

Human Rights Theory Development: From Natural Law to Constitutional Reflection Within Digital Transformation Context

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Abstract: The digital revolution transforms how human rights get protected by law yet produces both positive chances and serious digital issues for privacy protection and free speech. This study's importance stems from our need to adjust legal standards for both national and international zones to digital environments plus hunt for workable digital rights defense systems. The study investigates how digitalization affects our basic human rights on paper and looks at what role national governments and world organizations play in this evolution. The research methods include legal analysis to understand the digital technology effects, a comparison approach, and the whole system view to evaluate how digital technology links with legal standards and societal issues. Digitalization makes justice easier to access while making information more open to the public yet poses serious dangers when government controls too many people and algorithms discriminate people while eliminating their privacy rights. Digital dangers exceed the speed at which national laws adapt so authorized standards should unite across countries and firms need stronger oversight. Studies of international documents support the requirement to establish common digital rights rules across nations because of GDPR [1], the Universal Declaration of Digital Rights [2] and the Budapest Convention [3]. This study produces suggestions to boost digital rights ruling mechanisms which help create better digital policies worldwide.

Keywords: digital human rights, digitalization, international law, constitutional enshrining, personal data protection, cybersecurity, digital divide, artificial intelligence in law.

Introduction

The rapid digital technological growth affects every area of human rights including access but also creates problems for maintaining these rights. Digital technologies transform both basic rights like privacy and information access and create new rights relationships for the online world. Modern rapid digital technology developments create problems for term protection because laws do not always adapt to these advancements [4]. Modern scientific literature conducts extensive research on digital human rights matters. O'Brien [5] reads the function of world-wide law when making digital norms while Heidemann [6] measures the impact of automated systems on human legal standing and artificial intelligence affairs. Cardona highlights the necessity to adapt constitutional rules to digital times but also notes that too much state power poses a threat in his publications Vallès [7] and Corapi [8]. A large amount of research exists yet experts have not fully explored how digitalization relates to protected human rights in constitutions and worldwide regulations. Several nations need common international digital rights standards before

they can work together at a global scale. Each country takes time to update its laws which creates space for both government and tech firms to abuse digital platform users [9]. Experts need to study more about the rights to free speech versus online protection how data businesses handle information and how to protect systems from digital attacks.

The purpose of this study is to identify the main areas of influence of digitalization on the constitutional enshrining of human rights and mechanisms for their legal protection in the digital age. Our goals will be reached through these required tasks.

1. This research studies how human rights development passed through its main steps to fit into digital environments.
2. We need to study international rights standards related to digital environment and their effects on nation-level laws.
3. Our study seeks to find the greatest digitalization dangers that block human rights fulfillment.
4. We need to study the part these governing bodies play in running online rights rules.
5. We want to suggest effective ways to improve current legal controls of digital human rights.

Our study examines the total effect digitalization has on law enforcement while discovering how best to defend human rights during technical progress.

Literature review

Contemporary research about human rights examines how digital processes help law protect human basic rights. These experts study how natural law and digital changes work with constitutional development [10, 6]. Giang [11] and Sjöholm [12] research the difficulties of defending international human rights and protecting human rights from globalization hurdles. Digital rights and democracy link together within social media platforms where research discussed freedom of expression and digital democracy development [9, 13]. The author emphasizes digital justice and open justice rules specific to the digital age [14, 15]. Digital technology changes how international law should regulate and control artificial intelligence working systems according to Zekos [16, 17] and Cui [18].

Digital protection of personal data is important because everyone has the human right to keep their information safe [4]. In this regard, the study by Afzal [19] emphasizes the need for legal improvement of mechanisms for protecting digital rights and law enforcement. International law now deals with migration and climate change problems besides wearing new dimensions [20]. The examination of constitutional rights under the post-non-classical scientific model created essential knowledge in modern legal thinking. Limits on human rights under international law prove that worldwide individual protection continues to matter for global law enforcement [5, 21]. The studies explore how human dignity rights develop and what establishes them as legal concepts [21, 22].

Cardona Research Vallès [7] highlights the issue of human rights violations in international conflicts and violence related to mining, indicating the need to strengthen legal protection mechanisms. Corapi [8] focuses on the issues of informed consent in digital insurance contracts in Italy, which has implications for expanding the protection of personal data. Di's research Nardo et al. [23] and Fornasiero & Tolio [24] analyze digital transformations in the legal sphere, in particular their impact on legislative regulation and law enforcement. In 2023 Malkmus [25] explains how international law safeguards new minority groups as a key human rights issue in globalized societies. Jogleux [15] employs the principle of open justice to reveal how it strengthens legal system development. In his work of 2024 Shaban [9] covers how digital rights require specific legal systems to balance democratic freedoms and expression. Zekos examines how artificial intelligence influences international law by looking at force of law efforts during automated decision-making operations in 2021 and 2022.

