

THE DIGITAL QUALITY OF LIFE IN THE WORLD: THE ASSESSMENT AND COMPARATIVE ANALYSIS

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Summary

The article compared different countries in the world on the fundamental pillars that define the digital quality of life. The Digital Quality of Life (DQL) index is analyzing the impact of five basic pillars: internet accessibility, connection quality, e-infrastructure, digital security, and e-government. In 2022 the top of the DQL index is Israel followed by Denmark, Germany, France, Sweden, Netherlands, Finland, Japan, UK, South Korea. The global Digital Quality of Life index 2022 calculated for 117 countries in the world and covering 92% of the world's population, shows an increase in digital quality of life in the Republic of Moldova in 2022 compared to the previous years. The Republic of Moldova ranks 54th from 117 countries in the world and 33rd in Europe from 38 countries, with an increasing index compared to 2021. In 2022 Moldova's rank of internet affordability is 13, internet quality - 64, e-infrastructure - 67, e-security - 53 and e-government - 70. This paper has been developed within the framework of the Scientific Project for the period 2020-2023, registered in the State Register of projects in the field of science and innovation of the Republic of Moldova with the code 20.80009.0807.29 Project State Program "Improving the mechanisms for applying innovative instruments aimed at sustainably increasing the welfare of the population of the Republic of Moldova".

Keywords: digital quality of life, internet affordability, internet quality, e-infrastructure, e-security, e-government.

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UDC: 316.77:004+330.59

Introduction. The digital transformation of the economy of every country in the world and society as a whole affects all spheres of life of people and organizations. Despite the fact that in the practice of international comparisons there is no generally accepted approach to the choice of indicators and methods for assessing the digital quality of life of the population and the concepts of "digital quality of life" and "digital wellbeing" do not have a conventional definition in the scientific literature, so each author and each scientist offers their own interpretation and content of these concepts, there are ratings that in one way or another assess the

quality of life of the population by country. The most popular among them is the DQL index.

In 2022, for the 4th time, analysts of VPN service Surfshark evaluated the world's countries according to five main criteria that determine the level of digital quality of life (DQL): availability and quality of the Internet, electronic infrastructure and security, and digital government (Figure 1). The purpose of their study is to identify which factors influence digital well-being in different countries of the world and which areas should be a priority for a particular country for future improvement. Each year the number of countries-participants in this rating is increasing, for example, last year in 2021 there were 110, and already in this year - 2022 there are 117, which, respectively, covers 90% and 92% of all people in the world. The company Surfshark has developed its own methodology according to which each country in the world is evaluated by 5 main criteria which in the opinion of analysts maximally cover the digital quality of life of the population.

It should also be noted that the first criterion - *Internet affordability* - in addition to ordinary citizens of the country, also includes the accessibility of the Internet to people with disabilities and the elderly, whose many abilities, including vision, have deteriorated with age. More specifically, it means that these people can perceive, understand, navigate, interact and contribute to the web. It is a universal right, according to Article 9 of the 2006 United Nations Convention on the Rights of Persons with Disabilities: "to enable persons with disabilities to live independently and participate fully in all aspects of life, States-participants shall take appropriate measures to ensure on an equal basis with others access to the physical environment, transportation, information and communication, including information and communication systems and technologies; and other facilities and services open or provided to the public, both in urban and in rural areas".

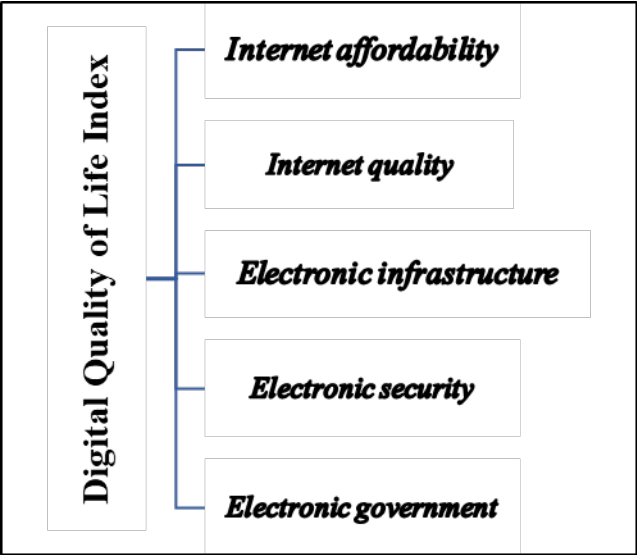


Figure 1. Digital Quality of Life Index - 5 pillars ranking

Source: elaborated by the authors used the data from <https://surfshark.com/dq12022>

Digital quality of life in the world. Thus, the top first 10 places of DQL index are occupied Israel (index – 0.7610) followed by Denmark (index – 0.7347), Germany (index – 0.7123), France (index – 0.7123), Sweden (index – 0.6895), Netherlands (index – 0.6843), Finland (index – 0.6826), Japan (index – 0.6785), United Kingdom (index – 0.6685) and South Korea (index – 0.6660) (Figure 2).

