

The concept of digital human rights: The search for new justification approaches from a comparative perspective

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Abstract. The relevance of the study lied in the need to adapt the legal framework to the challenges of the digital era by defining the principles of responsible digital development and ensuring equal access to digital opportunities. The purpose of the article was a compare of the conceptions and classification of digital human rights, in particular, to determine the criteria for their classification, to analyse the right to internet access as a key digital right and to study the best practices of different countries (Canada, Estonia, Lithuania and Ukraine). The study used comparative analysis, legal analysis, documentary analysis, content analysis, descriptive method and system analysis to examine the concept and classification of digital human rights, their practical implementation and impact on the realisation of other fundamental rights. Unclear criteria for classifying digital rights as fundamental make it difficult to develop international legal norms for a secure and democratic digital future. The study emphasised the importance of internet access as a key right that facilitates the realisation of other digital rights and reduces digital inequality. An analysis of the practices of countries with developed infrastructure and legislation showed that effective digital transformation reduces access-related discrimination and restrictions on rights in the offline environment. The practical significance lies in the formulation of recommendations for improving the legal regulation of digital rights and ensuring universal access to the internet as a key tool for social equality and development

Keywords: human rights; digitalisation; digital human rights; the right to internet access

Introduction

The explosion of information and communication technologies has woven gadgets, computers, and algorithms into the fabric of daily lives. This digital revolution necessitates a deeper understanding of its impact on humanity and rights. Societies are increasingly reliant on digital tools and infrastructure. From online banking to digital services, the digital realm permeates daily interactions. Global trends point towards a future dominated by even wider use of technology, artificial intelligence (AI), and a booming digital economy.

Digitalisation goes beyond gadgets and algorithms. It's a cultural transformation that reshapes how people work, connect, and fulfil their needs. While it offers undeniable benefits, challenges loom. Automation and robotics could disrupt the labour market, leading to unemployment and income inequality. The "digital divide" may widen due to unequal access, trust, and skills. Security threats, privacy

violations, social exclusion, and even ethical concerns around controlling AI are potential pitfalls (Chukaieva & Matulienė, 2023). Furthermore, advanced technology might coexist with low living standards in some regions, and the boundaries between the real and virtual worlds could blur. Finally, legal frameworks may struggle to protect rights in the digital space. To address the challenges of automation, inequality, and a widening digital divide, robust legal frameworks are essential. International and national laws must establish principles for responsible digital development, prioritising both the spread of beneficial technologies and the protection of human rights in the digital space. These trends mark a shift from the information age to a digital, and potentially post-digital, future.

A study by A. Maineri *et al.* (2021) showed that the level of digital rights protection in the area of e-privacy varies

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significantly between European countries. In countries with developed legal mechanisms, such as Germany and France, there are clear legal provisions that ensure a high level of protection of students' and teachers' personal data, including clear consent mechanisms and restrictions on the use of learning platforms by third parties. At the same time, in Lithuania, Latvia, Estonia and Ukraine, regulations on digital rights are less detailed, leading to potential risks of data leakage, non-transparent conditions for the use of information, and unequal access to a secure digital environment. The study also found that the lack of a unified approach to e-privacy creates conditions for inequality in users' awareness of their digital rights, and limits the ability to protect privacy in distance learning. This also affects the level of trust in online platforms, as countries with lower levels of regulation are more likely to have cases of unauthorised use of personal data and lack of transparent control mechanisms by educational institutions.

The purpose of the study by S. Kemp (2023) was to analyse the current state of global Internet use and assess the level of digital inequality between different regions of the world. The author emphasised the role of the Internet as a key resource for access to information, education, and vital services, as well as identifying the main barriers to equal access to digital technologies. The study was aimed at drawing the attention of the international community to the need to bridge the digital divide in order to ensure equal access to digital rights for all segments of the population. The study showed that the number of Internet users in the world has reached 5.16 billion people, which is 64.4% of the world's population. Despite the growing digitalisation, a significant part of the population, especially in less developed regions, remains without access to the Internet, which increases socio-economic inequality. The author emphasised that addressing digital inequality requires joint efforts by governments, international organisations and the private sector to remove technical, economic and social barriers to universal access to the Internet.

The study by L. Pangrazio and J. Sefton-Green (2021) aims to analyse the relationship between digital rights, digital citizenship, and digital literacy. The authors found out how these concepts intersect and what differences exist between them in the educational and social context. It was found that digital rights are legal and ethical in nature, ensuring data protection and privacy, while digital literacy focuses on practical skills in using technology. Digital citizenship, in turn, is associated with the active participation of users in the digital society. The authors emphasised the need to raise citizens' awareness of their digital rights through educational initiatives and policy strategies to ensure equal access to digital resources.