Walters [26] and Busch [27] research how traditional law enforcement agencies deal with digital technology challenges according to their respective publications. Siliquini-Cinelli [28]) and Bloom [29] proved how globalization and technology development impact legal positivism through meaningful research. The focus of recent research mirrors the shift in the human rights theory in the digitalization and the legal evolution. According to Kortukova et al. (2023), constitutional protections are adapted to humanitarian crises in accordance with human rights norms and temporary protection mechanisms correspond to changes in human rights norms. Khatniuk et al. (2023) work with the legalization of AI in the legal services industry, which identifies its basis in dignity, transparency, and accountability, fundamental principles of natural law and modern constitutionalism. By addressing how anti corruption effort intersects with the protection of individual rights, the *Journal of Money Laundering Control* (2022) contributes. These studies together portray the transition from raw natural rights to actual constitutional assemblies, in light of the perils of digital transformation and global turmoil.

Although journalists cover these issues extensively they have not yet solved important remaining problems. No one has thoroughly analyzed how national rules about digital rights should work with international legal standards in this area. There are also no comprehensive solutions for effective law enforcement in cases of human rights violations in the digital environment.

Research methods

This study uses an interdisciplinary approach that combines legal analysis, comparative method and systems approach. Legal analysis allowed to examine key international and national regulatory and legal acts regulating digital human rights. The comparative method was used to compare different theoretical concepts of human rights, as well as to assess the effectiveness of legislative initiatives in different jurisdictions. The systems approach contributed to identifying the relationship between digitalization, legal regulation and social challenges arising in the process of constitutional consolidation of digital rights. In addition, an analysis of scientific publications and international reports was conducted, which allowed to assess current trends and challenges in the regulation of human rights in the digital era.

Results

The human rights concept has evolved over a long period of time, from abstract notions of natural rights to their enshrining in national constitutions and international legal instruments. This evolution can be divided into several key stages:

1. *Natural law: the idea of innate rights.* The first ideas about human rights were formed within the concept of natural law, according to which a person has inalienable rights given to him by nature or God. The earliest philosophers Aristotle and Cicero accepted the presence of laws that override state rules. During medieval times Thomas Aquinas enhanced the concept by viewing natural law as linked with divine arrangement [10].
2. *The Age of Enlightenment and the emergence of the legal concept of human rights.* Human rights took their modern shape during the 17th and 18th centuries. According to John Locke the state needs to uphold natural rights citizens have in life liberty and property [10]. After 1689 and 1776 people began seeing their rights described in official political documents. The French Declaration of the Rights of Man and of the Citizen introduced equality, freedom, and personal protection as main rules of the French state operation in 1789. During this period the basic ideas of positivism in human rights were first created by viewing rights as government-approved laws.
3. *Constitutional Enshrining of Human Rights in the 19th–20th Centuries.* During the rise of constitutionalism human rights got official protection in nationwide laws. Major events in establishing human rights for the nation and world included the French Constitution of 1791 [30] and the Universal Declaration of Human Rights from 1948 [31]. After the UN member countries agreed to it the Universal Declaration became the very first international standard to define human rights [5]. The global development of human rights law took place after World War II through arrangements like the European Convention on Human Rights in 1950 [32] and the International Covenant on Civil and Political Rights in 1966 [33]. The world moved away from basic ideas about human rights and made legal ways to defend these rights.
4. *Digitalization and new challenges in the 21st century.* The current stage of the evolution of human rights is associated with the impact of digital technologies. On the one hand, technologies contribute to the spread of democratic values, openness of information and access to justice [14]. These tools bring computer dangers that threaten personal privacy and freedom to access information also affect security systems [4]. Different digital human rights plans are developing now with the Universal Declaration of Digital Rights starting in 2021 under EU vision [2]. The understanding of human rights evolved over time from natural philosophical ideas to the actual legislation in national and international documents. Our present digital lifestyle needs fresh ways to regulate law so human rights will maintain proper protection during technology advancements.