In 2022 the Republic of Moldova ranks 54th from 117 countries in the world and 33rd in Europe from 38 countries, with an increasing index compared to 2021.

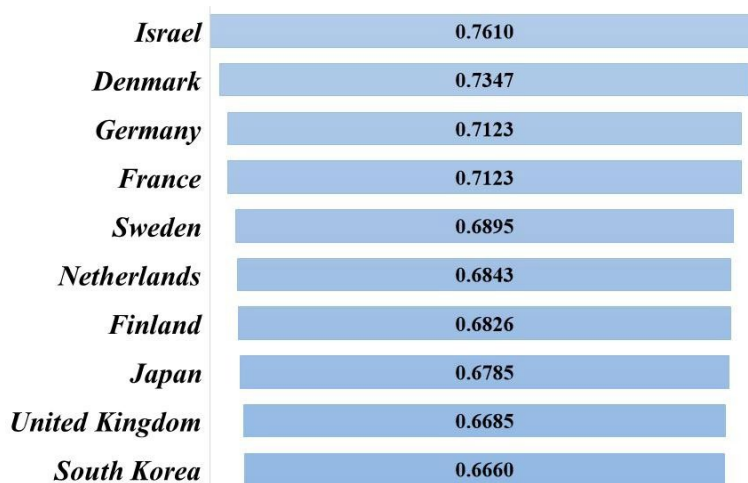


Figure 2. Digital Quality of Life Index 2022 – Global country ranking and index

Source: elaborated by the authors used the data from <https://surfshark.com/dql2022>

By the criteria of *Internet affordability*, the top first 10 places of this index are occupied the following countries: Israel (index – 0.1917), Armenia (index – 0.1009), Germany (index – 0.0718), Singapore (index – 0.0717), Japan (index – 0.0684), Russia (index – 0.0556), France (index – 0.0534), Lithuania (index – 0.0508), Denmark (index – 0.0470) and Australia (index – 0.0453) (Figure 3).

In 2022 the Moldova’s rank of internet affordability is 13 (index - 0.18) and 18 (index – 0.13) in 2021. These criteria include 2 important sub-criteria, such as the following: time to work to afford the cheapest mobile internet - 14th / 47 in 2022 and 31st / 116 in 2021 and time to work to afford the cheapest broadband internet - 12th / 70 in 2022 and 16th / 78 in 2021.

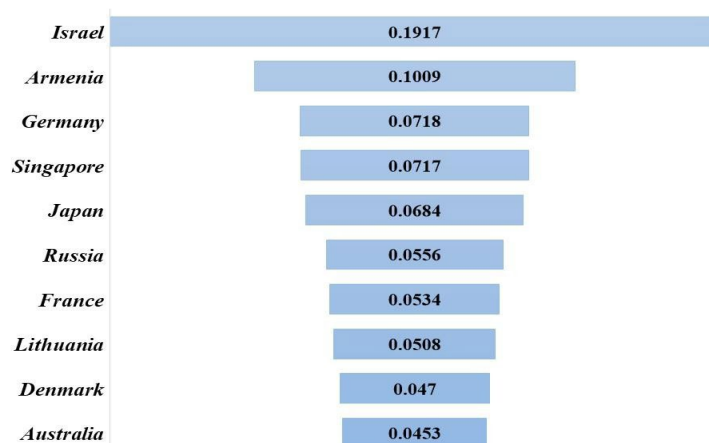


Figure 3. Internet affordability 2022 – Global country ranking and index

Source: elaborated by the authors used the data from <https://surfshark.com/dql2022>

By the criteria of *Internet quality*, the top first 10 places of this index are occupied by the following countries: Chile (index – 0.1202), Denmark (index – 0.1186), U.A.E. (index – 0.1148), South Korea (index – 0.1139), Singapore (index – 0.1134), U.S.A. (index – 0.1130), Switzerland (index – 0.1114), France (index – 0.1110), Portugal (index – 0.1101) and Qatar (index – 0.1077) (Figure 4).

