Research article
UDC 34:004:341:004.4
EDN: https://elibrary.ru/ocdmla
DOI: https://doi.org/10.21202/jdtl.2024.47

International Cooperation in Overcoming Digital Inequality: Legal Frameworks, Barriers and Development Parameters

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Keywords

availability of technologies,
digital divide,
digital inequality,
digital space,
digital technologies,
international cooperation,
international law,
Internet,
law,
legislation

Abstract

Objective: based on a systematic analysis of the actual level of international cooperation in overcoming digital inequality, to determine the parameters of its further development, taking into account modern legal and other barriers and global challenges caused by the transition from the knowledge economy to the data economy.

Methods: the methodological basis of the research is represented by dialectics, comparative legal and historical legal approaches, and the method of system analysis.

Results: the problem of digital inequality was considered in the following key aspects: access to the Internet; differences in the level of digital literacy; features of technology use and the versatility of digital inequality. It is noted that access to the Internet and digital technologies should become one of the fundamental human rights in order to ensure equal opportunities for all segments of society, since initially the crystallization of clearly expressed digital differences is based on the existing offline social differences. It was established that, in order to successfully overcome digital inequality, the key global task is to develop digital skills and literacy among the population. It is also important to stimulate the rational use

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of technologies and ensure people's understanding of working with both the technologies and the data obtained through them. The authors propose to expand and deepen cooperation between developed and developing countries so that the latter can produce more data that may serve as a metric and a basis for creating development strategies. At the same time, greater transparency should be ensured by providing effective and accessible means so that the data owner can clearly understand who and why processes their personal data. The article argues that the transition from the knowledge economy to the data economy requires the adaptation of international cooperation strategies to ensure equitable access to both data and their processing. This may accelerate scientific discoveries and support inclusive economic development. The issues of fragmentation and defragmentation of international law are analyzed.

Scientific novelty: it is due to the current lack of scientific results concerning the level of international cooperation achieved so far in overcoming digital inequality given the parameters of its systemic development and the main (legal and other) barriers.

Practical significance: the study results can be used to improve the legal framework and strategies for international cooperation in overcoming digital inequality to ensure equitable access to data and their processing.

For citation

Belikova, K. M., Dias Martins, R., Kazanba, E. T. (2024). International Cooperation in Overcoming Digital Inequality: Legal Frameworks, Barriers and Development Parameters. *Journal of Digital Technologies and Law, 2*(4), 1003–1030. https://doi.org/10.21202/jdtl.2024.47

Contents

Introduction

Legal and other sciences have always aimed to address a variety of societal problems, including (un)equality issues. Attempts by countries to reduce social inequalities have not always been successful, and scientific research on these issues began long after these attempts had been implemented[1]. Probably, it is high time to find solutions to digital inequality/divide/gap, and not to miss out the inequalities that are beginning to grow more and more rapidly to become social ones: in the digitalization era, social inequalities are often transferred to the digital space, which is becoming increasingly important in people's lives. This is especially true given the fact that achieving and respecting digital equality during digitalization can be an effective tool to combat social inequalities.

1. Parameters of the development of international cooperation in overcoming digital inequality

1.1. General context

Talking about parameters of the development of international cooperation in overcoming the digital divide as input data, we can see the following. In 2008, the UN Secretary-General convened the High-level Panel on Digital Cooperation[2] to promote proposals to strengthen cooperation in the digital space between governments, the private sector, civil society, international organizations, technical and academic communities, and other relevant or interested parties. The panel is expected to raise awareness of the transformative impact of digital technologies on societies and economies and contribute to a broader public debate on how to ensure a secure and inclusive digital future for all, taking into account the relevant human rights' standards. One of the Panel's results was the 2019 report "The Age of Digital Interdependence" [3] (co-chaired by the famous Melinda Gates and Jack Ma), which argues that "digital dividends coexist with digital divides"[4].

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1 Kiseleva, E. V., Markelova, M. N. (2022). UNO integrated approach to the protection of human rights by the example of children-refugees. In A. Ku. Abashidze (ed.), International law: manual for post-graduate students (pp. 300–329). Moscow: RUDN.

2 Secretary-General's High-level Panel on Digital Cooperation. https://clck.ru/3EYpgr

3 The Age of Digital Interdependence. Report of the UN Secretary-General's High-level Panel on Digital Cooperation. (2019, June 10). https://clck.ru/3EYpiU

4 Ibid. P. 6.

Probably, this is why the traditional pattern of analyzing digital divide includes three key aspects, which we will also consider both as parameters for the development of international digital cooperation in this sphere and as its barriers. These are: 1) unequal access to the Internet (access...as the 'first-level digital divide'); 2) differences in the level of digital literacy among users of both the Internet and various digital products, technologies and services (skills/usage...as the 'second-level digital divide'); 3) the multifaceted nature of the digital divide, emphasizing the importance of users' motivation and the specifics of technology use to achieve the desired benefits (benefits/outcomes... as the 'third-level digital divide') (Li et al., 2024, Gladkova et al., 2019, Cinnamon, 2019; Du & Wang, 2024; Kuo-Hsun, 2022)[5].

Although today one cannot speak of digital inequality only in relation to access (lack of access) to the Internet, all other levels are simply irrelevant without such access. Hence, these three levels (parameters, barriers) have received sufficient attention both in the above-mentioned report "The Age of Digital Interdependence" and in the UN Secretary-General's Report "Roadmap for Digital Cooperation"[6]. The latter, referring to the 2019 Panel Report, indicates five recommendations for the international community to work together to optimize the use of digital technologies and reduce risks. The first recommendation is to build an inclusive digital economy and society (others are to develop human and institutional potential; to protect human rights and strengthen human rights organizations; to build digital trust, security and stability; and to promote global digital cooperation). This indicates that focusing on access to the Internet and digital technologies is a necessary, but not sufficient step. It is necessary to ensure that technologies are used inclusively[7]. It is also argued that human rights are realized both on and off the Web, especially with regard to security and privacy.