The aim of the study was to analyse the concept and classification of digital human rights using a comparative approach. It highlighted the importance of defining the criteria for classifying human rights in the digital sphere, analysed the right to Internet access as a core digital human right, and examined best practices from various countries, including Canada, Estonia, Lithuania, and Ukraine.

Materials and methods

The research methodology was based on a comprehensive interdisciplinary approach that provides a comprehensive

analysis of the concept and classification of digital human rights. In order to achieve this goal, a number of scientific methods were used to study both theoretical and practical aspects of this issue. Comparative analysis was used to study approaches to the regulation of digital rights in legislation of the different countries, including Canada, Estonia, Lithuania, and Ukraine. This method helped to identify commonalities and differences in legal systems and approaches to digital rights enforcement. This approach allowed to see how each of these countries integrates the right to Internet access as a key component of digital rights.

Legal analysis played a central role in the study of court precedents such as Judgment of the Court (Grand Chamber) in Joined Cases Nos. C-293/12 and C-594/12 "Digital Rights Ireland Ltd v Minister for Communications, Marine and Natural Resources and Others and Kärntner Landesregierung and Others" (2014) and Judgment of the European Court of Human Rights in Case No. 3111/10 "Ahmet Yildirim v. Turkey" (2012). This method allowed to assess the impact of court decisions on the development of the concept of digital rights, including the right to access the Internet, the right to data protection, and the right to be forgotten. Documentary analysis was used to study international and national regulations, such as the European Declaration on Digital Rights and Principles (2022), the General Data Protection Regulation (Regulation of the..., 2016), as well as relevant legal documents of individual countries, including the Telecom Regulatory Policy CRTC 2016-496 (2016) from Canada, the Public Information Act of Estonia (2000) from Estonia, Law of Republic of Lithuania No. I-1418 "On the Provision of Information to the Public" (1996) and the European Electronic Communications Code (2018). Additionally, national regulations such as Decree of the President of Ukraine No. 928/2000 "On Measures to Develop the National Component of the Global Information Network Internet and Ensure Wide Access to this Network in Ukraine" (2000) and Law of Ukraine No. 1089-IX "On Electronic Communications" (2020) were examined. This method allowed to collect, systematize, and critically evaluate legal sources to form the theoretical basis of the study.

Terminological approach was useful for identifying key concepts, classification criteria, and approaches to digital rights regulation. The analysis of literature, court decisions, and official documents allowed to identify the main trends in the field of digital rights and formulate reasonable conclusions. The descriptive method made it possible to describe in detail the legal and technological aspects of digital rights, as well as to illustrate their practical implementation using examples from different countries. This approach was important for presenting complex concepts in an accessible and understandable manner.

The systemic analysis made it possible to assess the impact of digital rights on the realisation of other fundamental human rights, such as the right to education, freedom of expression, access to information, and ensuring equality of opportunities in the digital sphere. This method allowed to consider digital rights as part of a broader legal and social system that ensures the harmonious development of society. As part of the methodological approach, the author systematised information on the classification of digital rights, and identified their fundamental and additional nature.

Results and discussion

The origins of the digital human rights concept and their classification. The understanding of human rights is not static, but rather a concept that grows alongside society and its changing needs. This adaptability reflects the inherent complexity of human experience, leading to a continuous expansion of recognised rights. Since the late 1970s, scholars have identified three main generations of human rights. The first generation focuses on core civil and political liberties, like freedom of speech and assembly. The second generation emphasised economic, social, and cultural rights, such as access to education and healthcare. The third generation encompasses collective rights, like the right to development and peace. Since the 1980s, discussions have emerged about a potential fourth generation of rights. Possible areas for these rights include safeguarding the rights of future generations, protecting genetic heritage, upholding the rights of indigenous peoples, and addressing the challenges presented by technological advancements. It's important to note that the concept of generations is not a linear progression. Each generation builds upon the previous one, with earlier rights remaining relevant even as new ones are recognised (Risse, 2021).

