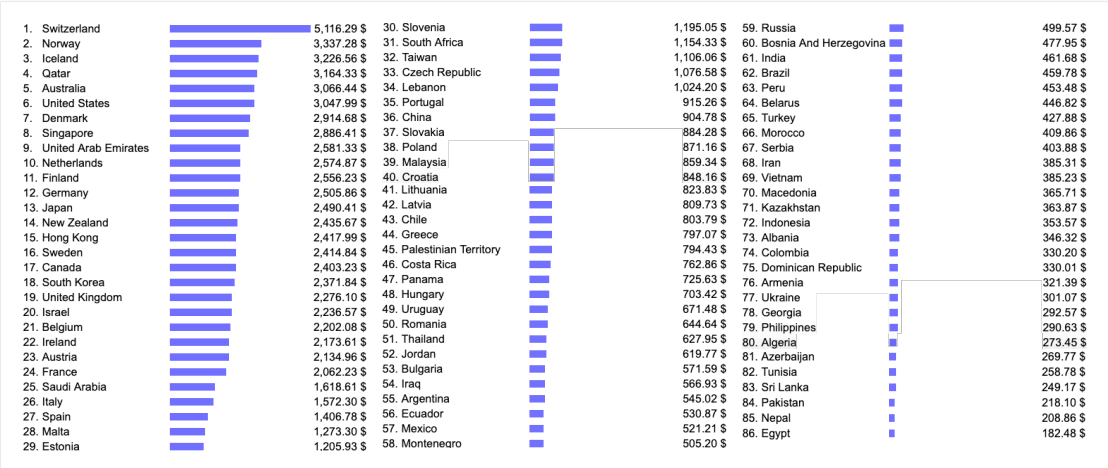
12.1 Average Wage Data

March, 2019



1.	Switzerland	5,096.10 $	30.	Estonia	1,179.53 $	59.	Russia	499.72 $
2.	Norway	3,286.78 $	31.	South Africa	1,136.53 $	60.	Bosnia And Herzegovina	479.07 $
3.	Qatar	3,254.19 $	32.	Czech Republic	1,072.09 $	61.	Brazil	466.66 $
4.	Iceland	3,102.46 $	33.	Taiwan	1,066.92 $	62.	India	455.48 $
5.	United States	3,047.07 $	34.	Lebanon	1,036.40 $	63.	Turkey	451.17 $
6.	Australia	3,029.28 $	35.	China	916.66 $	64.	Peru	440.01 $
7.	Denmark	2,912.38 $	36.	Portugal	908.46 $	65.	Morocco	406.17 $
8.	Singapore	2,822.59 $	37.	Slovakia	885.91 $	66.	Serbia	400.00 $
9.	Netherlands	2,579.35 $	38.	Poland	870.66 $	67.	Iran	396.11 $
10.	United Arab Emirates	2,561.80 $	39.	Malaysia	865.94 $	68.	Vietnam	389.19 $
11.	Finland	2,555.94 $	40.	Croatia	850.46 $	69.	Kazakhstan	361.82 $
12.	Germany	2,489.10 $	41.	Lithuania	823.23 $	70.	Macedonia	356.16 $
13.	Japan	2,481.95 $	42.	Latvia	802.46 $	71.	Indonesia	352.12 $
14.	New Zealand	2,431.46 $	43.	Chile	800.20 $	72.	Albania	345.59 $
15.	Hong Kong	2,425.53 $	44.	Greece	787.62 $	73.	Dominican Republic	326.93 $
16.	Ireland	2,398.62 $	45.	Palestinian Territory	784.36 $	74.	Colombia	325.07 $
17.	South Korea	2,398.33 $	46.	Uruguay	770.40 $	75.	Armenia	316.95 $
18.	Canada	2,367.76 $	47.	Panama	753.33 $	76.	Georgia	294.69 $
19.	Sweden	2,363.64 $	48.	Costa Rica	724.70 $	77.	Moldova	293.31 $
20.	United Kingdom	2,279.45 $	49.	Hungary	708.12 $	78.	Ukraine	293.27 $
21.	Israel	2,203.78 $	50.	Romania	647.60 $	79.	Philippines	285.41 $
22.	Belgium	2,183.00 $	51.	Thailand	622.22 $	80.	Algeria	274.75 $
23.	Austria	2,143.09 $	52.	Jordan	620.89 $	81.	Azerbaijan	270.18 $
24.	France	2,035.38 $	53.	Iraq	572.45 $	82.	Tunisia	254.05 $
25.	Saudi Arabia	1,617.52 $	54.	Bulgaria	571.36 $	83.	Sri Lanka	243.12 $
26.	Italy	1,581.41 $	55.	Ecuador	518.00 $	84.	Pakistan	221.33 $
27.	Spain	1,405.44 $	56.	Argentina	516.04 $	85.	Nepal	201.66 $
28.	Malta	1,254.25 $	57.	Montenegro	503.37 $	86.	Egypt	181.70 $
29.	Slovenia	1,183.79 $	58.	Mexico	503.03 $			

April, 2019



1.	Switzerland	5,116.29 $	30.	Slovenia	1,195.05 $	59.	Russia	499.57 $
2.	Norway	3,337.28 $	31.	South Africa	1,154.33 $	60.	Bosnia And Herzegovina	477.95 $
3.	Iceland	3,226.56 $	32.	Taiwan	1,106.06 $	61.	India	461.68 $
4.	Qatar	3,164.33 $	33.	Czech Republic	1,076.58 $	62.	Brazil	459.78 $
5.	Australia	3,066.44 $	34.	Lebanon	1,024.20 $	63.	Peru	453.48 $
6.	United States	3,047.99 $	35.	Portugal	915.26 $	64.	Belarus	446.82 $
7.	Denmark	2,914.68 $	36.	China	904.78 $	65.	Turkey	427.88 $
8.	Singapore	2,886.41 $	37.	Slovakia	884.28 $	66.	Morocco	409.86 $
9.	United Arab Emirates	2,581.33 $	38.	Poland	871.16 $	67.	Serbia	403.88 $
10.	Netherlands	2,574.87 $	39.	Malaysia	859.34 $	68.	Iran	385.31 $
11.	Finland	2,556.23 $	40.	Croatia	848.16 $	69.	Vietnam	385.23 $
12.	Germany	2,505.86 $	41.	Lithuania	823.83 $	70.	Macedonia	365.71 $
13.	Japan	2,490.41 $	42.	Latvia	809.73 $	71.	Kazakhstan	363.87 $
14.	New Zealand	2,435.67 $	43.	Chile	803.79 $	72.	Indonesia	353.57 $
15.	Hong Kong	2,417.99 $	44.	Greece	797.07 $	73.	Albania	346.32 $
16.	Sweden	2,414.84 $	45.	Palestinian Territory	794.43 $	74.	Colombia	330.20 $
17.	Canada	2,403.23 $	46.	Costa Rica	762.86 $	75.	Dominican Republic	330.01 $
18.	South Korea	2,371.84 $	47.	Panama	725.63 $	76.	Armenia	321.39 $
19.	United Kingdom	2,276.10 $	48.	Hungary	703.42 $	77.	Ukraine	301.07 $
20.	Israel	2,236.57 $	49.	Uruguay	671.48 $	78.	Georgia	292.57 $
21.	Belgium	2,202.08 $	50.	Romania	644.64 $	79.	Philippines	290.63 $
22.	Ireland	2,173.61 $	51.	Thailand	627.95 $	80.	Algeria	273.45 $
23.	Austria	2,134.96 $	52.	Jordan	619.77 $	81.	Azerbaijan	269.77 $
24.	France	2,062.23 $	53.	Bulgaria	571.59 $	82.	Tunisia	258.78 $
25.	Saudi Arabia	1,618.61 $	54.	Iraq	566.93 $	83.	Sri Lanka	249.17 $
26.	Italy	1,572.30 $	55.	Argentina	545.02 $	84.	Pakistan	218.10 $
27.	Spain	1,406.78 $	56.	Ecuador	530.87 $	85.	Nepal	208.86 $
28.	Malta	1,273.30 $	57.	Mexico	521.21 $	86.	Egypt	182.48 $
29.	Estonia	1,205.93 $	58.	Montenegro	505.20 $			