1.2. Internet access: practical implementations and barriers

Starting with the issue of Internet access, it is worth noting that in practical terms, Starlink project of Space X, for example, is a unique initiative aimed at promoting digital equality around the world. Starlink is a global satellite Internet network developed and provided by SpaceX, a company founded by Elon Musk[8]. Its slogan is "Connect at home or on the go". The technology was supposed to be available worldwide, but this is currently not the case due to restrictions in some countries, which vary and are related to various motivations, including radio frequency regulation, data privacy,

5 Ibid. Pp. 4, 6, 7–9, 11–13, 32.

6 Roadmap for Digital Cooperation. Report of the Secretary-General. (2020, June). https://clck.ru/3EYpsV

7 Ibid. P. 4.

8 High-speed internet around the world. https://clck.ru/3EYpuN

security, etc. [9] However, the essence of the restrictions is not so much the presence or absence of equipment (for example, according to recent open media information, Starlink equipment can again be bought in Russia[10]) or low-orbit satellites violating the territorial borders of various countries. It is more in the approaches to ensuring the information security of states[11]. Concern about this issue is reflected in various acts and their drafts. For example, earlier the Russian Ministry of Communications and Mass Media proposed to introduce into the Russian Code of Administrative Offenses an article stipulating a fine for misusing satellite communication networks under foreign jurisdiction located in the Russian territory[12]. One should also mention the Decree of the Russian Government of October 20, 2021 No. 1800 "On the order of registration of radio electronic means and high-frequency devices" [13]. It established a list and rules of registration of such means and devices. This approach is based on the concept of digital sovereignty[14] and the Decree of the Russian President "On approval of the information security doctrine of the Russian Federation"[15]. It is worth mentioning that Starlink satellites have long been somewhat of a nuisance to astronomers, and recently a group of experts from China have published a study in the Radio Engineering peer-reviewed scientific journal, accusing SpaceX of its Starlink satellites violating safety rules, as this may lead to a disaster in orbit by them not keeping a distance between each other[16]. Specifically, on June 30, 2022, two Starlink satellites approached each other by only 4.9 km, while the generally accepted minimum distance is 10 km. According to this study, the extreme proximity was not an accident, but the result of a complex SpaceX scheme aimed at maximizing the performance of the laser communication system.

9 See, e.g.: Starlink network will not operate in Russia, China, Belarus and Iran. (September 19, 2022). https://clck.ru/3EYpvS

10 See: Starlink terminals are on sale again in Russia. Where and how can they be used? (February 6, 2024). clck.ru/3EYpwA

11 See, e.g.: Starlink and OneWeb cannot operate in Russia due to the priority of the Russian application for frequencies. (December 15, 2022). https://clck.ru/3EYpya; Decree of the Russian Government No. 1194 of November 14, 2014 (November 24, 2014). Collection of the legislation of the Russian Federation. No. 47, Art. 6554.

12 The Ministry of Communications proposes to penalize the use of foreign satellite networks in Russia. (June 11, 2019). https://clck.ru/3EYpzQ

13 Collection of the legislation of the Russian Federation. (November 1, 2021), No. 44 (Part III), Art. 7411.

14 Zinovieva, E., Yajie, B. (May 29, 2023). Digital Sovereignty in Russia and China. clck.ru/3EYq26

15 Decree of the Russian President No. 646 of 05.12.2016. (December 12, 2016). Collection of the legislation of the Russian Federation. No. 50, Art. 7074.

16 The source not specifying that, the Chinese scientists are referring to Kessler syndrome, a theoretical situation of the domino principle on a near-Earth scale, for example, when space debris resulting from the collision of two satellites, collides with other satellites to form more and more debris, making the entire orbit unusable for spacecraft in the shortest possible time. See: Is SpaceX with its Starlink satellites threatening the entire space industry? Chinese scientists urged the company to stick to the rules. (November 30, 2022). https://clck.ru/3EYq4q

The said case was allegedly not the only one. Prior to that, in 2021, China filed a complaint against Starlink with the UNO. It claimed that during 2021, a Chinese space station had to perform evasive maneuvers twice to avoid collision with Elon Musk's satellites[17].

The complaint is based on the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies[18]. Its Article V reads: "States Parties to the Treaty shall immediately inform other States Parties to the Treaty or the Secretary-General of the United Nations of phenomena in outer space, including the Moon and other celestial bodies, which they have identified and which could constitute a danger to the life or health of astronauts". According to its Article VI, "the States Parties to the Treaty bear international responsibility for national activities in outer space, including the Moon and other celestial bodies, regardless of whether they are carried out by governmental bodies or non-governmental legal entities, and for ensuring that national activities are carried out in accordance with the provisions contained in this Treaty...".

Despite such positions, one cannot deny that satellite Internet technology and its legal regime can play an important role in solving the problem of digital inequality at the level of access to digital technologies in both developed and developing countries (Rabbani, 2024). For example, on June 5, 2024, at the round table on eliminating digital inequality in Russia, held at the Federation Council Committee on Economic Policy, A. Volin, Director General of "Space Communications", noted that this enterprise closely cooperates with the Ministry of Digital Development for connecting small settlements. "In Russia, there are 13.8 thousand settlements with 50 to 100 inhabitants and another 20 thousand settlements with 11 to 25 inhabitants. These are territories where optical fiber will never come. We calculated that it would take 50 years to take cable communications and the Internet to all these places, and the price would be about 600 thousand rubles per subscriber." Although the satellite may offer lower speeds, the time and cost of connecting consumers in this case will be significantly smaller[19].

Researchers note that the Internet, a prominent representative of digital technologies, was created as a means of transferring data between universities, and its purpose was to create open access to knowledge (Pool et al., 1999). However, even one of the oldest global packet-switched networks, ARPANET, was created by the DARPA agency (at that time – ARPA), who signed a software development contract with Bolt, Beranek and Newman from Cambridge, Massachusetts, in late 1968. Physically, ARPANET consisted

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17 China has filed a complaint with the UNO against Starlink over threats to its space station. (December 29, 2021). Miltroen. https://clck.ru/3EYq5m

18 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies [Russian, English] Adopted by General Assembly resolution 2222 (XXI) of December 19, 1966 Signed in Washington, London, Moscow. (January 27, 1967). https://clck.ru/3EYq6h and https://clck.ru/3EYq8V

19 Digital equality and satellite fraternity. (June 11, 2024). https://clck.ru/3EYqBJ

of approximately 50 C30 and C300 minicomputers of BBN Corporation, called Packet Switching Nodes (PSN). Point-to-point data lines, leased from firms providing global communications, connected PSNs together, forming a network. For example, a leased line connected the PSN, located at Purdue University, to the PSN at Carnegie Mellon and to the PSN at the University of Wisconsin[20]. Actually, they were located at universities, but DARPA[21] is the Advanced Defense Research Projects Agency of the US Department of Defense (Advanced Research Projects, with the word "defense" appearing and disappearing)[22]. Did it really imply openness from the beginning? The answer depends on the purpose of its creation (and now its functioning), and not intermediate testing in the university infrastructure.