The digital revolution demands a reevaluation of human rights. As societies become increasingly reliant on technology, the need to enshrine “digital human rights” at both international and national levels becomes critical. A clear understanding of these rights – their classification within the existing human rights framework and their specific content – is essential. The concept of “digital rights” emerged unevenly across different countries, focusing on various aspects of human life in the digital age. Recognition of these rights wasn't immediate, but a landmark Judgment of the Court (Grand Chamber) in Joined Cases Nos. C-293/12 and C-594/12 (2014) addressed privacy protection and data retention programs. This case paved the way for the General Data Protection Regulation (Regulation of the..., 2016). Several key digital rights have emerged through court judgments. The right to internet access, for instance, was acknowledged by the “Ahmet Yildirim v. Turkey” (2012). Similarly, the “right to be forgotten” was established in Judgment of the Court (Grand Chamber) in Case No. C-131/12 “Google Spain SL and Google Inc. v Agencia Española de Protección de Datos (AEPD) and Mario Costeja González” (2014).

The explosion of digital rights, the constant evolution of technology, and its impact on existing human rights have ignited a fierce debate. Scholars are divided on how to classify these “digital rights”. M.-J. Gallego-Arrufat *et al.* (2024) sees them as an extension of the Universal Declaration of Human Rights in a digital context. E. Celeste and G. de Gregorio (2023) exemplified this with the right to digital education as a component of the right to quality education in the digital age. Another school of thought emphasised the need to reinterpret existing rights and potentially create new categories specific to the digital realm. D. Murauskas (2024) argues that digitalisation alters existing rights and creates new ones, like the right to Internet access for equal information access. Some scholars delve even deeper, suggesting digital technologies like internet access could become legal foundations for a “homo digitalis” existing in the digital world.

Traditional human rights address individual freedoms (first generation), social equality (second generation), and collective action (third generation). Fourth-generation

digital rights, however, emerge in response to interactions with intelligent, non-human technologies. This new reality presents distinct challenges. The digital revolution has intertwined physical and online worlds. Essential rights, like education, healthcare, and employment, increasingly depend on digital access. Without it, individuals face a significant disadvantage in exercising these very rights.

The right to a fair trial, a cornerstone of democratic societies, faces new challenges with the rise of AI in the judiciary. If AI can accurately predict court outcomes, the need for trials itself becomes questionable. Additionally, access to expensive AI-powered legal tools could create an uneven playing field, jeopardising fairness and equal access to justice. Some even propose AI judges, arguing for their potential objectivity. These advancements raise serious concerns about upholding both procedural and substantive justice in the digital age (Custers, 2022). The rapid rise of technologies like AI and gene editing promises to shape future, but it also presents a double-edged sword. These tools, built by humans with inherent biases, can become opaque and manipulative (“technology depersonalisation”) (Schneier, 2020). Algorithmic bias and software bugs can lead to unfair outcomes, as seen in discriminatory pricing based on user data (Akter *et al.*, 2022). As technology becomes ever more integrated with people's lives, it must address these challenges. It needs to ensure responsible development and equitable use of technology to prevent it from becoming a force of control rather than progress.

A. Shahbaz (2018) critically examines the implications of Order of the President of the People's Republic of China No. 53 “The Cybersecurity Law” (2016) and the integration of advanced surveillance technologies within the country's governance system. The author highlights how these technologies, which prioritize state control and security, have a profound impact on individual freedoms and human rights. Author draws attention to China's strict user identification policies, content filtering, and data storage regulations, all of which significantly increase government control over digital spaces. The use of facial recognition and other surveillance tools, especially in regions like Xinjiang, has sparked international concern regarding human rights violations, with the government justifying these measures as necessary for “public order” or “national security”. Researcher underscores the tension between technological advancement and human rights, particularly the risk of technological systems being used to suppress dissent, monitor citizens, and perpetuate authoritarian control.

The rapid pace of technological innovation far outstrips the development of legal frameworks, leaving human rights protections in a precarious position. Digital spaces remain largely unregulated, with no universally applied rules governing those who design, operate, and profit from these technologies (Maulenov *et al.*, 2024). Even existing standards meant to safeguard human rights online lack effective enforcement mechanisms. This lack of regulation shouldn't come at the expense of fundamental rights. As technology continues to evolve, it will inevitably reshape how individuals exercise these rights. It's critical for governments and individuals alike to reaffirm the enduring importance of human rights, regardless of the evolving methods through which they are practiced.

In recognition of the unique challenges posed by the digital age, the European Union took a significant step

towards establishing digital rights. On January 26, 2022, the EU Commission proposed a European Declaration on Digital Rights and Principles (2022). This declaration, formally adopted by summer 2022, serves as a political roadmap for the EU's approach to digital rights. The Declaration draws on existing principles enshrined in the Charter of Fundamental Rights of the European Union (2000) and bolstered by case law from the Court of Justice of the EU. It builds upon primary and secondary EU law, including key treaties and the Charter, while complementing the European Pillar of Social Rights. Importantly, the Declaration is a non-binding document, meaning it doesn't directly change existing legal rules but sets a clear direction for future policy and legal development.