12.2 Internet Speed Tests

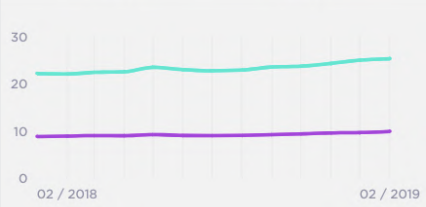
Global Speeds January 2019

Mobile

Global Average

Download 25.38 Mbps

Upload 9.99 Mbps



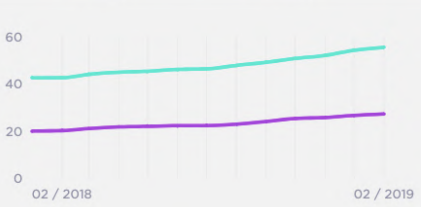
#		Country	Mbps
1	-	Iceland	73.93
2	-	Norway	70.29
3	-	Canada	65.68
4	+1	Qatar	59.05
5	+2	Netherlands	56.87
6	-	Australia	56.70
7	-3	Singapore	54.96
8	+1	South Korea	52.53
9	+4	Denmark	50.12
10	-	Belgium	49.99
11	-3	Malta	49.53
12	-1	United Arab Emirates	49.49
13	-1	Switzerland	49.25
14	-	Sweden	49.20
15	+1	Czech Republic	47.93
16	-1	Hungary	46.81
17	-	Luxembourg	45.76
18	+4	Albania	44.93
19	+1	New Zealand	44.74

Fixed Broadband

Global Average

Download 55.52 Mbps

Upload 27.43 Mbps



#		Country	Mbps
1	-	Singapore	197.04
2	-	Hong Kong (SAR)	169.40
3	-	Iceland	159.30
4	-	Monaco	152.02
5	-1	Romania	129.82
6	-1	South Korea	129.20
7	+1	Hungary	116.09
8	-2	United States	111.65
9	-	Sweden	111.48
10	-	Switzerland	108.85
11	-	Spain	106.34
12	+2	France	105.42
13	-6	Canada	104.94
14	-2	Luxembourg	103.73
15	-	Andorra	103.45
16	-	Liechtenstein	100.63
17	-4	Norway	100.09
18	-3	Macau (SAR)	98.50
19	-2	Denmark	94.93

20	-2	Montenegro	44.20
21	-2	Croatia	43.60
22	+2	France	43.34
23	-	Taiwan	42.77
24	-3	Greece	42.65
25	+2	Finland	42.16
26	-	Estonia	41.46
27	-2	Lithuania	39.91
28	+1	Macedonia	39.55
29	-1	Lebanon	39.13
30	+1	Austria	38.60
31	-1	Serbia	37.00
32	-	Cyprus	36.31
33	+1	Spain	35.75
34	-1	Oman	34.97
35	-	Turkey	34.96
36	+3	Romania	33.47
37	+5	United States	33.19
38	-1	Kuwait	33.02
39	-3	Slovakia	32.97
40	+7	Portugal	32.79
41	-3	Slovenia	32.48
42	+3	Macau (SAR)	32.36
43	+1	Japan	32.08
44	-3	Hong Kong (SAR)	32.00
45	-5	Moldova	31.92
46	-3	Germany	31.46
47	+1	Italy	31.10
48	+3	Saudi Arabia	30.80
49	-3	Iran	30.64
50	+4	Azerbaijan	30.27
51	+1	United Kingdom	30.12

20	-4	Japan	94.78
21	-1	Malta	91.34
22	-3	Netherlands	89.08
23	-5	China	87.83
24	-3	New Zealand	85.56
25	+3	Taiwan	82.02
26	-1	Lithuania	77.74
27	-5	Portugal	77.66
28	+1	Malaysia	70.18
29	-5	Belgium	69.56
30	-7	Israel	67.65
31	-4	Germany	67.53
32	-6	Barbados	66.26
33	-1	Latvia	66.24
34	-	Poland	63.71
35	-5	Thailand	59.61
36	-5	Chile	58.12
37	-1	Finland	58.01
38	-5	United Kingdom	55.17
39	-4	Ireland	55.13
40	-2	United Arab Emirates	54.98
41	-4	Slovakia	53.70
42	-	Estonia	52.60
43	-4	Slovenia	52.10
44	-	San Marino	51.20
45	-4	Panama	50.08
46	-3	Russia	47.27
47	-1	Italy	47.27
48	-4	Czech Republic	46.99
49	-9	Moldova	44.27
50	-5	Trinidad and Tobago	43.76
51	-4	Ukraine	41.27

52	-2	China	30.08
53	-4	Latvia	29.86
54	+1	Poland	29.33
55	+4	South Africa	28.09
56	+2	Armenia	27.86
58	-2	Uruguay	26.66
59	+1	Maldives	26.17
60	-3	Belize	25.32
61	-	Fiji	25.14
62	-1	Republic of the Union of Myanmar	24.71
63	+3	Laos	24.26
64	-2	Israel	23.95
65	-2	Tunisia	23.86
66	+1	Peru	23.01
67	+2	Ireland	22.96
68	-4	Bahrain	22.96
69	+5	Sri Lanka	22.80
70	-2	Honduras	22.41
71	-	Antigua and Barbuda	22.24
72	-2	Vietnam	21.94
73	-8	Ecuador	21.80
74	-3	Brazil	21.61
75	-2	Morocco	21.58
76	-4	Mexico	20.83
77	-	Angola	20.79
78	-3	Malaysia	20.58
79	+1	Costa Rica	19.84
80	-4	Argentina	19.58
81	-3	Bolivia	19.25
82	-5	Russia	19.16
83	-	The Bahamas	19.13

52	-4	Belarus	38.93
53	-3	Paraguay	38.09
54	-3	Austria	38.03
55	-	Kosovo	37.37
56	-7	Serbia	36.15
58	-4	Montenegro	34.08
59	-6	Uruguay	33.96
60	-5	Australia	33.28
61	-3	Kazakhstan	31.66
62	-	Dominica	30.58
63	-7	Saudi Arabia	30.40
64	-7	Brazil	29.83
65	-	Madagascar	29.57
66	-6	Croatia	28.82
67	-3	India	27.68
68	-9	Jordan	27.66
69	-	Cape Verde	27.25
70	-7	Vietnam	27.21
71	-10	Ghana	26.82
72	-7	Mexico	26.74
73	-	Gabon	26.71
74	-8	Peru	25.77
75	-2	Albania	25.62
76	-14	The Bahamas	25.48
77	-10	Mongolia	25.07
78	-9	Kuwait	23.39
79	-	Seychelles	22.72
80	-12	Argentina	22.69
81	-8	Bosnia and Herzegovina	22.58
82	-7	Armenia	22.29
83	-6	Laos	22.09
84	-13	Cyprus	22.09

84	-3	Nicaragua	19.13
85	-6	Kazakhstan	18.79
86	-4	Chile	18.72
87	-4	Trinidad and Tobago	18.46
88	-1	Colombia	18.39
89	-5	Syria	18.38
90	-5	Côte d'Ivoire	17.66
91	+2	Jamaica	17.32
92	-2	Egypt	17.24
93	-4	Ukraine	17.10
94	-8	Thailand	16.64
95	-7	Mongolia	16.25
96	-5	Guatemala	15.95
97	-3	Kenya	15.59
98	-2	Brunei	15.58
99	-7	Dominican Republic	15.35
100	-5	Philippines	14.61
101	-2	Cambodia	14.31
102	-4	Jordan	14.24
103	-6	Paraguay	14.24
105	-1	Senegal	14.04
106	-	Guyana	12.93
107	-2	Nigeria	12.76
108	-	Cameroon	12.63
109	-6	Namibia	12.60
110	-	Ethiopia	12.60
111	-10	Kyrgyzstan	12.44
112	-10	Pakistan	12.08
113	-7	Belarus	11.59
114	-7	Sudan	10.75
115	-7	Indonesia	10.62
116	-2	Tanzania	10.61

85	-7	Sri Lanka	21.94
86	-16	Macedonia	21.54
87	-4	Guyana	21.42
88	-16	Oman	21.40
89	-	Lesotho	21.30
90	-10	Greece	21.09
91	-15	Jamaica	20.76
92	-10	Kyrgyzstan	20.59
93	-9	Turkey	20.15
94	-15	Belize	20.04
95	-14	Georgia	19.55
96	-11	Philippines	19.13
97	-11	Bangladesh	19.12
98	-	Saint Lucia	18.71
99	-	Togo	18.28
100	-	Liberia	18.12
101	-	Saint Kitts and Nevis	18.08
102	-14	South Africa	17.77
103	-16	Dominican Republic	17.60
104	-14	Nepal	17.58
105	-	Grenada	17.46
106	-17	Bahrain	17.28
107	-12	Brunei	16.96
108	-16	Cambodia	16.60
109	-	Bhutan	16.54
110	-16	Indonesia	16.34
111	-20	Colombia	16.17
112	-15	Kenya	15.87
113	-	Tajikistan	15.66
114	-	Fiji	15.60
115	-16	Mauritius	15.14

117	-	Zambia	10.46
118	-8	Libya	10.44
119	-	Uganda	10.37
120	-11	India	10.13
121	-3	Ghana	9.83
122	-7	Bangladesh	9.39
123	-	DR Congo	9.28
124	-7	Nepal	9.19
125	-9	El Salvador	9.14
126	-14	Panama	9.09
127	-	Haiti	9.00
128	-15	Mozambique	8.89
129	-18	Uzbekistan	8.80
130	-11	Bosnia and Herzegovina	8.02
131	-	Burkina Faso	7.96
132	-10	Iraq	6.94
133	-13	Palestine	6.64
134	-13	Venezuela	6.31
135	-12	Algeria	6.19
136	-12	Afghanistan	5.68
137	-12	Tajikistan	5.04