An analysis of other national acts on electronic communication networks, electronic government and services, for example, of Austria, Denmark, the Netherlands[23], the European Union as a whole[24], shows that the purpose of legal regulation is double-sided. On the one hand, it is to ensure equality of citizens and other subjects of regulated relations (for example, people with disabilities and others); on the other hand, it is to impose responsibilities on service providers (for example, public authorities). It shows the lack of holistic regulation and high fragmentation even at the level of national legislation. This situation can be eliminated in Russia with the adoption of the digital code, the idea of which does not cease to be discussed.

1.3. The global North–South digital divide and ways to overcome it

At the same time, the said problem of access to technologies acquires a new color from the perspective of the digital divide between the global North and the global South, the inequality of access to digital infrastructure between developed and developing countries, between rich and poor (the so-called inequality of technological opportunities) (Cinnamon, 2019; Gallardo & Whitacre, 2024; Wang & Zhang, 2024). The term "digital neocolonialism" is not uncommon already. It is caused by an imbalance in the resources available to developed and developing countries. Expensive technological solutions

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20 Global information resources. Theme 2. Review of information networks under operation. https://clck.ru/3EYqC8

21 DARPA. https://clck.ru/3EYqDF

22 See: DARPA: how the agency that created the Internet was born out of sales of household chemicals and fear of Sputnik. (December 17, 2022). Erwinmal. RUVDS.com. https://clck.ru/3EYqE2

23 Danilov, N. A. (2013). Legal regulation of e-government in foreign countries: abstract of Cand. Sci. (Law) thesis. Moscow: HSE; Danilov, N. A. (2012). Social justice in the information society: the problem of digital equality. Informatsionnoye pravo, 2(29), 5–6 and others.

24 Directive (EU) 2016/2102 of the European Parliament and of the Council of 26 October 2016 on the accessibility of the websites and mobile applications of public sector bodies. (2016, December 2). OJ L, 327, 1–15. https://clck.ru/3EYqFk; Directive (EU) 2019/882 of the European Parliament and of the Council of 17 April 2019 on the accessibility requirements for products and services. (2019, June 7), OJ L, 151, 70–115. https://clck.ru/3EYqHA

caused by the non-application of the strategy of open source patents[25] and open innovations (hereinafter referred to as OIs) for users create inequality – now OIs are used for the convenience and benefit of companies due to their lack of funds, specialists and other things to solve emerging issues alone. Multinational companies monopolize the market and do not contribute to the development of poor countries. As a result, poor countries remain dependent on the rich ones. At the same time, the actual monopolization of certain solutions, platforms and services is very common in the digital sphere.

The global digital divide may also be growing due to the allocation of resources for green transformation. Therefore, for example, the Program of the Indian Presidency of the G20 highlights digital equality as a priority. Without a fundamental change in worldview, it will be difficult to achieve equal access to digital infrastructure and sustainable development[26]. This idea developed in the theme of India's G20 presidency, "One Earth – One Family – One Future", aimed at achieving unanimity to collectively and effectively solve global problems[27].

Thus, we can draw the following scheme for the formation of digital inequality (Fig. 1), where digitalization is initially determined by access to technological opportunities (level 1), although there may be additional differences in technical skills and ways of using technology (level 2), as well as in who can benefit and get tangible results from using it (level 3).

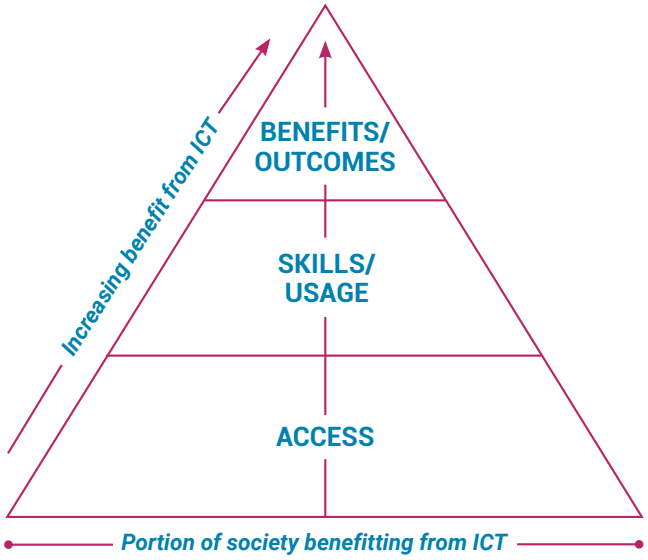

Fig. 1. Levels of digital inequality (Cinnamon, 2019)

25 Open Source Patents: Everything You Need to Know. Updated November 3, 2020 & February 01, 2023. https://clck.ru/3EYqHn

26 See in more detail: Barabanov, O. N. (March 14, 2023). Neocolonialism practices and global digital equality. https://clck.ru/3EYqLk

27 Konishi, T. (June 19, 2023). India's G20 Presidency: An Opportunity to Steer the World Toward Inclusive and Sustainable Growth. https://clck.ru/3EYqMe

As for the possible mechanisms to solve the problem of digital equality and the parameters for the development of international cooperation in the field under consideration, the lack of funding and imbalance in wealth between developed and developing countries can be overcome similarly to climate policy. The latter assumes and promotes that developed countries can take on commitment to financial support for the green transition of developing countries (Gritsenko, 2023; Liu et al., 2024). Similarly, it is proposed to adhere to the principle that developed countries should help poor countries with digital transformation and access to digital services[28]. In this regard, it seems that the willingness of developed countries to fund developing countries for a green transition is explained by the fact that one of its elements, inter alia (renewable energy sources, environmentally friendly transport, green financing, and ESG standards) is the economy "decarbonization" (Polyakov et al., 2022). For example, the foundry industry requires sufficient supplies of environmentally friendly hydrogen and energy from renewable sources at competitive prices, and their production even in Europe still needs to be established; at the same time, large-scale electrolysis for the production of "green" hydrogen requires significant volume of electricity produced without fossil fuels, and this, in turn, requires increasing investments[29]. Thus, the example of developing countries shows that the green transition will require enormous investments and the destruction of the existing "carbonized" industry. This will apparently weaken these countries as competitors in the world market and is beneficial to those who want such a weakening. However, the idea of alternative energy sources in itself certainly deserves attention, approval at the conceptual level and development, and the idea of putting ICT at the service of decarbonization is being discussed (Wang et al., 2024). Whereas equality in the digital sphere, on the contrary, will serve to increase the competitiveness of these countries on the global stage. Whether this is desirable depends on the goal pursued by digitalization in general and its individual manifestations in particular, for example, mining[30]. The "cultivation", development and functioning of "strong artificial intelligence" will require more and more new data[31], which, in turn, objectively requires universal digitalization – provided that the emergence of artificial intelligence is an objective phenomenon, like the laws of nature (for example, water boils at 100 degrees, etc.), which naturally occurs with a certain course of events (like the invention of gunpowder, wheels, etc.), and not a subjective one (the pursuit of competitive advantages of companies, countries, etc.).