European Declaration on Digital Rights and Principles (2022) doesn't define "digital human rights", but it does achieve two key things. First, it affirms the EU's commitment to a secure, sustainable digital future that prioritised people and aligns with existing EU values and rights. This legal document itself does not reveal how this principle should be implemented. At the same time, based on the well-known concept of human-centeredness, it can be assumed that the idea of human-oriented approach is to put people at the centre of all actions, processes, and decisions, especially in the field of digital technologies. Key aspects of this approach may include the following practical steps in this direction. Lawmakers should focus on developing and implementing legal norms and standards that promote human-centered approaches in technology development. This includes requirements for privacy protection, data security, and accessibility for all users. It is important to audit and assess the impact of technology on people, especially on different social groups, to identify potential negative consequences. Supervision and control mechanisms should be established to ensure compliance with information security and ethics standards. Research and innovation should be encouraged, with a focus on technologies that meet people's needs and ensure safety and usability. Legal protection for consumers in digital technologies should be strengthened, including rights to information, refusal of automatic decisions, and protection of personal data. Transparency and openness in technology development should be required, including public disclosure of test results and human impact assessments. International exchange of best practices should also be promoted.

Developers also should strictly adhere to the principle of human-centeredness in digital technologies, taking into account the needs, abilities, and preferences of users. This includes creating intuitive interfaces, providing personalisation options, and ensuring accessibility for all users, including those with disabilities. Ethical considerations such as privacy and security of personal data should also be prioritised. Involving users in the development process can help improve the product to better meet their real needs. Second, it establishes a crucial principle: "what is illegal offline is also illegal online". This principle is already reflected in the Digital Services Act (2022), which aims to protect users by preventing the spread of illegal content and safeguarding their fundamental rights online. However, some challenges remain. Applying this principle could potentially restrict online anonymity, and enforcing it might be difficult due to issues finding and prosecuting offenders. The EU's initial efforts to fortify digital rights hold significant promise. The

European Declaration on Digital Rights and Principles (2022) establishes ethical guardrails for digital development, emphasised key rights in the online world, and lays the groundwork for clear and transparent limitations on digital rights, ensuring an inclusive regulatory process. A unified approach to digital human rights can ultimately prevent conflicts arising from applying existing rights to the complexities of the digital age.

Carving out a distinct category for digital rights offers clarity, but also raises concerns. A separate protection system could be overly complex and lead to enforcement conflicts with existing human rights frameworks. Additionally, some fear it could restrict tech companies' freedom or be misused by governments for online control. Despite these challenges, researchers argue for the need to protect these "conditional digital rights" even without a formal international act. A major hurdle in the "digital rights" field is the lack of established classification criteria. This hinders effective legal regulation and a robust legal framework. The recently adopted European Declaration on Digital Rights and Principles (2022), while outlining key rights like data protection and freedom of expression, doesn't provide specific criteria for classifying digital rights. However, it does highlight "most important rights in the digital context", such as non-discrimination and access to the Internet. These fundamental rights then serve as a foundation for addressing other digital rights. For instance, the principle of non-discrimination is applied to ensure everyone has access to high-quality internet and digital literacy training. Similarly, freedom of expression extends to protecting all fundamental rights online. The Declaration also emphasised cybersecurity and individual control over data, underscoring the importance of data privacy.

B. Custers (2022) proposed rights aim to address the growing concerns over digital overload and the permanent digital footprints left by online activities. The "right to disconnect" suggests that individuals should have the right to disengage from digital communication outside of working hours, promoting work-life balance and mental well-being. The study advocates for the erasure of past digital data, enabling individuals to have more control over their digital identities. However, authors' proposals face criticism for lacking a clear justification for their classification as digital rights. While these concepts resonate with contemporary concerns about digital life, the academic and legal communities are still debating whether these ideas should be formally recognised as rights and whether they fit into existing frameworks of human rights. B. Custers' (2022) work contributes to the growing discourse on digital rights by suggesting rights that reflect the evolving nature of digital technologies, but their implementation remains uncertain due to the lack of a universally accepted legal basis.