116	-	Senegal	14.79
117	-24	Iraq	14.73
118	-20	Costa Rica	14.28
119	-	Côte d'Ivoire	14.08
120	-18	Ecuador	13.76
121	-25	Azerbaijan	13.75
122	-22	Morocco	13.23
123	-	Saint Vincent and the Grenadines	12.85
124	-21	Iran	12.84
125	-	Angola	12.73
126	-	Antigua and Barbuda	12.59
127	-	Tanzania	12.43
128	-	Rwanda	12.10
129	-25	Republic of the Union of Myanmar	11.74
130	-29	Ethiopia	11.39
131	-23	Uzbekistan	11.31
132	-	Somalia	11.22
133	-26	Maldives	11.06
134	-28	Nigeria	10.90
135	-26	Bolivia	10.78
136	-31	Namibia	10.54
137	-	Uganda	10.53
137	-	Sudan	10.53
139	-	Djibouti	10.06
140	-	Palestine	10.02
141	-	Mali	9.59
142	-32	El Salvador	9.55
143	-	Zimbabwe	9.49
144	-	Cameroon	9.13
145	-	Zambia	9.12
146	-35	Guatemala	8.88

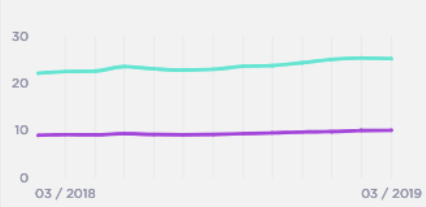
147	-35	Honduras	8.76
148	-	Malawi	8.74
149	-	Congo	8.66
150	-	Botswana	8.53
151	-36	Tunisia	8.44
152	-	Haiti	8.44
153	-	Suriname	8.43
155	-	Burkina Faso	8.15
156	-42	Pakistan	8.13
157	-	Papua New Guinea	8.07
158	-45	Syria	7.80
159	-	DR Congo	7.67
160	-	Burundi	7.42
161	-44	Lebanon	7.35
162	-	Swaziland	7.21
163	-47	Nicaragua	7.10
164	-46	Libya	6.80
165	-	Sierra Leone	6.61
166	-47	Egypt	6.51
167	-	Mozambique	6.28
168	-	Afghanistan	6.18
169	-	Cuba	5.57
170	-	East Timor	5.55
171	-	Benin	5.12
172	-	Vanuatu	4.53
173	-53	Algeria	4.09
174	-53	Venezuela	3.68
175	-	Mauritania	3.46
176	-	Turkmenistan	3.32
177	-	Yemen	3.23

Global Speeds February 2019

Mobile

Global Average

Download	Upload
25.27 Mbps	10.05 Mbps

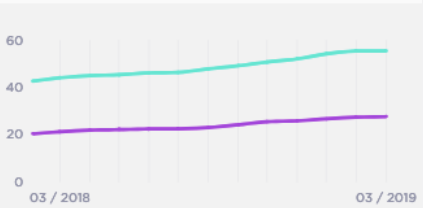


#		Country	Mbps
1	-	Norway	67.34
2	-	Canada	65.14
3	+1	Netherlands	60.75
4	-1	Qatar	59.44
5	-	Australia	57.56
6	-	Singapore	55.50
7	-	South Korea	52.62
8	+3	United Arab Emirates	51.95
9	-1	Denmark	50.55
10	-	Malta	50.07
11	+1	Switzerland	49.51
12	+1	Sweden	47.94
13	+1	Czech Republic	47.86
14	-5	Belgium	47.57
15	+1	Luxembourg	46.99
16	+1	Albania	46.48
17	-2	Hungary	45.06
18	-	New Zealand	44.49
19	+1	Croatia	44.10
20	+1	France	43.47
21	-2	Montenegro	43.21
22	+1	Greece	42.80

Fixed Broadband

Global Average

Download	Upload
55.58 Mbps	27.64 Mbps



#		Country	Mbps
1	-	Singapore	195.36
2	-	Hong Kong (SAR)	165.34
3	+2	South Korea	137.30
4	-1	Monaco	134.36
5	-1	Romania	131.48
6	+9	Liechtenstein	124.38
7	-1	Hungary	118.62
8	-1	United States	115.14
9	-	Switzerland	114.97
10	-2	Sweden	112.18
11	+1	Canada	110.29
12	-2	Spain	108.27
13	-	Luxembourg	107.79
14	-3	France	105.85
15	+1	Norway	104.87
16	-2	Andorra	102.02
17	-	Macau (SAR)	100.82
18	-	Denmark	96.61
19	-	Japan	95.48
19	-	Japan	95.48
20	-	Malta	90.51
21	-	Netherlands	89.83

23	-1	Taiwan	42.52
24	-	Finland	41.02
25	-	Estonia	40.85
26	-	Lithuania	40.11
27	+1	Lebanon	40.07
28	-1	Macedonia	39.95
29	-	Austria	39.40
30	-	Serbia	38.23
31	+2	Oman	34.69
32	-	Spain	34.61
33	+1	Turkey	34.55
34	+1	Romania	34.17
35	+1	United States	33.45
36	+2	Slovakia	32.94
37	+3	Slovenia	32.70
38	-1	Kuwait	32.45
39	-	Portugal	32.29
40	+4	Moldova	32.15
41	-10	Cyprus	32.11
42	+1	Hong Kong (SAR)	31.79
43	+2	Germany	31.33
44	+2	Italy	31.21
45	+2	Saudi Arabia	31.06
46	-4	Japan	31.04
47	+1	Iran	30.07
48	+3	China	30.00
49	-8	Macau (SAR)	29.73
50	-	United Kingdom	29.72
51	+1	Latvia	29.64
52	+1	Poland	29.05
53	-4	Azerbaijan	28.60
54	+2	Georgia	28.16

22	+1	New Zealand	87.47
23	-1	China	84.32
24	-	Taiwan	81.25
25	+1	Portugal	79.63
26	-1	Lithuania	78.35
27	+17	Panama	71.24
28	+4	Latvia	71.22
29	-1	Belgium	70.70
30	-	Germany	68.22
31	-2	Israel	66.05
32	-5	Malaysia	64.51
33	-	Poland	64.10
34	-3	Barbados	60.74
35	-	Chile	60.12
36	-2	Thailand	59.71
37	+1	Ireland	58.54
38	-2	Finland	57.63
39	-	United Arab Emirates	57.40
40	-3	United Kingdom	55.88
41	+1	Slovenia	55.54
42	+1	San Marino	54.65
43	-3	Slovakia	54.43
44	-3	Estonia	53.47
45	+1	Italy	49.05
46	-1	Russia	48.18
47	+9	Qatar	47.30
48	-1	Czech Republic	46.92
49	-	Trinidad and Tobago	46.85
50	-2	Moldova	45.99
51	-1	Ukraine	43.08
52	-1	Belarus	39.17
53	+1	Kosovo	37.18

55	+2	Uruguay	28.14
56	-2	South Africa	27.81
57	-2	Armenia	27.80
58	+4	Laos	26.64
59	+9	Sri Lanka	24.09
60	+1	Republic of the Union of Myanmar	24.03
61	-2	Belize	23.72
62	-2	Fiji	23.62
63	+3	Ireland	23.26
64	-	Tunisia	23.05
65	-2	Israel	23.01
66	+5	Vietnam	23.00
67	-2	Peru	22.96
68	-1	Bahrain	22.94
69	+3	Ecuador	21.90
70	-12	Maldives	21.81
71	+4	Mexico	21.66
72	+1	Brazil	21.65
73	+1	Morocco	21.54
74	+2	Angola	20.97
75	-6	Honduras	20.81
77	+6	Nicaragua	20.29
78	+1	Argentina	20.16
79	-1	Costa Rica	19.57
80	+4	Kazakhstan	18.92
81	-	Russia	18.85
82	-5	Malaysia	18.79
83	+5	Syria	18.63
84	-4	Bolivia	18.52
85	+18	Mauritius	17.97
86	-4	The Bahamas	17.88

54	+1	Serbia	37.14
55	+3	Uruguay	36.67
56	+1	Montenegro	36.27
57	-4	Austria	36.22
58	-6	Paraguay	36.17
59	-	Australia	34.38
60	-	Kazakhstan	34.12
61	+2	Brazil	31.36
62	+43	Bahrain	31.29
63	-1	Saudi Arabia	30.89
64	-	Madagascar	30.63
65	-4	Dominica	30.16
66	-1	Croatia	29.86
67	-	Jordan	28.70
68	-2	India	28.29
69	+2	Mexico	27.57
70	+3	Peru	27.56
71	+5	Mongolia	26.85
72	-	Gabon	26.74
73	-4	Vietnam	26.51
74	+1	The Bahamas	26.01
75	-7	Cape Verde	25.19
77	+3	Bosnia and Herzegovina	23.94
78	+1	Argentina	23.62
79	-2	Kuwait	23.59
80	+5	Macedonia	22.97
81	-11	Ghana	22.91
82	-1	Armenia	22.71
83	-	Cyprus	22.63
84	+5	Greece	22.61
85	+15	Saint Kitts and Nevis	21.88
86	-2	Sri Lanka	21.54