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28 Barabanov, O. N. (March 14, 2023). Neocolonialism practices and global digital equality. https://clck.ru/3EYqPP

29 Ermolenko, G. (January 4, 2024). Decarbonization of metallurgy requires reducing the cost of "green" hydrogen – analysts. https://clck.ru/3EYqQj

30 Kolobova, M. (June 4, 2024). What are your codes: mining in the Russian Federation will soon become an economic activity. How will this change the cryptocurrency mining market and help the budget. https://clck.ru/3EYqSH. Compare, e.g., Arthur C. Clarke (1953). The Nine Billion Names of God. https://clck.ru/3EYqTP

31 A former OpenAI employee has published predictions about the future of AI (June 5, 2024). RBK Trends. https://clck.ru/3EYqVG

This idea did not appear yesterday. Before the 2nd World Summit on the Information Society in Tunis in 2005, UNO Secretary-General K. Annan called on the leading producers of modern knowledge-intensive and information-communication technologies to expand their activities, focusing on helping developing countries to develop innovations. He noted that the effectiveness and sustainability of the new economic model – the knowledge-based economy – can be achieved only through the universal dissemination of the principles of this model, meeting the needs of humanity in communication and information, as well as the interest of countries in achieving the Millennium Development Goals and respect for human rights. This call also served as the basis for the Tunisian Information Society Program, adopted on November 15, 2005. At the previous meeting in Geneva in 2003, the Declaration on shaping the information society as a global challenge in the new millennium was adopted on December 12, 2003, as well as the Action Plan for ensuring the development of the information society in a global perspective (Perfilieva, 2007).

In the same period, the author of the abovementioned strategy of open innovations H. Chesbrough published his works "Open Innovation: The New Imperative for Creating and Profiting from Technology" (Harvard Business School Press, Boston, MA, 2003) and "Open business models. How to thrive in the new innovation landscape" (Harvard Business School Press, Boston, MA, 2006).

1.4. Delocalization of the digital space as a mechanism of international cooperation: examples of approaches

There is also an opinion that the digital space should be separated from the domain of states' sovereignty. Instead, separate jurisdictions of international bodies should be created, based either on the existing supranational international institutions (such as the UN General Assembly and the UN Security Council), or on new ones working through coordinated efforts of various countries and organizations (like the International Council for Digital Equality, hereinafter – ICDE) and new legal frameworks and universal principles by which it would work. The basis for such a vision has long been established. The idea of the Internet as a sovereign digital territory and a separate jurisdiction has been put forward by many scholars. For example, in 1996, D. R. Johnson and D. G. Post considered the problems of jurisdiction in cyberspace and argued that traditional territorial principles of law are inapplicable to the Internet, proposing the concept of cyberspace as an independent legal space (Johnson & Post, 1996). In 1997, J. R. Reidenberg considered how technological solutions can shape legal norms in cyberspace and developed the concept of lex informatica, suggesting the idea of the Internet as an independent jurisdiction and arguing that it could be useful to centralize the legislative vector later (Reidenberg, 1997).

The ideas of delocalization now take various forms. For example, the idea of delocalized arbitration[32] is rooted in the concept of international commercial arbitration (ICA) autonomy from national legal systems. It says that ICA functions independently from national legal systems and forms its own autonomous legal environment, mainly at the procedural level, when it considers and resolves disputes, as issues of procedural and substantive nature should be resolved based on the rules chosen by the parties or agreed by them. At the same time, the seat of the arbitral tribunal should not influence its work, for example in determining its competence. This is because parties generally want to see neutral arbitrators and a convenient (also territorially in terms of accessibility) forum, so the resolution of these issues is largely not directly related to the essence of the dispute. Most ICA decisions are executed voluntarily, and a refusal to execute or vacation of a decision in one country does not mean that it cannot be enforced in another country (as the case below will show); hence, even the issue of mandatory enforcement of ICA decisions does not necessarily bind the arbitration to the national legal system.

The initiative to create a fundamentally new investment arbitration institute on the BRICS platform was taken by St. Petersburg University. The Dean of its Law Faculty said, "Most important is that we propose to create a permanent institution that will take into account not only the peculiarities of legal systems, but also the legal political culture of states, first of all, our BRICS partners, of course. The new institution will allow taking into account public interests in investment disputes, not always putting only the economic interests of investors first, but looking for a balanced approach that will ensure the interests of both sides in investment relations. In our opinion, this can be a serious incentive for investment development"[33].

An example of current arbitrations of this type is on-line arbitration (arbitration using electronic telecommunications networks), for example, the Internet courts of three Chinese cities – Beijing, Guangzhou, and Hangzhou.

Delocalization was implemented in the case of PT Putrabali Adyamulia v. Rena Holding[34]. According to the arbitration decision of April 10, 2001, the refusal of the French Rena Holding to pay for goods purchased from the Indonesian company Putrabali was recognized as legitimate. The latter appealed it to the High Court of London, which sent the case for reconsideration to the arbitration panel. On August 21, 2003 it issued a new decision obliging Rena Holding to pay $163,086 to Putrabali. In parallel, in September 2003 Rena Holding achieved recognition and enforcement of the 2001 arbitration decision in France. In turn, Putrabali achieved recognition and enforcement of the 2003 arbitration decision in France. On June 27, 2007, the French Court of Cassation stated that the 2001

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32 See, e.g.: Scientists from St. Petersburg State University proposed making St. Petersburg the capital of international investment arbitration [for the BRICS states – author]. (May 8, 2024. https://clck.ru/3EYqWj

33 Ibid.

34 Enforcement of arbitration awards in France. (July 29, 2008). Reed Smith LLP. https://clck.ru/3EYqYB

arbitration decision recognized in France could not be changed by the 2003 decision, since it met the requirements of the French legal order, although it was subsequently changed by the court at the place of arbitration. The 2003 decision was overturned on the grounds that it was recognized in France later than the 2001 decision.