M. Gallego-Arrufat *et al.* (2024) focused on defining digital rights as those that enable individuals to access and participate in the digital sphere. This broad definition emphasised the role of digital rights in facilitating inclusion and participation in the digital world, particularly regarding access to essential online services, information, and communication platforms. Authors argue that digital rights are fundamental for ensuring equality in a digital age, where exclusion from the internet can lead to marginalisation and a lack of opportunities. This definition aligns digital rights with traditional human rights, stressing their role

in upholding individual freedoms in the digital environment. While this perspective is widely accepted, researchers' approach also raises questions about the boundaries of digital rights and their integration into existing human rights frameworks.

There are two main approaches to defining digital rights. The first takes a narrow view, focusing on a specific set of rights crucial for using digital tools effectively. These "core digital rights" typically include: the right to internet access, the right to be forgotten (data erasure), the right to personal data protection, the right to cybersecurity (Shahbaz, 2018). The concept of digital rights is multifaceted. One approach focuses on core rights essential for using digital tools, like internet access and data privacy. The broader view acknowledges that the list can evolve with technology and societal changes. This includes fundamental rights exercised online, like free speech, and additional "supplementary" rights that enhance digital experience, like the right to digital education or to disconnect from work. Both approaches are valid. Essentially, digital rights encompass both: unique rights (those that wouldn't exist without digital technologies, like internet access) and extended rights (fundamental rights like free speech that apply equally online and require protection in the digital space) (Gallego-Arrufat *et al.*, 2024).

Ultimately, digital rights define the boundaries of acceptable online behaviour, needs and the opportunities users have to engage with technology. Digital technologies play a crucial role in meeting a wide range of human needs by providing tools for convenience, efficiency, and enhancing quality of life (Nurbatyrova *et al.*, 2024). These needs encompass communication and connectivity, education and training, work and productivity, access to information, health and care, financial services, and entertainment and leisure. Digital technologies enable easy and quick communication through emails, social media, and instant messaging, as well as facilitate education and training through e-courses, video tutorials, and online learning platforms (Murauskas, 2024). They also support work and productivity by enabling distance (online) work and providing online tools for project management and collaboration. Additionally, digital technologies offer access to a vast amount of information on various topics, satisfying the need for knowledge and self-learning. In the realm of health and care, technologies such as telemedicine, medical applications, and health trackers help monitor health and provide medical advice. Furthermore, digital technologies improve access to financial services and financial management through Internet banking, electronic payment systems, and cryptocurrencies. Lastly, they contribute to entertainment and leisure through games, streaming platforms, and digital media (Akter *et al.*, 2022). The implementation of digital human rights, in line with the human-centered approach, is crucial for ensuring that digital technologies meet the needs and interests of every individual without infringing on their fundamental rights and freedoms. This is essential for establishing a just and inclusive digital space where everyone can thrive and reach their full potential.

The right to the Internet access as the core digital human right. In modern world digital human rights and human needs are closely linked as digital technologies play a direct role in how users meet and safeguard basic human needs in the digital realm. Overall, essential modern

human needs are met through digital rights such as: the right to access technology and digital inclusion. This includes the right to access the Internet and digital technologies, which is increasingly crucial for ensuring equal opportunities in education, employment, healthcare, and other areas. This affirms the right of all individuals to utilize modern technologies and engage in the digital community; the right to privacy and protection of personal data, which asserts that individuals should have authority over their data and guarantee its security for their own protection. This is crucial for ensuring personal safety and liberty; the right to freedom from discrimination, which implies that digital technologies can be utilised to diminish discrimination or, conversely, to perpetuate it. It is crucial that technologies are developed and utilised in alignment with the principles of equality and justice, safeguarding the equal rights and opportunities of all individuals. This includes ensuring cybersecurity, protecting users from cyberattacks and promoting the ethical development of AI and automation technologies. Additionally, it is essential to uphold the right to freedom of expression and information, as digital technologies enable access to a variety of information sources and facilitate the open exchange of ideas (Golovko *et al.*, 2023). A similar approach is illustrated by the European Declaration on Digital Rights and Principles (2022), which outlines several key digital rights: the right to high quality connectivity with access to the Internet for all (including digital infrastructure), i.e., the right to internet access; protection of personal data (including the right to privacy); the right to cybersecurity; and the right to high quality digital education and training (digital skills).