87	+3	Jamaica	17.82
88	-3	Chile	17.65
89	-	Côte d'Ivoire	17.14
90	-3	Colombia	17.08
91	+1	Ukraine	17.02
92	-1	Egypt	16.93
93	-	Thailand	16.75
94	+1	Guatemala	16.41
95	+14	Ethiopia	15.56
96	+1	Brunei	15.36
97	-11	Trinidad and Tobago	15.20
98	+3	Jordan	15.15
99	-1	Dominican Republic	15.08
100	-6	Mongolia	15.07
101	+3	Senegal	14.99
102	-	Paraguay	14.56
103	-7	Kenya	14.54
104	-5	Philippines	14.46
105	-5	Cambodia	13.45
106	+4	Kyrgyzstan	12.58
107	-1	Nigeria	12.22
108	-	Namibia	11.89
109	+9	Uganda	11.88
110	+20	Burkina Faso	11.67
111	-	Rwanda	11.64
112	+8	Ghana	11.58
113	-2	Pakistan	11.40
114	-2	Belarus	11.24
115	+1	Zambia	11.20
116	-9	Cameroon	10.97
117	-4	Sudan	10.97
118	-4	Indonesia	10.45

87	-5	Laos	21.48
88	+9	Saint Lucia	20.70
89	-2	Oman	20.61
90	+2	Turkey	20.52
91	+2	Belize	20.37
92	+2	Georgia	20.32
93	-3	Jamaica	20.30
94	-16	Seychelles	19.81
95	-4	Kyrgyzstan	19.81
96	-	Bangladesh	19.43
97	-2	Philippines	19.28
98	-12	Guyana	19.15
99	+2	South Africa	18.87
100	-12	Lesotho	18.00
101	+1	Dominican Republic	17.93
102	+8	Colombia	17.92
103	-	Nepal	17.57
104	-	Grenada	17.23
105	+12	Costa Rica	17.02
106	+7	Fiji	17.00
107	+5	Tajikistan	16.77
108	-10	Togo	16.63
109	-3	Brunei	16.40
110	-1	Indonesia	16.31
111	-	Kenya	16.22
112	+3	Senegal	16.06
113	-14	Liberia	15.57
114	+5	Ecuador	15.42
115	-1	Mauritius	15.10
116	-8	Bhutan	14.68
117	-10	Cambodia	14.60
118	-	Côte d'Ivoire	14.20

119	-4	Tanzania	10.37
120	-1	India	10.15
121	+4	Panama	10.00
122	-1	Bangladesh	9.39
123	-6	Libya	9.27
124	-	El Salvador	8.92
125	-3	DR Congo	8.90
126	+2	Uzbekistan	8.75
127	-1	Haiti	8.58
128	-5	Nepal	8.57
129	-2	Mozambique	8.53
130	-1	Bosnia and Herzegovina	7.88
131	+1	Palestine	7.12
132	+3	Afghanistan	6.55
133	-2	Iraq	6.38
134	+2	Tajikistan	6.20
135	-2	Venezuela	6.19
136	-2	Algeria	5.85

119	+1	Azerbaijan	13.64
120	+1	Morocco	13.50
121	-5	Iraq	13.48
122	+1	Iran	13.43
123	-1	Saint Vincent and the Grenadines	13.13
124	-	Angola	13.00
125	+11	Uganda	12.91
126	+1	Rwanda	12.88
127	-2	Antigua and Barbuda	12.31
128	-2	Tanzania	12.28
129	-1	Republic of the Union of Myanmar	12.16
130	-	Uzbekistan	11.68
131	+4	Namibia	11.55
132	-3	Ethiopia	11.35
133	-	Western Sahara	11.26
134	-3	Somalia	11.20
135	-1	Bolivia	11.17
136	-4	Maldives	11.07
137	+2	Palestine	10.77
138	+4	Zimbabwe	10.60
139	-6	Nigeria	10.47
140	+4	Zambia	10.06
141	+15	Papua New Guinea	10.04
142	+1	Cameroon	9.97
143	-2	El Salvador	9.76
144	-8	Sudan	9.38
145	+3	Congo	9.36
146	-1	Guatemala	9.25
148	+13	Swaziland	8.80
149	+9	DR Congo	8.68
150	-1	Botswana	8.66

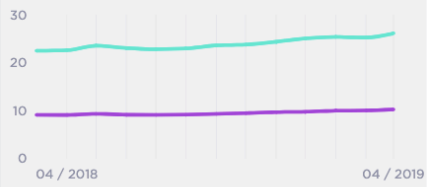
151	-1	Tunisia	8.51
152	-12	Mali	8.41
153	-1	Suriname	8.31
154	-3	Haiti	8.28
155	-	Pakistan	8.27
156	+3	Burundi	8.18
157	-	Syria	8.03
158	-5	The Gambia	7.93
159	-21	Djibouti	7.75
160	+2	Nicaragua	7.74
161	+2	Libya	7.70
162	-15	Malawi	7.51
163	+7	Benin	7.13
164	-10	Burkina Faso	6.99
165	+2	Afghanistan	6.91
166	-2	Sierra Leone	6.89
167	-7	Lebanon	6.75
168	-2	Mozambique	6.66
169	-4	Egypt	6.63
170	-1	East Timor	5.77
171	-3	Cuba	5.22
172	-	Algeria	4.48
173	-	Niger	3.96
174	-1	Venezuela	3.91
175	-1	Mauritania	3.69
176	-1	Turkmenistan	3.55
177	-1	Yemen	3.42

Global Speeds March 2019

Mobile

Global Average

Download	Upload
26.12 Mbps	10.26 Mbps

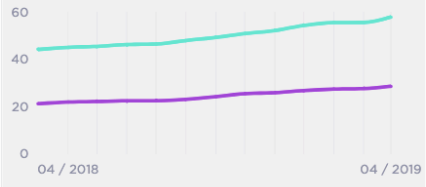


#		Country	Mbps
1	-	Norway	67.54
2	-	Canada	65.90
3	+1	Qatar	60.97
4	-1	Netherlands	60.60
5	-	Australia	58.87
6	+1	South Korea	54.89
7	+1	United Arab Emirates	53.83
8	-2	Singapore	53.69
9	+2	Switzerland	51.93
10	-1	Denmark	50.59
11	+3	Belgium	50.07
12	-	Sweden	49.79
13	-3	Malta	48.86
14	-1	Czech Republic	48.84
15	+1	Albania	47.98
15	+1	Albania	47.98
16	+1	Hungary	46.94
17	+2	Croatia	45.87
18	-	New Zealand	45.26
19	+1	France	45.17
20	+1	Montenegro	44.60

Fixed Broadband

Global Average

Download	Upload
57.91 Mbps	28.68 Mbps



#		Country	Mbps
1	-	Singapore	199.62
2	-	Hong Kong (SAR)	168.69
3	+1	Monaco	137.86
4	+1	Romania	136.95
5	-2	South Korea	132.63
6	+1	Hungary	122.26
7	+3	Sweden	120.42
8	-	United States	117.31
9	-	Switzerland	117.18
10	-4	Liechtenstein	115.12
11	+5	Andorra	114.84
12	-1	Canada	114.72
13	-1	Spain	111.13
14	-	France	109.83
15	-2	Luxembourg	107.60
16	-1	Norway	105.90
17	-	Macau (SAR)	103.72
18	-	Denmark	99.87
19	+5	Taiwan	99.06
20	-1	Japan	96.62
21	-	Netherlands	92.46

21	+1	Greece	44.02
22	-7	Luxembourg	43.55
23	+3	Lithuania	43.40
24	-1	Taiwan	43.12
25	-	Estonia	42.79
26	-2	Finland	42.16
27	+2	Austria	41.88
28	-	Macedonia	41.00
29	+1	Serbia	40.38
30	-3	Lebanon	39.82
31	+10	Cyprus	37.75
32	+2	Romania	35.94
33	+5	Kuwait	35.41
34	-3	Oman	35.19
35	-2	Turkey	35.03
36	+4	Moldova	34.96
37	-5	Spain	34.66
38	-3	United States	34.55
39	+3	Hong Kong (SAR)	34.24
40	-4	Slovakia	33.80
41	-2	Portugal	33.78
42	-5	Slovenia	33.58
43	+2	Saudi Arabia	33.02
44	-	Italy	32.20
45	-2	Germany	31.93
46	-	Japan	31.39
47	+2	Macau (SAR)	31.01
48	+4	Poland	30.68
49	+2	Latvia	30.59
50	-	United Kingdom	30.01