In 2022 the Moldova's rank of internet quality is 64 (index - 0.34) and 35 (index – 0.59) in 2021. These criteria include some important sub-criteria's, such as the following: Mobile speed - 55th / 41.96 in 2022 and 49th / 42.38 in 2021; Broadband speed - 25th / 156.43 in 2022 and 36th / 114.01 in 2021; Mobile internet stability - 77th / 0.12 in 2022 and 63rd / 0.13 in 2021; Broadband internet stability - 108th / 0.09 in 2022 and 64th / 0.14 in 2021; Mobile speed improvement - 98th / 0.00 in 2022 and 72nd / 0.04 in 2021; Broadband speed improvement - 80th / 0.01 in 2022 and 9th / 0.15 in 2021.

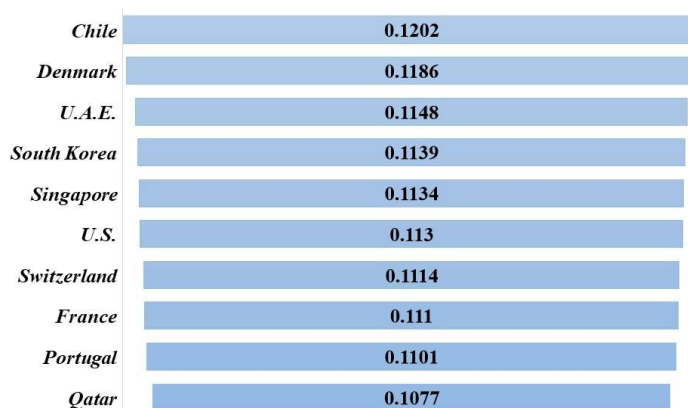


Figure 4. Internet quality 2022 – Global country ranking and index

Source: elaborated by the authors used the data from <https://surfshark.com/dql2022>

By the criteria of *electronic infrastructure*, the top first 10 places of this index are occupied the following countries: Denmark (index – 0.1968), Sweden (index – 0.1958), Netherlands (index – 0.1956), U.S.A. (index – 0.1944), Norway (index – 0.1940), Germany (index – 0.1922), Finland (index – 0.1920), Switzerland (index – 0.1914), South Korea (index – 0.1884) and U.K. (index – 0.1882) (Figure 5).

In 2022 the Moldova’s rank of *e-infrastructure* is 67 (index - 0.68) and 66 (index – 0.67) in 2021. These criteria include 2 important sub-criteria’s, such as the following: Individuals using the internet rank / per 100 inhabitants - 67th / 76.12 in 2022 and 63rd / 76.10 in 2021 and Network readiness - 67th / 0.30 in 2022 and 68th / 0.28 in 2021.

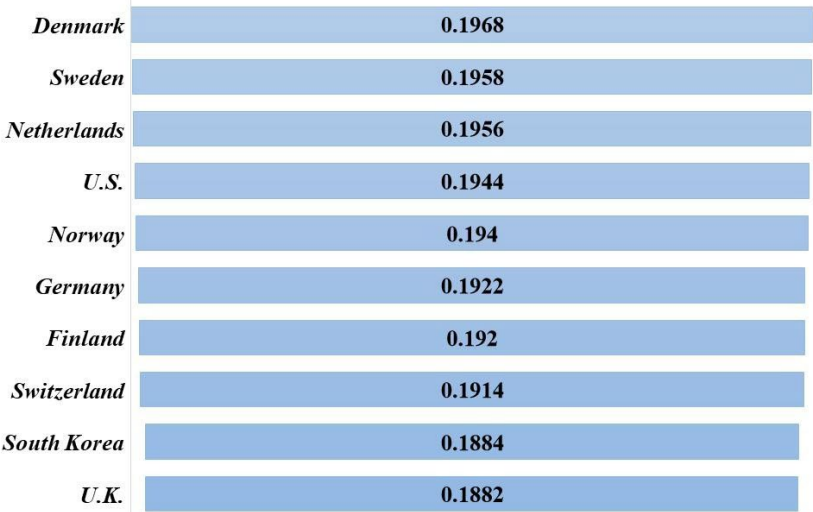


Figure 5. Electronic infrastructure 2022 – Global country ranking and index
 Source: elaborated by the authors used the data from <https://surfshark.com/dql2022>

By the criteria of *electronic security*, the top first 10 places of this index are occupied the following countries: Greece (index – 0.2000), Belgium (index – 0.1973), Lithuania (index – 0.1973), Czechia (index – 0.1960), Germany (index – 0.1946), Estonia (index – 0.1946), Portugal (index – 0.1932), Spain (index – 0.1919), Poland (index – 0.1905) and Finland (index – 0.1892) (Figure 6).