M. Reglitz (2019) emphasised the internet's "unique and fundamental value" in enabling individuals to exercise their socio-economic human rights. The research underscores how essential the internet is in modern society, as it facilitates access to vital services such as education, healthcare, and employment opportunities. M. Reglitz (2019) highlights the role of the internet in bridging socio-economic disparities, particularly between the wealthy and the underprivileged. According to his study, without internet access, individuals are at a significant disadvantage in fully participating in economic, social, and political life. M. Reglitz advocates for a broader recognition of the internet as a tool for exercising human rights, underlining its importance not just as a platform for communication but as a fundamental enabler of equality and opportunity. His research calls for greater attention to the digital divide and the need for policies that ensure universal access to this critical resource.

The authors K. Karppinen and O. Puukko (2020) sought to analyse the main discourses of digital rights and explore how they influence policy in the digital environment. The study focuses on how different interpretations of digital rights are used in policy processes and Internet regulation. The study identifies four key approaches to digital rights: as freedom from interference, as a mechanism of state regulation, as a tool for democratic participation, and as a means of achieving social justice. It is found that digital rights are often subject to political manipulation, and the lack of a unified approach at the international level creates challenges for their effective implementation.

European Declaration on Digital Rights and Principles (2022), for example, promotes affordable and high-speed internet access for all EU citizens, regardless of

location or income. Notably, the EU prioritised a neutral and open internet, where content, services, and applications are not unreasonably restricted. The right to internet access has two key aspects: accessibility and affordability. Accessibility encompasses two interconnected elements: the ability to access and share information online and the physical infrastructure, like cables and towers, that enables this access. Affordability is being defined as the availability of broadband access at a price that is less than two per cent of the monthly gross national income per capita (GNIPC). Affordability remains a major barrier, particularly in low- and lower-middle-income economies where mobile broadband access is especially expensive (Volodovska, 2019; Is there a right..., 2023).

Law of the Republic of Lithuania No. I-1418 “On the Provision of Information to the Public” (1996) in the context of digital rights indicates its important role in ensuring access to public information in the digital age. The law defines the basic principles of providing information to citizens, which is important for the development of transparency and accountability of public authorities, especially in the digital environment. It guarantees the right of citizens to access information in electronic format, which is an important aspect of digital rights, in particular in the context of access to state and public data via the Internet. Due to the proliferation of technologies and online platforms, this law supports the development of e-democracy and the human right to free access to information, which is important for the realisation of digital rights such as freedom of expression and access to digital resources. The law also provides for information protection mechanisms, which adds an additional layer of privacy protection in the digital environment, given the new challenges posed by the use of modern technologies.

A secure and free internet hinges on two essential rights: access and cybersecurity. The right to cybersecurity protects users from online threats like cyberattacks, fraud, harassment, hate speech, and discrimination (Metelskyi & Kravchuk, 2023). However, these safeguards shouldn't infringe on other fundamental rights, such as privacy. Data privacy is crucial for a healthy online environment. Processing personal data must be lawful, transparent, and obtain user consent. Users have the right to understand how their data is collected, used, and shared. The rise of cloud computing and data storage makes data protection even more critical. Personal data, considered the “currency” of the 21st century, faces new risks. Aggressive tactics offering goods or services in exchange for user data threaten privacy (Palko *et al.*, 2023). To navigate this digital landscape safely, fostering digital literacy is essential. Equipping people with the knowledge and skills to use technology empowers them to interact confidently online.

The concept of internet access as a fundamental right faces varying interpretations across countries. Some view it as an independent right, while others see it as a tool enabling the exercise of existing rights. Despite this lack of consensus, the international community emphasised universal access through the concept of “universal service”. Several progressive countries are leading the way by enshrining the right to internet access in their legal frameworks. These include highly developed Canada, Estonia, Lithuania and Ukraine as a country that is actively developing in this direction and introducing unique digital products and services. Canada stands out as a global leader in recognising

internet access as a fundamental right for all citizens. In 2016, the Canadian Radio-television and Telecommunications Commission (CRTC) declared fixed and mobile broadband internet access as basic telecommunication services (Telecom Regulatory Policy..., 2016). This landmark decision aims to ensure affordable broadband access for Canadians in urban, rural, and remote areas. The CRTC recognised the critical role of broadband in Canadians' ability to access essential services and participate in the modern digital economy. They further emphasised the importance of ultra-high-speed internet for future economic prosperity. To achieve these goals, the CRTC established the High-Speed Internet Funding Programs (2023) and a USD 3,225 billion Universal Broadband Fund to support high-speed internet projects in underserved communities. Additionally, in 2019, the government prioritised universal internet access as the first principle in its draft digital communications framework (Innovation, Science and Economic Development Canada, 2019). While Canada enjoys relatively stable internet penetration rates across both fixed and mobile networks, there are challenges. A digital divide persists, with affordability being a particular concern for low-income populations and geographically remote areas. Mobile broadband data also remains more expensive compared to fixed-line options, according to data from the International Telecommunication Union (n.d.).