22	+1	China	90.56
23	-1	New Zealand	87.92
24	-4	Malta	85.98
25	-	Portugal	81.25
26	-	Lithuania	80.94
27	+9	Thailand	76.72
28	+1	Belgium	71.82
29	+2	Israel	71.33
30	-3	Panama	71.21
31	-1	Germany	69.42
32	+1	Poland	68.83
33	+2	Chile	67.36
34	-2	Malaysia	67.15
35	-1	Barbados	67.10
36	+11	Qatar	64.53
37	-9	Latvia	64.30
38	-1	Ireland	60.34
39	+1	United Kingdom	58.84
40	-2	Finland	58.75
41	-2	United Arab Emirates	58.63
42	-	San Marino	58.22
43	-	Slovakia	57.01
44	-3	Slovenia	56.21
45	-1	Estonia	53.38
46	-1	Italy	51.46
47	-1	Russia	50.43
48	-	Czech Republic	47.94
49	+1	Moldova	47.64
50	-1	Trinidad and Tobago	46.20
51	-	Ukraine	44.36

51	-4	Iran	29.82
52	+6	Laos	28.96
53	-5	China	28.89
54	-	Georgia	28.83
55	-2	Azerbaijan	28.34
56	-1	Uruguay	27.07
57	-1	South Africa	26.91
58	-1	Armenia	25.39
59	-	Papua New Guinea	25.32
60	-1	Sri Lanka	24.89
61	+7	Bahrain	24.86
62	+5	Peru	23.98
63	+10	Morocco	23.79
64	+1	Israel	23.63
65	-2	Ireland	23.59
66	+10	Antigua and Barbuda	23.38
67	+4	Mexico	23.35
68	-8	Republic of the Union of Myanmar	23.11
69	+16	Mauritius	22.85
70	-4	Vietnam	22.45
71	-7	Tunisia	22.45
72	-3	Ecuador	22.29
73	-12	Belize	22.20
74	-4	Maldives	22.17
75	-3	Brazil	21.87
76	+13	Côte d'Ivoire	21.84
77	-15	Fiji	21.58
78	-4	Angola	21.32
79	-2	Nicaragua	21.31
80	-5	Honduras	21.04

52	-	Belarus	42.33
53	+9	Bahrain	42.12
54	+1	Uruguay	38.94
55	-1	Serbia	38.82
56	-3	Kosovo	38.21
57	-	Austria	37.20
58	-	Paraguay	36.92
59	-3	Montenegro	36.84
60	+15	Cape Verde	36.11
61	-1	Kazakhstan	35.38
62	-3	Australia	35.11
63	+4	Jordan	33.56
64	-3	Brazil	32.62
65	-2	Saudi Arabia	31.71
66	-2	Madagascar	31.67
67	-1	Croatia	31.50
68	-3	Dominica	29.43
69	-1	India	28.69
70	-	Peru	27.98
71	-2	Mexico	27.64
72	+1	Vietnam	27.60
73	+3	Albania	27.29
74	-	The Bahamas	26.70
75	-4	Mongolia	26.01
76	+1	Bosnia and Herzegovina	25.46
77	+1	Argentina	25.25
78	+2	Macedonia	24.55
79	-	Kuwait	24.32
80	-8	Gabon	23.55
81	+4	Saint Kitts and Nevis	23.49
82	+12	Seychelles	23.30

81	+1	Malaysia	20.49
82	-2	Kazakhstan	20.29
83	-5	Argentina	20.16
84	-3	Russia	19.54
85	-2	Syria	19.48
86	-7	Costa Rica	19.35
87	+1	Chile	19.34
88	-2	The Bahamas	19.12
89	+4	Thailand	19.08
90	+5	Ethiopia	18.83
91	-	Ukraine	18.15
92	-5	Jamaica	18.13
93	-9	Bolivia	17.91
94	-	Guatemala	17.83
95	-3	Egypt	17.03
96	-6	Colombia	16.95
97	+2	Dominican Republic	16.60
98	-2	Brunei	16.51
99	+2	Senegal	16.35
100	-2	Jordan	15.80
101	-1	Mongolia	15.78
102	-	Zimbabwe	15.20
103	+1	Philippines	15.06
104	-7	Trinidad and Tobago	14.83
105	-2	Kenya	14.81
106	+9	Zambia	13.66
107	-1	Kyrgyzstan	13.61
108	-1	Nigeria	13.41
109	-7	Paraguay	13.28
110	+6	Cameroon	13.11

83	+1	Greece	22.99
84	+3	Laos	22.92
84	+3	Laos	22.92
85	-3	Armenia	22.80
86	+2	Saint Lucia	22.65
87	-1	Sri Lanka	22.63
88	+17	Costa Rica	22.61
89	+2	Belize	21.95
90	-7	Cyprus	21.57
91	+4	Kyrgyzstan	21.44
92	-	Georgia	21.35
93	-3	Turkey	21.27
94	-13	Ghana	20.95
95	-2	Jamaica	20.82
96	+2	Guyana	20.25
97	+3	Lesotho	19.99
98	-9	Oman	19.96
99	+3	Dominican Republic	19.94
100	-4	Bangladesh	19.77
101	-4	Philippines	19.51
102	-3	South Africa	19.47
103	+6	Brunei	19.03
104	-	Grenada	18.97
105	+2	Tajikistan	18.05
106	-5	Colombia	17.87
107	-1	Fiji	17.82
108	-5	Nepal	17.70
109	-1	Togo	17.25
110	+13	Saint Vincent and the Grenadines	16.70
111	-1	Indonesia	16.65

111	+2	Pakistan	12.27
112	-7	Cambodia	11.97
113	-5	Namibia	11.65
114	-3	Rwanda	11.42
115	-3	Ghana	11.14
116	+1	Sudan	10.61
117	+4	Panama	10.58
118	-	Indonesia	10.51
119	-	Tanzania	10.34
120	-	India	10.31
121	-12	Uganda	10.17
122	-8	Belarus	9.97
123	-	Libya	9.91
124	+4	Nepal	9.83
125	+4	Mozambique	9.61
126	-4	Bangladesh	9.59
127	-1	Uzbekistan	9.49
128	-1	Haiti	9.32
129	-4	DR Congo	9.22
130	-6	El Salvador	8.76
131	+3	Tajikistan	8.62
132	-22	Burkina Faso	8.49
133	-3	Bosnia and Herzegovina	7.87
134	+1	Venezuela	7.05
135	-	Cuba	6.84
136	-4	Afghanistan	6.83
137	-6	Palestine	6.46
138	-5	Iraq	6.01
139	-3	Algeria	5.96

112	+2	Ecuador	16.21
113	-2	Kenya	16.12
114	+3	Cambodia	16.07
115	-	Mauritius	15.73
116	-4	Senegal	15.33
117	+4	Iraq	15.22
118	-5	Liberia	15.03
119	+1	Morocco	14.47
120	+6	Rwanda	14.45
121	-2	Azerbaijan	13.96
122	-6	Bhutan	13.90
123	-5	Côte d'Ivoire	13.72
124	+9	Western Sahara	13.46
125	+3	Tanzania	13.26
126	-1	Uganda	13.11
127	-5	Iran	12.84
128	+1	Republic of the Union of Myanmar	12.66
129	-5	Angola	12.40
130	-3	Antigua and Barbuda	12.04
131	-1	Uzbekistan	11.81
132	-	Ethiopia	11.52
133	+3	Maldives	11.48
134	-	Somalia	11.18
135	+4	Nigeria	11.15
136	-1	Bolivia	11.03
137	+3	Zambia	10.37
138	-	Zimbabwe	10.33
139	+8	Honduras	10.05
140	-3	Palestine	10.04
141	+5	Guatemala	9.85

142	-11	Namibia	9.84
143	-	El Salvador	9.81
144	-2	Cameroon	9.57
145	+21	Sierra Leone	9.49
146	+4	Botswana	9.47
147	+2	DR Congo	9.36
148	-4	Sudan	9.28
149	-8	Papua New Guinea	9.22
150	+7	Syria	9.12
151	+1	Mali	9.04
152	+2	Haiti	8.82
153	-8	Congo	8.75
154	+7	Libya	8.73
155	-4	Tunisia	8.64
156	-8	Swaziland	8.48
157	-2	Pakistan	8.47
158	+1	Djibouti	8.44
159	-6	Suriname	8.38
160	-	Nicaragua	8.32
161	-3	The Gambia	7.94
162	-	Malawi	7.73
163	-7	Burundi	7.22
164	+1	Afghanistan	6.99
165	+4	Egypt	6.94
166	-3	Benin	6.77
167	-3	Burkina Faso	6.74
168	-1	Lebanon	6.67
169	-	Vanuatu	6.50
170	-2	Mozambique	6.36
171	-	Cuba	6.19
172	-	Guinea	5.87