As can be seen from these examples, the understanding of arbitration delocalization differs both conceptually (as the transfer of dispute settlement from one country to another) and institutionally (as the operation of arbitration online). Hence, it is necessary to develop a clearer understanding of this concept in order to implement it as a way to overcome not only distrust of arbitrations (including investment ones), but also other problems related to the work of arbitrations.

Returning to the idea of delocalizing the legal regulation of the Internet, the key legal principle underlying the ICDE functioning could be to recognize the Internet as a global public good, in fact establishing the right to it as a (quasi?)human right accessible to all people, regardless of their race, social status or physical abilities (the idea of establishing digital inclusion as one of the basic human rights is now provided for by the Draft Constitutional Amendment of Article 5 of the Constitution[35]).

The International Council for Digital Equality could:

– establish a legal framework for the management of the Internet by developing and adopting international treaties (conventions) and other acts binding on all participants in the digital space, such as regulations, directives and decisions, which, in turn, would establish standards and norms for various aspects of Internet use and management. Thus, the proclaimed principle of equal access to the Internet would be enshrined in international acts ratified by the participating countries, becoming part of their national legal systems. The ICDE Internet jurisdiction could operate through a set of international treaties and national legislative acts, ensuring their unification and integration into national legal order. Special attention could be paid to the protection of user rights, including personal data protection and cybersecurity. In this area, the ICDE could develop international standards and protocols that all participants in the digital space would be required to comply with. These standards could include measures to prevent cybercrime, protect privacy and ensure the security of digital communications;

– establish legal mechanisms for monitoring and ensuring compliance with the regulations it would adopt. Such a system could include specialized oversight and control bodies entitled to conduct investigations, assess compliance with established standards and take measures to eliminate violations. In case of non-compliance with the requirements of international legislation, the ICDE would be entitled to apply sanctions, including fines and restrictions on access to Internet resources;

– initiate and support international programs and projects aimed at developing digital infrastructure and improving digital skills of the population. These programs

[35] Proposta de Emenda à Constituição n° 47, de 2021. https://clck.ru/3EYqZ4

could be funded through international funds and implemented in cooperation with national governments and the private sector and would be aimed at creating a fair, inclusive and secure digital environment. They could be secured through international treaties and cooperation agreements that would define the parties' obligations and the conditions for their implementation;

– within its jurisdiction, actively cooperate with other international organizations such as the United Nations, the World Bank and the World Health Organization to coordinate efforts and ensure an integrated approach to solving global problems of digital (in) equality. Such interaction would be based on international legal agreements and mechanisms (instruments) that would define mutual obligations and ways to coordinate actions.

Thus, the Internet, as an international jurisdiction under the management of the ICDE, would become a complex legal structure based on international treaties and national legislative acts aimed at ensuring equal access, user rights protection and sustainable development of the digital space.

This seems to be an ideal option for the future at the moment. Today, under the fragmentation of international law and economics (which will be discussed below), we surely can talk about a fragmented Internet of the future, for example, a unified Internet of several BRICS countries, or Russia – Iran – North Korea, etc.

Whereas today, due to the lack of comprehensive international legal sources, one may ask: is it at all possible to achieve digital equality with current legal regulation? After all, the above approaches and their embodiments are not enough to solve the issue of digital inequality, but they are a necessary step towards such solution.

2. Cooperation in overcoming digital inequality at the regional level

2.1. Fragmentation of international law and network partnership

At the same time, there exists the long-standing fragmentation of international law, which is facilitated by such factors as regionalization, specialization of international law, unification ideas that began to develop from a certain point in the past at the level of states (United States of Europe / EU, MERCOSUR, NAFTA), economies (APEC, ASEAN) and strategies (BRICS, etc.). They have contributed and are contributing, on the one hand, to regionalization and thus fragmentation (e.g., Montevideo Treaties of 1960 and 1980). On the other hand, they promote globalization and unification, working on (de) fragmentation by creating legal ways to overcome national borders when forming the global economy. By the example of existing associations and some of their member states and modern realities, they reveal special legal prohibitions that have survived to date, limits of the permissible, and restrictions. The fragmentation of international law results in the states transferring their efforts to ensure various issues on the international agenda to the level of regional and other integration associations. For example, clause 33 of the

Johannesburg II Declaration. BRICS and Africa: Partnership for Mutually Accelerated Growth, Sustainable Development and Inclusive Multilateralism[36] states the importance of the digital economy for global economic development from the perspective of the positive impact of trade and investment on promoting sustainable development, national and regional industrialization, and transition to sustainable models of consumption and production. It accentuates the challenges facing the BRICS countries in the digital age, including inequality in digital development and the need to overcome the problems associated with it. The participants supported the establishment of the BRICS Working Group on the Digital Economy and emphasize the role of openness, efficiency, stability and reliability in stimulating international trade and investments. They also welcome further partnership between BRICS countries to strengthen interconnections in supply chains and payment systems in order to promote trade and investment flows (Sandton, Gauteng, South Africa, August 23, 2023). Clause 74 states the desire to "strengthen skills exchange and cooperation among BRICS countries, to support the digital transformation in education and TVET space, as each BRICS country is domestically committed to ensure education accessibility and equity, and promote the development of quality education… share digital educational resources, build smart education systems, and jointly promote digital transformation of education in BRICS countries and to develop a sustainable education by strengthening the cooperation within BRICS Network University and other institution-to-institution initiatives in this area, including the BRICS University League… to expand membership of the BRICS Network University to include more universities from the BRICS countries… [to] share best practices on expanding access to holistic early childhood care and education to provide a better start in life for children within BRICS countries... to facilitate exchanges within BRICS countries on equipping learners with skills fit for the future through multiple learning pathways"[37]. Thus, we can see that at the BRICS level there is also an approach to recognizing (designating) and removing the second of the above-mentioned parameters (barriers) in overcoming digital inequality – user skills.