Digital advancements lead us to new methods of making and preserving human rights beyond our current era. Technological progress contributes to greater openness of information, simplified access to justice and the development of mechanisms for monitoring compliance with rights. However, at the same time, digitalization creates new challenges, in particular regarding data privacy, the digital divide and cybersecurity [4]. We have analyzed the impact of digitalization on human rights protection mechanisms and the main threats that arise in the digital environment. The presented data are systematized in Table 1, which demonstrates the main directions of changes in approaches to human rights in the context of digital transformation.

Table 1. The digitalization impact on human rights

Direction of influence	Positive changes	Negative aspects
Access to information	Increased transparency, rapid data exchange [14]	Disinformation, manipulation of public opinion [9]
Access to justice	Automation of judicial processes, e-government[8]	Lack of digital skills among part of the population [11]
Privacy and data	Strengthening personal data protection [4]	Mass surveillance, data leaks [19]
Freedom of expression	New platforms for civic engagement [13]	Censorship, restrictions on freedom of speech in the digital space [7]
Labor rights	New opportunities for remote work [9]	Instability of digital employment, lack of social protection for freelancers [6]

Source: created by the author based on [4, 6, 7, 8, 9, 11, 13, 14, 19]

Digitalization is radically changing approaches to the implementation of human rights, opening up new opportunities, but also creating serious risks. Access to justice is becoming easier, and the transparency of government decisions is increasing. The protection of personal data plus public Internet access issues along with limits to free speech still block digital progress. Regulations need further development in digital rights to protect both national security and freedom at national and international levels.

Many scholars have studied human rights theories through multiple views in their development process. Human rights theorists usually accept either the natural law approach or the positivist approach. Natural law theory believes rights exist because nature provides them while positivism states rights stem from the laws states approve [10]. Despite the two key approaches the socio-legal and instrumentalist schools now study how societies and international law frameworks develop legal standards [6]. These theories show their main traits and contrasts through this organized table. Table 2 illustrates the key concepts of human rights, their main provisions and impact on modern legal regulation.

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Table 2. Comparison of theoretical approaches to human rights

Theory	Main ideas	Key representatives	Influence on modern law
Natural law	Human rights are inalienable, natural, and independent of the state.	John Locke, Jean-Jacques Rousseau, Hugo Grotius	Foundational documents such as the Declaration of the Rights of Man, 1789 [34] and the Universal Declaration of Human Rights, 1948 [35]. [10].
Positivist	Human rights exist only within the legal system and are recognized by the state.	Jeremy Bentham , Hans Kelsen	Constitutional Enshrining of Rights, International Law [5]
Socio-legal	Human rights are shaped by societal norms and social relations.	Karl Marx, Durkheim	Emphasis on socio-economic rights [13]
Instrumentalist	Human rights are a means to achieve political and economic goals	Richard Posner , Jack Goldsmith	The use of human rights in international politics [7]

Source: created by the author based on [5, 6, 7, 10, 13].

Each of the theories of human rights has its advantages and limitations. The natural law concept remains the basis for international declarations, while the positivist approach determines the practical consolidation of rights in legislation. The socio-legal and instrumentalist views stress human rights change based on social and political economic systems. Modern legal systems now bring together these methods so they better solve new problems created by digitalization global changes and the work of international human rights organizations.

International legal documents help us determine worldwide human rights rules that need every country to bring their domestic laws into line with these standards. During our digital age major human rights documents from 1948 through 1966 continue to develop their purpose by applying to internet security standards [5].

In 2021 the EU approved the Universal Declaration of Digital Rights which protects the basic rights of people during digital interaction. Table 3 shows the main international standards and their effect on how human rights should appear in digital settings according to constitutions.

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Table 3. The impact of international standards on the constitutional enshrining of human rights in the digital age

International document	Main provisions	Impact on national legislation
Universal Declaration of Human Rights, 1948	Recognition of equal rights for all people, regardless of technological context [5]	A basic reference point for all national constitutional norms.
European Convention on Human Rights, 1950	Protection of the right to privacy and freedom of expression [7].	Guarantees the protection of personal data in the countries of the Council of Europe.
International Covenant on Civil and Political Rights, 1966	Enshrines the right to privacy and prohibits unlawful interference with it [4].	A fundamental document for international digital law.
Universal Declaration of Digital Rights, 2021, EU	Defines fundamental digital rights: internet access, cybersecurity, privacy[9].	Implementation of national digital strategies.
Council of Europe Convention 108+, 2018	An updated standard for protecting personal data in the digital age [8].	The requirement to adapt legislation to new cybersecurity standards .

The source was created by the author based on [4, 5, 7, 8, 9].