172	-	Guinea	5.87
173	-3	East Timor	5.33
174	-2	Algeria	4.42
175	-	Mauritania	4.16
176	-2	Venezuela	3.92
177	-1	Turkmenistan	3.21
178	-1	Yemen	2.96

12.3 Internet Prices

This year's data (2018)

Rank	Country code	Name	Continental region	Packages measured	Average package cost per month (local currency)	Currency	Cost per megabit, per month (local currency)	Cheapest broadband package measured (local currency)	Cheapest broadband package measured (USD)	Most expensive broadband package measured (local currency)	Most expensive broadband package measured (USD)	Conversion rate (USD) (Rates Frozen 28/09/2018)	Average cost of broadband (Per month in USD)
1	UA	Ukraine	CIS (FORMER USSR)	15	138.99	UAH	1.25	60.00	$2.16	308.25	$11.10	0.03600	$5.00
2	LK	Sri Lanka	ASIA (EX. NEAR EAST)	3	957.44	LKR	83.69	540.67	$3.19	1490.00	$8.79	0.00590	$5.65
3	IR	Iran	ASIA (EX. NEAR EAST)	36	345277.78	IRR	121486.51	78750.00	$1.87	801250.00	$19.03	0.00002	$8.20
4	RU	Russian Federation	CIS (FORMER USSR)	28	641.31	RUB	20.83	321.00	$4.89	1800.00	$27.42	0.01524	$9.77
5	BY	Belarus	CIS (FORMER USSR)	22	21.34	BYR	1.54	10.50	$5.15	40.65	$19.92	0.49000	$10.46
6	MD	Moldova	CIS (FORMER USSR)	11	190.64	MDL	4.65	49.00	$2.90	340.00	$20.12	0.05917	$11.28
7	SY	Syria	NEAR EAST	41	6700.41	SYP	2215.41	1350.00	$2.62	32500.00	$63.05	0.00194	$13.00
8	IL	Israel	NEAR EAST	28	47.21	ILS	1.52	20.00	$5.52	99.00	$27.31	0.27586	$13.02
9	EG	Egypt	NORTHERN AFRICA	32	243.45	EGP	80.37	50.00	$2.79	1300.00	$72.52	0.05578	$13.58
10	RO	Romania	EASTERN EUROPE	20	57.92	RON	2.67	28.00	$6.97	238.00	$59.25	0.24895	$14.42
11	AR	Argentina	SOUTH AMERICA	27	618.10	ARS	51.40	326.00	$8.18	1836.50	$46.09	0.02510	$15.51
12	TR	Turkey	NEAR EAST	35	95.86	TRY	2.84	23.99	$3.99	874.00	$145.53	0.16652	$15.96
13	KZ	Kazakhstan	CIS (FORMER USSR)	19	5882.66	KZT	4094.27	1930.00	$5.30	19900.00	$54.60	0.00274	$16.14
14	NP	Nepal	ASIA (EX. NEAR EAST)	31	1926.77	NPR	160.49	666.67	$5.70	7541.67	$64.48	0.00855	$16.47
15	LT	Lithuania	BALTICS	20	14.50	EUR	0.08	4.90	$5.69	36.11	$41.94	1.16143	$16.84
16	MN	Mongolia	ASIA (EX. NEAR EAST)	23	43827.54	MNT	9447.16	9000.00	$4.06	165833.33	$67.99	0.00041	$17.97
17	PL	Poland	EASTERN EUROPE	40	67.19	PLN	0.40	33.27	$9.05	139.00	$37.80	0.27195	$18.27
18	HU	Hungary	EASTERN EUROPE	22	5122.12	HUF	70.95	1824.17	$6.54	12916.33	$46.33	0.00359	$18.37
19	LV	Latvia	BALTICS	18	16.08	EUR	0.27	6.40	$7.43	26.17	$30.39	1.16143	$18.68
20	GE	Georgia	CIS (FORMER USSR)	25	46.57	GEL	5.12	22.00	$8.84	102.92	$41.33	0.40161	$18.70
21	RS	Serbia	EASTERN EUROPE	21	1959.60	RSD	110.78	896.25	$8.80	4199.00	$41.22	0.00982	$19.24
22	VE	Venezuela	SOUTH AMERICA	10	1239.90	VEF	472.55	104.00	$1.68	3166.67	$51.17	0.01616	$20.03
23	UZ	Uzbekistan	CIS (FORMER USSR)	33	172981.42	UZS	37090.15	30000.00	$3.69	634356.67	$77.96	0.00012	$21.26
24	SK	Slovakia	EASTERN EUROPE	32	18.61	EUR	0.76	7.25	$8.42	44.32	$51.47	1.16143	$21.62
25	YE	Yemen	NEAR EAST	5	5550.00	YER	5067.19	2250.00	$8.99	11250.00	$44.95	0.00400	$22.17
26	MF	Saint Martin (France)	CARIBBEAN	5	42.49	ANG	5.50	37.90	$21.21	53.49	$29.94	0.55973	$23.78
27	TN	Tunisia	NORTHERN AFRICA	38	68.06	TND	4.27	12.50	$4.46	227.50	$81.14	0.35668	$24.28
28	PK	Pakistan	ASIA (EX. NEAR EAST)	33	3083.83	PKR	375.12	865.67	$6.98	7015.58	$56.58	0.00806	$24.87
29	TH	Thailand	ASIA (EX. NEAR EAST)	19	827.07	THB	10.66	450.00	$13.92	1300.00	$40.20	0.03092	$25.58
30	CZ	Czech Republic	EASTERN EUROPE	16	573.50	CZK	12.61	399.00	$18.05	937.25	$42.40	0.04524	$25.94
31	TW	Taiwan	ASIA (EX. NEAR EAST)	41	805.06	TWD	28.12	109.00	$3.57	2199.00	$72.09	0.03279	$26.39
32	HR	Croatia	EASTERN EUROPE	23	171.21	HRK	6.55	114.90	$17.95	269.00	$40.61	0.15621	$26.74
33	EE	Estonia	BALTICS	5	23.79	EUR	0.43	14.99	$17.41	32.99	$38.32	1.16143	$27.63
34	IN	India	ASIA (EX. NEAR EAST)	34	2048.50	INR	43.61	421.25	$5.80	17040.67	$234.81	0.01378	$28.23
35	TJ	Tajikistan	CIS (FORMER USSR)	16	276.63	TJS	328.97	30.98	$3.27	702.50	$74.06	0.10542	$29.16
36	IT	Italy	WESTERN EUROPE	20	25.38	EUR	3.03	4.36	$5.06	50.50	$58.65	1.16143	$29.48
37	MK	Macedonia	EASTERN EUROPE	18	1562.86	MKD	46.17	395.00	$7.46	4365.67	$82.40	0.01888	$29.50
38	DO	Dominican Republic	CARIBBEAN	18	1489.13	DOP	776.33	750.00	$14.94	2895.00	$57.66	0.01992	$29.66
39	BG	Bulgaria	EASTERN EUROPE	17	50.98	BGN	0.33	12.00	$7.12	151.80	$90.13	0.59372	$30.27
40	FR	France	WESTERN EUROPE	16	26.81	EUR	0.46	9.08	$10.55	46.50	$54.01	1.16143	$31.14
41	SI	Slovenia	EASTERN EUROPE	13	27.31	EUR	1.73	12.99	$15.09	43.00	$49.94	1.16143	$31.72
42	PS	Palestine, State of	NEAR EAST	16	115.25	ILS	6.38	28.00	$7.72	300.00	$82.76	0.27586	$31.79
43	KR	South Korea	ASIA (EX. NEAR EAST)	18	35795.63	KRW	236.19	16500.00	$14.88	52066.67	$46.97	0.00090	$32.29
44	AL	Albania	EASTERN EUROPE	21	3606.63	ALL	147.33	1590.00	$14.62	12440.67	$114.42	0.00920	$33.17
45	MX	Mexico	CENTRAL AMERICA	28	626.17	MXN	30.33	216.67	$11.53	1549.00	$82.43	0.05322	$33.32
46	DZ	Algeria	NORTHERN AFRICA	5	3960.00	DZD	894.00	1600.00	$13.54	7900.00	$66.85	0.00846	$33.51
47	ME	Montenegro	EASTERN EUROPE	12	29.16	EUR	1.01	17.99	$20.89	59.99	$69.67	1.16143	$33.87
48	RE	Réunion	SUB-SAHARAN AFRICA	6	30.52	EUR	0.29	15.00	$17.42	43.98	$51.08	1.16143	$35.45
49	BA	Bosnia and Herzegovina	EASTERN EUROPE	40	59.62	BAM	5.78	12.97	$7.72	235.56	$140.16	0.59500	$35.47
50	SD	Sudan	SUB-SAHARAN AFRICA	10	650.00	SDG	201.72	100.00	$5.52	1650.00	$91.02	0.05516	$35.86
51	BD	Bangladesh	ASIA (EX. NEAR EAST)	25	3072.13	BDT	495.29	1083.33	$12.81	8208.33	$97.06	0.01182	$36.33