2.2. Digital skills of users: a barrier and a development parameter

Speaking of this second parameter (barrier), we should note that the issue of user skills will be resolved faster and more significantly among the younger population, who could provide assistance to other segments of the population (Ren & Zhu, 2024). In any case, of the three parameters (barriers), it seems that the issue of skills is not the most significant, as we

[36] Ministry of Foreign Affairs of the Russian Federation. (August 24, 2023). Johannesburg II Declaration. BRICS and Africa: Partnership for Mutually Accelerated Growth, Sustainable Development and Inclusive Multilateralism. https://clck.ru/3EYqaG

[37] Ibid.

see that technologies enter the lives of all people and they get used to them. On the other hand, it is worth bearing in mind the aspect already mentioned above in relation to the economy "decarbonization". It is similar to the one described in the 1963 fiction story "Turning Point" by Pol Anderson[38], in which one of the possible options for contact between Earthlings and aliens was discussed – the "domino effect"[39] in the technological development of the latter. The story, in particular, describes the characters' reflections on the alien civilization's technological development:

"Yes," Baldinger ruminated, "I always realized that our betters must exist. Didn't expect we'd run into them in my own lifetime, however. Not in this microscopic sliver of the galaxy that we've explored. And... well, I always imagined the Elders having machines, science, space travel."

"They will," I said.

"If we go away—" Lejeune began.

"Too late," I said. "We've already given them this shiny new toy, science. If we abandon them, they'll come looking for us in a couple of hundred years. At most."[40]

However, we are not arguing that the issue of digital skills is unimportant. Its importance is underlined by various regional initiatives at the European Union level, such as the Digital Skills and Jobs Coalition, which combats the digital skills deficit by bringing together member states, companies and organizations[41]; the European Skills Agenda, a five-year plan to help individuals and businesses develop more skills and put them into practice[42]. The Digital Opportunities Internship Program, an EU-funded training initiative, is aimed at helping manufacturing, banking, agriculture and healthcare companies to fill vacancies with candidates skilled in digital technologies for cybersecurity, data analytics, machine learning, as a computer-literate workforce is vital to maintain Europe's global competitiveness in a rapidly changing world[43]. With all this, we believe that the issue of mastering certain skills is simpler and easier to address than the third level parameter (barrier) – the multifaceted nature of the digital divide, that is, how people use technology and what benefits (or problems) they derive from it.

38 P. Anderson (1963). Turning Point. Libking. https://clck.ru/3EYqbD

39 The domino effect is a political theory that any change entails a linear series of other changes, similar to how dominoes fall in a row.

40 P. Anderson (1963). Turning Point. https://textarchive.ru/c-2199079-p25.html

41 European Commission. The Digital Skills and Jobs Coalition. https://clck.ru/3EYqgZ

42 European Commission. The European Skills Agenda. https://clck.ru/3EYqfE

43 Digital Opportunity Traineeships. ErasmusIntern.org. https://clck.ru/3EYqhL

2.3. Obstacles to the full implementation of the digital technologies' potential: the example of Brazil and the experience of the USSR

We know that the Internet opens up many opportunities, but it can also be disruptive to people's lives. There are casinos and other games on the Internet today that are not worth spending money on, but they can take up so much of a person's time that digital technology may become harmful. So, the third level, in our opinion, is the most difficult point.

The fact is that how consumers will use technology is mainly determined by various sociological factors. For example, in the comprehensive work "A Ralé Brasileira – Quem é e como vive" by a Brazilian researcher Jesse de Souza, it is shown that the transition from the lower to the middle class is an illusion, as this "transition" is only based on the money factor: a lot of people in Brazil started earning as middle class or higher in monetary terms, but people who come from poor (lower than middle) classes, who had never fit into the middle class, continue to not fit into it because their mentality and even that of their children is different.

While a traditional middle class representative thinks: "I will work and everything will be fine", a representative of the "new" middle class lived and continues to livewith the mentality of a poor person, despite the money. Hence, there is no mixing of representatives of the "new" middle class with those who traditionally were and continue to be its representatives. The same applies to their children – they are not confident in themselves, they are not prepared as leaders, they continue to think in the categories of the lower than middle class. In other words, even if people get money, mentally they do not become representatives of the middle class (Souza, 2018).

This approach is also evident in Brazil in the digital environment. Although there are no definitive studies on the topic, some data show that Internet access has increased among the poorest Brazilians, but its impact on people's lives remains uneven across classes. It suggests[44] that Internet use by people below the middle class will not give them a chance to develop. The initiatives at the international community level contain no measures to address this significant problem.

Assumingly, one may outline the contours of this problem in all societies where the gap between rich and poor is historically large. In our opinion, this is related to the initial level of upbringing and subsequent education received by people.

Obviously, well-grounded are the words "Give a man a fish, you feed him once. Teach him to catch fish, and he will be fed all his life", attributed either to Laozi, or to Confucius, or considered as mentioned in the ancient Chinese philosophical treatise 'Huainanzi' created during the early Han times[45].

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[44] O portal Brasil61.com conversou com o ex-coordenador do Comitê Gestor da Internet no Brasil, Márcio Migon. Reportagem: Felipe Moura. 21 de Fevereiro de 2022, 22:35h, Atualizado em: 23 de Fevereiro de 2022, 22:46h. https://clck.ru/3EYqj5

[45] "Give a man a fish, you feed him once..." (June 10, 2020). https://clck.ru/3EYqkP; Today, let us consider a proverb that goes deep into Chinese history (January 10, 2023). VKontakte. https://clck.ru/3EYqn5, etc.

This problem was solved in the Soviet Union during the campaign to eliminate illiteracy – mass literacy training of adults and adolescents from 1919 to the early 1940s. That was the most large-scale social and educational project not only in the history of Russia, but also in Europe. It required hard work to create an extensive network of secondary schools, workers' faculties, technical schools and universities (Trubilin & Zolotukhina, 2022). Well-known is the poster "Knowledge will break the chains of slavery" by A. Radakov (1920, Petrograd)[46].

Also, when a person has a dream, it becomes a driving force for development. Take, for example, the so-called American dream, partly reflected in the movie "The Pursuit of Happyness" (2006, USA)[47], or the famous J. London's "Martin Eden". In the Indian epic "Mahabharata"[48], the irresistible urge of Karna, the son of Princess Kunti and the Sun God Surya, who was brought up in the family of a charioteer, made him an archer and a great warrior.