Estonia stands as a prime example of how technology can be leveraged to uphold human rights. As a pioneer in developing a state-level information system, Estonia created the comprehensive “e-Estonia” society. This innovative system empowers citizens by making the exercise of civil rights easier through online access. Notably, the Public Information Act of Estonia (2000) explicitly guarantees the right to internet access by allowing anyone to access public information online (Section 33). Many media sources even report that Estonian law recognised internet access as a fundamental human right. Another key factor is the European Electronic Communications Code (2018). The European Electronic Communications Code emphasised affordable broadband internet access as a core universal service. This obligates EU member states, including Estonia, to ensure all citizens have access to affordable broadband and voice communication services at fixed locations. Estonia's success in this area is evident. There are currently no significant infrastructure limitations on internet access. Statistics Estonia reports that a staggering 93.2% of households had an internet connection in 2023.

The EU's Digital Economy and Society Index further highlights Estonia's leadership: fixed broadband connections exceed the EU average at 83% household penetration, and mobile broadband penetration aligns with the EU average at 87% (Information and Communication..., 2023). This widespread access translates to minimal digital divide within the country. Digital Economy and Society Index also recognised Estonia for boasting one of the highest proportions of e-government users in Europe (89%) and exceptional digital public services scoring 92 out of 100. Furthermore, the International Telecommunication Union (n.d.) reports that Estonia offers relatively affordable internet access, with fixed broadband subscriptions costing 0.72% of GNIPC and 2GB of mobile data costing 0.18% of GNIPC.

Lithuania stands out within the EU for its high internet access rates. Roughly 60% of households are connected

to the global network, and widespread availability of free Wi-Fi makes it even easier to get online. Lithuania is among nine EU countries, including Croatia, Cyprus, Greece, Finland, Hungary, Iceland, Slovenia, and Spain, that require service providers to ensure universal service, which includes adequate broadband internet access at the local or national level (BEREC Report on..., 2023). This ensures citizens have reliable internet options throughout the country. The International Telecommunication Union reports that Lithuania offers internet access at a relatively affordable price. A 5 GB fixed broadband connection costs 0.84% of GNIpc, while a 2GB mobile broadband connection costs 0.20% of GNIpc.

Lithuania is one of the countries where availability and affordability measures are currently in place. Lithuania's peculiarity is that it analyses Internet coverage in residential areas. Certain groups of individuals who cannot afford the full price of Internet access receive aid. For instance, the Rules of Provision of Universal Services (Point 1) define beneficiary end-user categories as follows:

- indigent residents entitled to or receiving monetary social support under the Law of the Republic of Lithuania on Monetary Social Support for Indigent Residents;
- recipients of social services receiving social services in accordance with the Law of the Republic of Lithuania on Social Services. Also, Lithuania is one of EU countries that have imposed obligations on service providers to ensure universal service, including adequate broadband Internet Authentication Service, at a local or national level. The majority of countries have not imposed obligations or do not plan to do so.

Ukraine has also established the right to broadband communication in its legal framework. A key example is the Decree of the President of Ukraine No. 928/2000 (2000). This decree prioritised internet access for citizens and businesses, recognising its role in information access, democratic development, and economic growth. Further solidifying this right, the Law of Ukraine No. 1089-IX "On Electronic Communications" (2020) classifies broadband internet as a universal service. This obligates providers to ensure its availability throughout the country. Notably, Ukraine pioneered e-passports with equal legal weight to physical documents and launched innovative digital services like online marriage registration. Before the recent conflict, ambitious plans were in place to provide internet access to all settlements by 2022 and connect 95% of Ukrainians by 2023.

The current status of these goals is uncertain due to displacement, infrastructure damage, and occupied territories. However, legal recognition doesn't guarantee complete access. While the internet penetration rate is high (70.1%), fixed broadband access lags behind (18.62%) compared to mobile broadband (85.3%) (International Telecommunication Union, n.d.). This indicates a reliance on mobile data, with Wi-Fi access primarily limited to public spaces like libraries, schools, and shopping centres. The digital divide between urban and rural areas persists, though it's narrowing. A 2020 study by the Ministry of Digital Transformation revealed 5.75 million Ukrainians lack internet access, with 4.2 million residing in areas without fibre optic providers and 1.55 million facing cost barriers in villages (Results of the..., 2020). Additionally, the cost of fixed broadband can be high, reaching 2.25% of GNI per capita, compared to 1.36% for 2GB of mobile data.