52	BL	Saint Barthélemy (St. Barts)	CARIBBEAN	6	31.53	EUR	2.67	19.99	$23.22	41.90	$48.66	1.16143	$36.62
53	DE	Germany	WESTERN EUROPE	38	31.58	EUR	0.58	11.65	$13.53	199.99	$232.27	1.16143	$36.68
54	AZ	Azerbaijan	CIS (FORMER USSR)	41	62.95	AZN	13.81	10.42	$6.12	379.08	$222.66	0.58737	$36.97
55	MC	Monaco	WESTERN EUROPE	5	32.06	EUR	0.14	19.99	$23.22	55.32	$64.25	1.16143	$37.00
56	JP	Japan	ASIA (EX. NEAR EAST)	35	4216.20	JPY	205.15	780.00	$6.87	8475.00	$74.68	0.00881	$37.15
57	MM	Myanmar	ASIA (EX. NEAR EAST)	22	59916.67	MMK	15955.48	10916.67	$6.84	188333.33	$118.06	0.00063	$37.56
58	LB	Lebanon	NEAR EAST	26	56907.13	LBP	27683.15	15416.67	$10.19	123867.92	$81.84	0.00066	$37.60
59	GF	French Guiana	SOUTH AMERICA	5	33.71	EUR	3.25	24.90	$28.92	39.65	$46.05	1.16143	$39.15
60	SV	El Salvador	CENTRAL AMERICA	11	39.32	USD	4.49	25.00	$25.00	70.00	$70.00	1.00000	$39.32
61	GB	United Kingdom	WESTERN EUROPE	36	30.30	GBP	0.91	17.00	$22.21	51.67	$67.49	1.30635	$39.58
62	GT	Guatemala	CENTRAL AMERICA	12	320.23	GTQ	94.78	149.00	$19.20	975.00	$125.65	0.12887	$41.27
63	CN	China	ASIA (EX. NEAR EAST)	23	284.24	CNY	2.90	30.00	$4.36	2524.70	$366.72	0.14525	$41.29
64	ES	Spain	WESTERN EUROPE	22	36.49	EUR	0.57	13.00	$15.10	56.00	$65.04	1.16143	$42.38
65	YT	Mayotte	SUB-SAHARAN AFRICA	6	37.17	EUR	9.58	17.90	$20.79	52.40	$60.86	1.16143	$43.16
66	MQ	Martinique	CARIBBEAN	6	37.46	EUR	3.07	28.90	$33.57	41.90	$48.66	1.16143	$43.50
67	MO	Macau	ASIA (EX. NEAR EAST)	9	354.33	MOP	13.10	129.67	$16.00	655.00	$80.82	0.12340	$43.72
68	CO	Colombia	SOUTH AMERICA	21	135619.05	COP	6124.97	67900.00	$22.44	398900.00	$131.81	0.00033	$44.81
69	CL	Chile	SOUTH AMERICA	26	30027.15	CLP	348.72	14990.00	$22.72	51490.00	$78.03	0.00152	$45.50
70	BE	Belgium	WESTERN EUROPE	25	39.33	EUR	0.74	18.25	$21.20	60.00	$69.69	1.16143	$45.68
71	PE	Peru	SOUTH AMERICA	20	151.51	PEN	9.10	49.00	$14.86	449.90	$136.41	0.30320	$45.94
72	SX	Sint Maarten	CARIBBEAN	9	82.33	ANG	13.82	50.00	$27.99	105.00	$58.77	0.55973	$46.08
73	UY	Uruguay	SOUTH AMERICA	22	1547.15	UYU	125.68	447.83	$13.46	2687.83	$80.79	0.03006	$46.50
74	AM	Armenia	CIS (FORMER USSR)	41	22665.85	AMD	3193.92	2400.00	$4.95	108000.00	$222.93	0.00206	$46.79
75	BO	Bolivia	CENTRAL AMERICA	36	332.65	BOB	63.94	89.00	$12.80	829.00	$119.20	0.14379	$47.83
76	MY	Malaysia	ASIA (EX. NEAR EAST)	27	198.19	MYR	12.67	85.83	$20.75	485.83	$117.47	0.24180	$47.92
77	BR	Brazil	SOUTH AMERICA	33	192.63	BRL	8.74	32.90	$8.20	1560.00	$388.71	0.24917	$48.00
78	SG	Singapore	ASIA (EX. NEAR EAST)	8	68.95	SGD	0.04	29.90	$21.87	193.46	$141.49	0.73137	$50.43
79	AT	Austria	WESTERN EUROPE	22	43.66	EUR	0.66	23.05	$26.77	86.05	$99.94	1.16143	$50.70
80	DK	Denmark	WESTERN EUROPE	18	328.16	DKK	5.30	229.00	$35.67	723.92	$112.75	0.15575	$51.11
81	IQ	Iraq	NEAR EAST	7	62404.76	IQD	2288.15	39000.00	$32.47	120000.00	$99.90	0.00083	$51.95
82	FI	Finland	WESTERN EUROPE	7	44.97	EUR	0.35	29.90	$34.73	79.90	$92.80	1.16143	$52.23
83	MA	Morocco	NORTHERN AFRICA	11	496.77	MAD	21.35	249.00	$26.43	1166.67	$123.85	0.10616	$52.74
84	AU	Australia	OCEANIA	27	73.10	AUD	2.50	34.99	$25.26	120.42	$86.94	0.72196	$52.77
85	AF	Afghanistan	ASIA (EX. NEAR EAST)	20	4035.63	AFN	2651.80	300.00	$3.92	32000.00	$418.49	0.01306	$52.78
86	AD	Andorra	WESTERN EUROPE	4	45.46	EUR	4.19	16.20	$18.82	72.62	$84.35	1.16143	$52.80
87	CY	Cyprus	NEAR EAST	19	45.64	EUR	2.47	19.02	$22.08	96.76	$112.38	1.16143	$53.01
88	PH	Philippines	ASIA (EX. NEAR EAST)	28	2871.71	PHP	177.95	974.50	$18.03	9499.00	$175.77	0.01850	$53.14
89	MT	Malta	WESTERN EUROPE	12	46.23	EUR	0.78	23.00	$26.71	102.08	$118.56	1.16143	$53.70
90	GI	Gibraltar	WESTERN EUROPE	9	41.09	GIP	0.69	20.00	$26.32	66.92	$88.05	1.31582	$54.07
91	KW	Kuwait	NEAR EAST	40	16.56	KWD	1.44	2.83	$9.34	44.75	$147.57	3.29761	$54.60
92	ID	Indonesia	ASIA (EX. NEAR EAST)	22	817060.61	IDR	13530.75	230000.00	$15.44	4999000.00	$335.57	0.00007	$54.85
93	ZA	South Africa	SUB-SAHARAN AFRICA	36	782.19	ZAR	49.42	99.00	$6.99	1789.00	$126.37	0.07063	$55.25
94	SE	Sweden	WESTERN EUROPE	12	496.58	SEK	3.54	236.33	$26.65	936.33	$105.57	0.11275	$55.99
95	SM	San Marino	WESTERN EUROPE	7	48.36	EUR	0.44	20.73	$24.08	84.00	$97.56	1.16143	$56.17
96	FK	Falkland Islands	SOUTH AMERICA	3	44.00	FKP	18.39	16.67	$21.77	76.67	$100.15	1.30635	$57.48
97	CA	Canada	NORTHERN AMERICA	28	75.05	CAD	2.64	29.99	$23.04	158.40	$121.68	0.76820	$57.66
98	GR	Greece	WESTERN EUROPE	18	50.13	EUR	0.74	15.75	$18.29	213.33	$247.77	1.16143	$58.22
99	JE	Jersey	WESTERN EUROPE	7	44.57	GBP	0.10	18.99	$24.81	72.49	$94.70	1.30635	$58.22
100	BZ	Belize	CENTRAL AMERICA	3	118.58	BZD	11.45	75.25	$37.17	175.25	$86.58	0.49401	$58.58
101	CM	Cameroon	SUB-SAHARAN AFRICA	6	33118.06	XAF	24783.70	16141.67	$28.64	55666.67	$98.75	0.00177	$58.75
102	NZ	New Zealand	OCEANIA	36	88.93	NZD	0.83	64.08	$42.35	134.25	$88.73	0.66090	$58.77
103	NL	The Netherlands	WESTERN EUROPE	22	51.00	EUR	0.71	25.00	$29.04	84.95	$98.66	1.16143	$59.23
104	GP	Guadeloupe	CARIBBEAN	6	51.86	EUR	2.15	34.99	$40.64	99.90	$116.03	1.16143	$60.23
105	GD	Grenada	CARIBBEAN	8	163.16	XCD	7.21	66.25	$25.25	358.32	$132.59	0.37002	$60.37
106	TT	Trinidad and Tobago	CARIBBEAN	19	412.54	TTD	22.60	145.13	$21.38	700.00	$103.12	0.14732	$60.77
107	PT	Portugal	WESTERN EUROPE	12	52.65	EUR	0.61	26.74	$31.06	94.16	$109.36	1.16143	$61.15
108	KH	Cambodia	ASIA (EX. NEAR EAST)	34	62.29	USD	19.41	15.99	$15.99	353.33	$353.33	1.00000	$62.29
109	EC	Ecuador	CENTRAL AMERICA	32	62.45	USD	2.61	23.51	$23.51	224.00	$224.00	1.00000	$62.45
110	JM	Jamaica	CARIBBEAN	12	8519.90	JMD	665.57	3370.00	$24.75	18056.34	$132.61	0.00734	$62.57