At the same time, the above ideas and their embodiments developed in the depths of the knowledge economy (Rodríguez et al., 2021). That is an economic system in which the production of goods and services is based mainly on knowledge-intensive activities that foster technical and scientific innovation, and in which a key element of value depends on human capital and intellectual property as a source of innovative ideas, information and practices. There is now a shift from a knowledge economy to a data economy[49], an inherently networked and customizable digital ecosystem. In it, data are collected by various actors, including the state, search engines, social networks, online and conventional stores, payment systems, software as a service (SaaS) providers and other companies using connected devices in the Internet of Things (IoT) (Ershova et al., 2024). The data are systematized and exchanged through a network of individuals (companies) and institutions to create digital value. Storage and protection of collected data, including personal data, is a significant part and a priority of such an economy.

2.4. Data inequality: the new challenge of the data economy and the use of personal data

Under these conditions, new problems of inequality are emerging, which traditionally are not covered by the concept of digital inequality. One of them is data inequality (Cinnamon, 2019). Personal data is often referred to as the new oil, since the modern economy is largely dependent on data, especially big data. On the one hand, all users with

46 Museum of Moscow. Exhibits. https://clck.ru/3EYqny

47 The Pursuit of Happyness, 2006, USA. https://clck.ru/3EYqpE

48 "Mahabharata" serial, 2013, India. https://clck.ru/3EYqqA

49 European Commission. (May 9, 2021). Results of the European Data Market study 2021–2023. https://clck.ru/3EYqru

Internet access produce such data; on the other hand, very few of them have the ability to process and capitalize on them.

For example, within the experimental legal regime established by the Federal Law of April 24, 2020 No. 123-FZ "On conducting an experiment to establish special regulation to create the necessary conditions for the development and implementation of artificial intelligence technologies in the subject of the Russian Federation – the city of federal significance Moscow and on amendments to Articles 6 and 10 of the Federal Law 'On personal data'"[50], anonymized personal data can be processed without the consent of the personal data subject – the citizen identified. This is claimed to be done in order to improve the efficiency of state or municipal administration, but it is unclear what is meant by improving such efficiency.

Analysts believe[51] that such data will be processed by the experiment participants based on an agreement with the authorized body (determined by the Moscow City Government). The said agreement will contain requirements for procedures for depersonalization of personal data received by the experiment participant and/or state and local authorities in compliance with the provisions of Roskomnadzor Order No. 996 of September 5, 2013 "On Approval of Requirements and Methods for Personal Data Depersonalization"[52] (Order No. 996). These processing techniques will also apply to data on health status (information on the presence or absence of disability, medical diagnosis, etc.). Previously the Federal Law of July 27, 2006 No. 152-FZ "On Personal Data"[53] did not contain provisions that the relevant information can be processed in an anonymized form without the consent of the personal data subject.

Questions are raised[54] that, with rare exceptions, data cannot be anonymized completely and the risk of back identification remains. For example, this is explicitly mentioned in paragraph 5 of Order No. 996, according to which anonymized data must have the characteristic of reversibility (prohibited in Brazil, for example). The latter is the possibility of transformation, reverse anonymization (de-anonymization). It allows bringing anonymized data to the original form, revealing the belonging of personal data to a particular subject, thus eliminating anonymity. The anonymization requirement may

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50 On personal data. No. 152-FZ of July 27, 2006 (July 31, 2006). Collection of the legislation of the Russian Federation. No. 31 (Part I), Art. 3451.

51 Zaytsev, A., Mingazova, L. (June 10, 2020). #DigitalLaw. Review of the Federal Law on conducting an experiment in Moscow to create the necessary conditions for the development and implementation of artificial intelligence technologies. Part 1. Business Solutions and Technologies. Zakon.ru. https://clck.ru/3EYquM

52 Order on Approving the Requirements and Methods for Personal Data Depersonalization. (September 17, 2013). Rossiyskaya gazeta, 208.

53 On personal data. No. 152-FZ of 27.07.2006. (July 31, 2006). Collection of the legislation of the Russian Federation. No. 31 (Part I), Art. 3451.

54 Experiment over Moscow: The law on the introduction of artificial intelligence has come into force. (July 1, 2020). NK – Lawyers' stories! https://clck.ru/3EYqvR; (Cinnamon, 2019).

be new to many companies, so it is questionable how it will be implemented. If data is so valuable, why only large or select companies may have access and the ability to interpret it, leading to a sort of "digital proletariat" status for most users?

In Brazil, the situation is somewhat different, but the problems are the same. For example, the rules on informing personal data subjects about the purposes of processing their data are enshrined in the 2018 Act on Personal Data Protection[55], but they are ineffective. According to clause I of Article 6, an operator must process personal data in accordance with lawful, legitimate and predetermined purposes communicated to the personal data subject. According to clause VI of Article 6, the operator must guarantee to the data subject the quality of data in terms of guaranteeing their accuracy, clarity, relevance and topicality in accordance with the necessity that led to their collection and the purpose of their processing. Article 7 establishes the cases in which the processing of personal data is allowed, including the fulfillment of legal obligations or regulatory functions of the supervisory authority (e.g. clause II). According to Article 18, the personal data subject has the right to obtain from the supervisory authority, at any time and upon request, the following information in relation to the processed personal data: I – confirmation of the existence of processing; II – access to data; III – correction of incomplete, inaccurate or outdated data; IV – anonymization, blocking or deletion of unnecessary, excessive data or data processed not in accordance with the provisions of the 2018 Act; V – transfer of data to another service or product provider upon explicit request and in compliance with commercial and industrial secrecy in accordance with the rules applicable to the supervisory authority; VI – deletion of personal data processed with the consent of the controller, except in the case stipulated by Article 16 of the 2018 Act; VII – information on public and private persons with whom the supervisory authority has shared data; VIII – information on the possibility of not giving consent to data processing and the consequences of refusal; IX – withdrawal of consent pursuant to Article 8 § 5 of the 2018 Act.

However, these formulations often do not describe or convey to the data subject the correct representation of the path of their personal data on the data market. Whereas today, if a user does not want to provide their data, they often cannot use services. In addition, data production is uneven worldwide and one of the reasons is that there are about 1.1 billion people in the world without an official identity document; often basic data such as births, deaths, etc. are not captured, creating a mass of information-poor people (Cinnamon, 2019).

How, in such cases, do we even create a metric for development? If development is the goal of international endeavors, how can we measure the results of measures aimed at achieving this goal?