In 2022 the Moldova’s rank of *e-security* is 53th (index - 0.46) and 52 (index – 0.76) in 2021. These criteria include 2 important sub-criteria’s, such as the following: Cybersecurity - 63rd / 0.26 in 2022 and 54th / 0.26 in 2021 and Data protection laws - Low / 2 in 2022 and High / 2 in 2021.

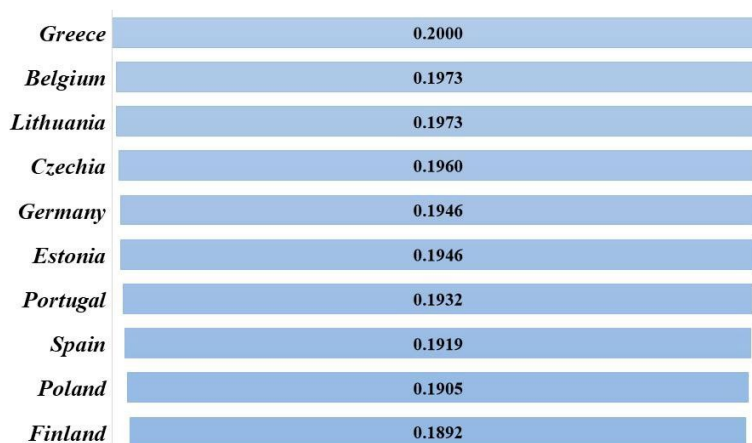


Figure 6. Electronic security 2022 – Global country ranking and index

Source: elaborated by the authors used the data from <https://surfshark.com/dq12022>

By the criteria of *electronic government*, the top first 10 places of this index are occupied the following countries: U.S.A. (index – 0.1947), Singapore (index – 0.1900), U.K. (index – 0.1880), Finland (index – 0.1869), South Korea (index – 0.1868), Denmark (index – 0.1844), Australia (index – 0.1802), Netherlands (index – 0.1796), Sweden (index – 0.1787) and Estonia (index – 0.1779) (Figure 7).

In 2022 the Moldova’s rank of *e-government* is 70 (index - 0.61) and 65 (index – 0.62) in 2021. These criteria include 2 important sub-criteria’s, such as the following: Online Service Index - 49th / 0.38 in 2022 and 49th / 0.38 in 2021 and AI readiness - 79th / 0.24 in 2022 and 76th / 0.24 in 2021.



Figure 7. Electronic government 2022 – Global country ranking and index

Source: elaborated by the authors used the data from <https://surfshark.com/dq12022>

Conclusion: Every country in the world is aspiring to enter the digital future faster and better. The index DQL developed by the experts from VPN service Surfshark allows to annually obtain timely and useful information about the place of

each digital indicators from one or another country in the world and in Europe. Also, the usefulness for countries is that they can focus on the growth of important digital indicators and its further development.

Regarding our country, according to the DQL index 2022, the Republic of Moldova made an excellent debut and occupied 54th from 117 countries in the world and 33rd in Europe from 38 countries and performing at or above the global average for each of the indicators analyzed. Internet affordability ranked in the top 20 (13 in 2022 and 18 in 2021), ahead of Bulgaria, the United Kingdom and the United States of America. To afford the cheapest Internet, people only need to work one hour and 18 minutes a month, compared to the global average of six hours.

BIBLIOGRAPHY

- Atkinson R.D., Castro D.D., et al. Digital Quality of Life: Understanding the Personal & Social Benefits of the Information Technology Revolution. October 2008. <https://d1bcsfjk95uj19.cloudfront.net/files/DQOL.pdf>
- DQL index 2022. Surfshark B.V., KvK number: 81967985, address: Kabelweg 57, 1014BA Amsterdam, the Netherlands, VAT number NL862287339B01. Link: <https://surfshark.com/dql2022>
- Гаспарович Е. О., Иванова Е. С. Влияние цифровой экономики на повышение уровня и качества жизни населения. Цифровая трансформация общества, экономики, менеджмента и образования: материалы III Международной конференции «Цифровая трансформация общества, экономики, менеджмента и образования». Екатеринбург, 11–12 ноября 2020 года. ISBN: 978-80-88327-07-3. Sedlčany: Ústav personalistiky, 2020, стр. 42-47.