The Internet as a basic digital human right is critically important in the modern world, as digital technologies play a key role in meeting basic human needs. This right is the basis for creating equal opportunities in education, healthcare and employment. Along with the right to access the Internet, special attention should be paid to the protection of personal data, cybersecurity, anti-discrimination and guarantees of freedom of expression. International documents, such as the European Declaration on Digital Rights and Principles (2022), emphasise the need to ensure quality Internet access for all citizens. Successful examples of the implementation of digital rights can be seen in countries such as Canada, Estonia, Lithuania and Ukraine. Also important is the issue of affordable Internet access, especially for low-income groups, and overcoming digital inequality between different socio-economic groups and regions.

Conclusions

The study showed that in order to ensure equal access to digital rights, it is important to integrate economic, social and political aspects, as well as to develop clear criteria for classifying digital rights as fundamental. Technological advances are reshaping human rights, highlighting the need for technology to remain human-centred. Imperfect technologies can lead to risks such as privacy violations, social exclusion, and discrimination, particularly for users with disabilities or limited internet access. Declarations alone are insufficient, and calls for legislative changes and mechanisms to protect personal data. Digital rights have a dual nature: some depend on technology (e.g., internet access), while others are traditional rights adapted to the digital realm (e.g., freedom of expression, privacy).

The study emphasised that it is important to distinguish between digital rights that are technology-dependent and traditional rights that are adapted to the digital environment. Technology-dependent rights, such as the right to access the Internet, are directly dependent on the technical capabilities and infrastructure that exist in specific countries. On the other hand, traditional rights, such as the right to freedom of expression or the right to privacy, take on new forms in the digital environment due to technological developments, but their essence remains unchanged. The key features that distinguish these categories of rights are their dependence on technology and their relative stability or adaptability to new conditions.

There are several main categories of digital rights. These include: the right to access the Internet, which is an important basic right, the right to privacy and protection of personal data, the right to freedom of expression in electronic communications, the right to access information, and the right to access digital resources, including digital education and training. The right to access the Internet is considered a basic digital right, as it is the basis for the realisation of other digital rights. The Internet provides an opportunity to access information, education, healthcare and other important resources, which directly affects social and economic equality. Lack of access to the Internet can lead to social exclusion and limited opportunities for personal development, making this right critical for modern society. The study provides examples of countries with developed infrastructure, such as Canada, Estonia and Lithuania, where effective methods are being implemented to ensure universal access to the Internet. One of the most effective methods is

legislative initiatives, including programs to support high-speed Internet in rural and remote areas, as well as providing access to public Internet resources such as libraries and community centres.

Promising areas for further research include the development of clear criteria for classifying digital rights as fundamental, which would allow for the creation of universal international legal norms to ensure these rights.

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Conflict of interest

None.

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Концепція цифрових прав людини: пошук нових підходів до обґрунтування у порівняльній перспективі

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Анотація. Актуальність дослідження полягає в необхідності адаптації правової бази до викликів цифрової епохи шляхом визначення принципів відповідального цифрового розвитку та забезпечення рівного доступу до цифрових можливостей. Метою статті був порівняльний аналіз концепцій та класифікацій цифрових прав людини, зокрема, визначення критеріїв їх класифікації, аналіз права на доступ до Інтернету як ключового цифрового права та вивчення кращих практик різних країн (Канади, Естонії, Литви та України). У дослідженні використано порівняльний аналіз, правовий аналіз, документальний аналіз, описовий метод та системний аналіз для вивчення концепції та класифікації цифрових прав людини, їхньої практичної реалізації та впливу на реалізацію інших основоположних прав. Нечіткість критеріїв віднесення цифрових прав до фундаментальних ускладнює розробку міжнародних правових норм для безпечного та демократичного цифрового майбутнього. У дослідженні підкреслено важливість доступу до Інтернету як ключового права, що сприяє реалізації інших цифрових прав і зменшує цифрову нерівність. Аналіз практики країн з розвинутою інфраструктурою та законодавством показав, що ефективна цифрова трансформація зменшує дискримінацію, пов'язану з доступом, та обмеження прав в офлайн-середовищі. Практичне значення дослідження полягає у формулюванні рекомендацій щодо вдосконалення правового регулювання цифрових прав та забезпечення загального доступу до Інтернету як ключового інструменту соціальної рівності та розвитку

Ключові слова: права людини; цифровізація; цифрові права людини; право на доступ до Інтернету