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[55] Lei Geral de Proteção de Dados Pessoais (LGPD) Nº 13.709, de 14 de Agosto de 2018 (Redação dada pela Lei nº 13.853, de 2019 para dispor sobre a proteção de dados pessoais e para criar a Autoridade Nacional de Proteção de Dados; e dá outras providências). https://goo.su/tUZhUwC

It seems that international efforts should focus on 1) creating enforceable rules to ensure that data companies properly inform users of their purposes so that the user knows exactly what will be done with their data, and 2) creating enforceable rules for more flexibility in choosing the purposes of processing personal data (and data in general) and its use on the side of data subjects and other persons.

Conclusions

The above allow concluding as follows.

1. The future of the digital society depends on the joint efforts of the global community to create fair and equitable conditions of access to information resources and technologies. Therefore, access to the Internet and digital technologies should become a basic human right in order to ensure equal opportunities for all segments of society, since the initial crystallization of distinct digital differences is based on existing offline social differences.

2. Developing digital skills and literacy among the population is a crucial task to successfully overcome digital inequalities, along with encouraging the rational use of technologies to achieve all the potential benefits they offer and to ensure that people understand how big data works and how to use their personal data.

3. There is a need to broaden and deepen cooperation between developed and developing countries so that the latter can produce more data to serve as a metric for development and a basis for creating development strategies. At the same time, more transparency should be ensured by providing effective and accessible means so that a data owner can clearly understand who and for what purpose processes their personal data.

4. The transition from a knowledge economy to a data economy requires adapting international cooperation strategies to ensure equitable access to data and to their processing. As a consequence, information from big data processing should be more accessible to researchers and the general public, which will accelerate scientific discoveries and support inclusive economic development, including through policies of transnational access to research infrastructure or joint exploitation of research infrastructure facilities, e.g. in BRICS countries.

5. To achieve all this, all countries should be concerned with the development of the educational system in terms of improving the way in which people acquire thinking skills and develop their worldviews, taking into account the possibilities of utilizing the social and cultural resources of BRICS countries, such as linguistic diversity and educational traditions, to create quality and equitable education, considering open education as a model for the education of the future.

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Authors' contributions

The authors have contributed equally into the concept and methodology elaboration, validation, formal analysis, research, selection of sources, text writing and editing, project guidance and management.

Conflict of interest

The authors declares no conflict of interest.

Financial disclosure

The research had no sponsorship.

Thematic rubrics

OECD: 5.05 / Law
PASJC: 3308 / Law
WoS: OM / Law

Article history

Date of receipt – July 8, 2024
Date of approval – July 22, 2024
Date of acceptance – December 13, 2024
Date of online placement – December 20, 2024

Научная статья
УДК 34:004:341:004.4
EDN: https://elibrary.ru/ocdmla
DOI: https://doi.org/10.21202/jdtl.2024.47

Международное сотрудничество в преодолении цифрового неравенства: правовые основы, барьеры и параметры развития

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Ключевые слова

доступность технологий,
законодательство,
международное право,
международное сотрудничество,
право,
сеть Интернет,
цифровое неравенство,
цифровое пространство,
цифровой разрыв,
цифровые технологии

Аннотация

Цель: на основе системного анализа достигнутого уровня международного сотрудничества в преодолении цифрового неравенства определить параметры его дальнейшего развития с учетом современных правовых и иных барьеров и глобальных вызовов, обусловленных переходом от экономики знаний к экономике данных.

Методы: методологическая основа исследования представлена диалектикой, сравнительно-правовым и историко-правовым подходами, методом системного анализа.

Результаты: проблема цифрового неравенства рассмотрена по следующим ключевым аспектам: доступ к сети Интернет; различия в уровне цифровой грамотности; особенности использования технологий и многогранность цифрового неравенства. Отмечается, что доступ к сети Интернет и цифровым технологиям должен стать основным правом человека, чтобы обеспечить равные возможности для всех слоев общества, поскольку изначально кристаллизация отчетливо выраженных цифровых различий основывается на существующих офлайн социальных различиях. Установлено, что для успешного преодоления цифрового неравенства наряду со стимулированием рационального

✉ Контактное лицо

использования технологий и обеспечением понимания людьми работы с ними и получаемых посредством них данных развитие цифровых навыков и грамотности среди населения является важнейшей глобальной задачей в решении вопроса преодоления цифрового неравенства. Предлагается расширить и углубить сотрудничество развитых стран с менее развитыми, чтобы последние могли производить больше данных, которые будут служить метрикой и основой для создания стратегий развития; при этом следует обеспечить большую прозрачность, предоставляя эффективные и доступные средства, чтобы владелец данных мог ясно понять, кем и с какой целью обрабатывались его персональные данные. Утверждается, что переход от экономики знаний к экономике данных требует адаптации стратегий международного сотрудничества для обеспечения справедливого доступа к данным и их обработки, что позволит ускорить научные открытия и поддержать инклюзивное экономическое развитие. Проанализированы вопросы фрагментации и дефрагментации международного права.

Научная новизна: обусловлена отсутствием в настоящее время результатов научного анализа достигнутого на сегодня уровня международного сотрудничества в преодолении цифрового неравенства с позиции параметров его системного развития и основных (юридических и иных) барьеров.

Практическая значимость: результаты исследования могут найти применение при совершенствовании правовой основы и стратегий международного сотрудничества в преодолении цифрового неравенства для обеспечения справедливого доступа к данным и их обработки.

Для цитирования

Беликова, К. М., Диас Мартинс Р., Казанба, Е. Т. (2024). Международное сотрудничество в преодолении цифрового неравенства: правовые основы, барьеры и параметры развития. *Journal of Digital Technologies and Law*, *2*(4), 1003–1030. https://doi.org/10.21202/jdtl.2024.47

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Конфликт интересов

Авторы сообщают об отсутствии конфликта интересов.

Финансирование

Исследование не имело спонсорской поддержки.

Тематические рубрики

Рубрика OECD: 5.05 / Law
Рубрика ASJC: 3308 / Law
Рубрика WoS: OM / Law
Рубрика ГРНТИ: 10.87 / Международное право
Специальность ВАК: 5.1.5 / Международно-правовые науки

История статьи

Дата поступления – 8 июля 2024 г.
Дата одобрения после рецензирования – 22 июля 2024 г.
Дата принятия к опубликованию – 13 декабря 2024 г.
Дата онлайн-размещения – 20 декабря 2024 г.