Annex 1: Dynamic Criteria

147	AO	Angola	SUB-SAHARAN AFRICA	15	24100.27	AOA	3841.63	6600.00	$22.57	56150.00	$192.06	0.00342	$82.43
148	BJ	Benin	SUB-SAHARAN AFRICA	5	47316.67	XOF	43660.48	21083.33	$37.40	81666.67	$144.88	0.00177	$83.94
149	NG	Nigeria	SUB-SAHARAN AFRICA	13	30536.86	NGN	2601.75	12291.67	$33.88	63525.00	$175.07	0.00276	$84.16
150	PF	French Polynesia	OCEANIA	6	8776.18	XPF	2933.70	4050.00	$39.52	14900.00	$145.38	0.00976	$85.63
151	VI	Virgin Islands (U.S.)	CARIBBEAN	8	88.01	USD	5.32	51.84	$51.84	151.84	$151.84	1.00000	$88.01
152	GU	Guam	OCEANIA	3	89.71	USD	3.63	79.71	$79.71	99.71	$99.71	1.00000	$89.71
153	BW	Botswana	SUB-SAHARAN AFRICA	14	974.55	BWP	267.37	207.50	$19.51	2505.00	$235.54	0.09403	$91.64
154	SA	Saudi Arabia	NEAR EAST	12	359.10	SAR	8.11	80.00	$21.33	838.95	$223.63	0.26657	$95.72
155	BH	Bahrain	NEAR EAST	25	36.30	BHD	2.56	8.00	$21.22	150.42	$398.98	2.65250	$96.29
156	DJ	Djibouti	SUB-SAHARAN AFRICA	4	17333.33	DJF	3764.58	9833.33	$55.26	25833.33	$145.18	0.00562	$97.41
157	MH	Marshall Islands	OCEANIA	4	97.45	USD	149.77	54.11	$54.11	151.61	$151.61	1.00000	$97.45
158	AI	Anguilla	CARIBBEAN	11	270.45	XCD	12.83	75.00	$27.75	549.00	$203.14	0.37002	$100.07
159	GA	Gabon	SUB-SAHARAN AFRICA	8	58395.83	XOF	11066.19	18333.33	$32.52	154333.33	$273.79	0.00177	$103.59
160	FM	Micronesia (Federated States of)	OCEANIA	5	103.60	USD	35.32	26.00	$26.00	226.00	$226.00	1.00000	$103.60
161	AS	American Samoa	OCEANIA	10	103.69	USD	88.59	49.95	$49.95	173.49	$173.49	1.00000	$103.69
162	KG	Kyrgyzstan	CIS (FORMER USSR)	24	7500.00	KGS	2043.05	88.00	$1.27	30000.00	$432.87	0.01443	$108.22
163	PA	Panama	CENTRAL AMERICA	8	109.15	PAB	0.40	20.15	$20.01	265.11	$263.25	0.99300	$108.38
164	LS	Lesotho	SUB-SAHARAN AFRICA	4	1540.00	LSL	906.68	550.00	$38.75	2950.00	$207.83	0.07045	$108.49
165	BQ	Caribbean Netherlands	CARIBBEAN	3	110.12	USD	11.62	86.70	$86.70	136.95	$136.95	1.00000	$110.12
166	BB	Barbados	CARIBBEAN	10	226.50	BBD	0.99	80.00	$39.69	610.00	$302.60	0.49607	$111.86
167	KM	Comoros	SUB-SAHARAN AFRICA	4	48208.33	KMF	28814.45	15833.33	$37.55	86333.33	$209.50	0.00237	$114.34
168	SO	Somalia	SUB-SAHARAN AFRICA	5	117.50	USD	250.43	7.50	$7.50	300.00	$300.00	1.00000	$117.50
169	NE	Niger	SUB-SAHARAN AFRICA	5	66966.67	XOF	148339.84	16666.67	$29.57	158500.00	$281.18	0.00177	$118.80
170	TC	Turks and Caicos Islands	CARIBBEAN	9	119.21	USD	5.41	69.00	$69.00	209.99	$209.99	1.00000	$119.21
171	SC	Seychelles	SUB-SAHARAN AFRICA	5	1668.40	SCR	897.54	495.00	$36.38	3750.00	$275.62	0.07350	$122.63
172	GY	Guyana	CARIBBEAN	12	25896.33	GYD	8432.63	9120.00	$43.36	85500.00	$406.46	0.00475	$123.11
173	BN	Brunei Darussalam	ASIA (EX. NEAR EAST)	8	168.63	BND	3.44	37.50	$27.42	362.50	$265.05	0.73116	$123.29
174	GL	Greenland	NORTHERN AMERICA	6	794.83	DKK	215.23	324.00	$50.46	1199.00	$186.75	0.15575	$123.80
175	BM	Bermuda	NORTHERN AMERICA	41	124.36	BMD	13.04	30.00	$30.00	339.00	$339.00	1.00000	$124.36
176	ET	Ethiopia	SUB-SAHARAN AFRICA	9	3495.44	ETB	876.43	594.33	$21.29	7407.33	$265.30	0.03582	$125.19
177	ZW	Zimbabw e	SUB-SAHARAN AFRICA	7	128.71	USD	6.89	15.00	$15.00	339.00	$339.00	1.00000	$128.71
178	SL	Sierra Leone	SUB-SAHARAN AFRICA	3	1139000.00	SLL	505972.22	554416.67	$66.01	1871166.67	$222.79	0.00012	$135.62
179	VU	Vanuatu	OCEANIA	10	15342.27	VUV	8275.66	5289.00	$47.76	35927.67	$324.43	0.00903	$138.54
180	QA	Qatar	NEAR EAST	14	511.86	QAR	51.16	200.00	$54.93	1925.00	$528.70	0.27465	$140.58
181	VG	Virgin Islands (British)	CARIBBEAN	4	141.17	USD	4.52	81.58	$81.58	209.92	$209.92	1.00000	$141.17
182	OM	Oman	NEAR EAST	13	57.99	OMR	1.52	20.83	$54.12	228.00	$592.26	2.59765	$150.63
183	AE	United Arab Emirates	NEAR EAST	7	577.06	AED	60.60	85.58	$23.30	1615.67	$439.85	0.27224	$157.10
184	KY	Cayman Islands	CARIBBEAN	11	133.19	KYD	5.31	69.00	$82.21	215.58	$256.85	1.19143	$158.69
185	ML	Mali	SUB-SAHARAN AFRICA	7	90490.48	XOF	27313.33	11141.67	$19.77	281241.67	$498.92	0.00177	$160.53
186	CK	Cook Islands	OCEANIA	4	259.25	NZD	30.97	31.25	$20.65	705.25	$466.10	0.66090	$171.34
187	AG	Antigua and Barbuda	CARIBBEAN	8	478.75	XCD	12.95	130.00	$48.10	995.00	$368.17	0.37002	$177.15
188	TZ	Tanzania	SUB-SAHARAN AFRICA	13	416147.44	TZS	119791.86	69000.00	$30.14	1000000.00	$436.87	0.00044	$181.80
189	BF	Burkina Faso	SUB-SAHARAN AFRICA	6	113831.50	XOF	22237.70	13483.33	$23.92	367373.33	$651.72	0.00177	$201.94
190	HT	Haiti	CARIBBEAN	9	207.39	USD	10.53	54.54	$54.54	399.00	$399.00	1.00000	$207.39
191	PY	Paraguay	SOUTH AMERICA	33	1251242.03	PYG	119615.58	139000.00	$23.42	3370697.00	$567.96	0.00017	$210.83
192	LA	Lao People's Democratic Republic	ASIA (EX. NEAR EAST)	39	2047025.64	LAK	118995.73	140000.00	$16.36	7000000.00	$818.13	0.00012	$239.25
193	NA	Namibia	SUB-SAHARAN AFRICA	13	5448.23	NAD	252.52	1017.50	$71.68	15867.50	$1,117.87	0.07045	$383.83
194	PG	Papua New Guinea	OCEANIA	18	1913.14	PGK	271.90	21.00	$6.28	6188.17	$1,849.09	0.29881	$571.67
195	MR	Mauritania	SUB-SAHARAN AFRICA	4	27500.00	MRO	4552.08	11000.00	$307.26	49000.00	$1,368.72	0.02793	$768.16

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