The international community uses its standards to help nations adopt digital human rights through their constitutions. States use global standards to create their basic laws and constitutions. In 2021 EU launched their first initiative to develop a complete digital legal framework that countries worldwide may replicate as a template. The future of international law will have to act upon new challenges such as artificial intelligence, the big data and the digital inequality, in order to effectively protect the human rights in the digital age.

Since, digitalization has impacted human rights positively in that it has opened the door to information, access to justice and political participation. However, by the same token it poses massive challenges and threats that has to and can be regulated appropriately. The main risks include violation of the right to privacy, digital divide, speaking against freedom of expression, cyber crimes and discrimination in the digital environment [4]. Table 4 presents the main threats to human rights obtained from the digitalization, its consequences and possible countermeasures.

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Table 4. Main problems and challenges of digitalization in the field of human rights

Threat	Problem description	Consequences	Possible countermeasures
Violation of the right to privacy	Uncontrolled collection and analysis of personal data by large corporations and states [8].	Data leaks, mass surveillance, commercialization of personal information	Creating effective data protection laws [1].
Digital divide	Unequal access to digital technologies due to economic or geographical factors[9].	Increasing social inequality, exclusion of certain population groups	Infrastructure development, state digital inclusion programs.
Threat to freedom of expression	Control and censorship of information on the Internet, manipulation of public opinion [7].	Self-censorship , a threat to democratic processes	Protecting freedom of speech in the digital space at the international level.
Cybercrime	Phishing , hacking , financial fraud, and interference with government systems [19].	Loss of financial resources, undermining trust in digital platforms	Development of international mechanisms to combat cybercrime.
Algorithmic discrimination	Using artificial intelligence that reproduces bias in decision-making [6].	Unfair access to services, discrimination based on race, gender or social status	Introducing ethical standards into algorithm development and AI regulation.

Source: created by the author based on [4, 6, 7, 8, 9, 19].

Today the issue of digitalization has greatly changed the legal environment, and it brings a lot of questions, problems and challenges for society when it comes to securing privacy, freedom of expression and equal opportunities in life. In order to avoid the negative consequences of the digitalization, there should be enhanced enforcement of the international standard in the field of human rights protection, introduction of new regulations, and accessibility to digital sources for all. Future research should aim at providing balancing mechanisms between technological progress and human fundamental rights and freedoms.

In the area of digitalization of public services, the state and the international organizations have an important role in the protection of human rights. Digital rights are protected by national governments, which produce regulations and mechanisms, as well as by international institution, which provide works to standardize efforts on a global level [4]. Strongly depending on such a combination of the national regulation (personal data protection laws, regulation of digital platforms) and the international cooperation (European initiatives, UN, Council of Europe) digital human rights mechanisms effectiveness is very important. Table 5 lists the key mechanisms of state regulation and international cooperation in the field of digital human rights.

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Table 5. Mechanisms of state regulation and international cooperation in the field of digital human rights

Mechanism	Implementation level	Mechanism description	Implementation example
Legislative regulation	National	Adoption of laws regulating the protection of personal data, combating disinformation [8].	GDPR, Digital Services Act.
Digital agencies	National	Creation of state structures to control the digital space and respect human rights [9].	Cybersecurity Agency (ENISA), State Service for Digital Transformation of Ukraine.
International agreements	International	Joint agreements between states on the regulation of digital rights, personal data protection, cybersecurity [7].	Convention 108+ (Council of Europe, 2018), Paris Call for Trust and Security in Cyberspace, 2018.
Cybersecurity cooperation	International	Information sharing, cybercrime investigation at the interstate level [19].	Budapest Convention on Cybercrime [3].
Control over the activities of technology corporations	National / International	Regulation of platforms that hold large amounts of personal data [6].	Antitrust investigations against Google and Meta (EU, US).

Source: created by the author based on [4, 6, 7, 8, 9, 19].

The role of the state and international organizations in ensuring human rights in the digital age is crucial. National legislation provides domestic legal order, while international agreements guarantee coordination between countries. Specialized state agencies and international organizations that work to create common standards for digital security play an important role. Further development in this area should be aimed at harmonizing digital standards, strengthening international cooperation in combating cybercrime, and ensuring human rights in the online environment.

Discussion

Digitalization has a significant impact on human rights, changing the way they are protected, implemented and constitutionally enshrined. On the one hand, technologies promote transparency, access to justice and the global spread of democratic principles [9]. On the other hand, they create serious challenges, including threats to privacy, digital inequality and new forms of discrimination [8].

The regulatory mechanisms of the state and the international institutions in the creation of digital standards for the protection of human rights are actively developed. For instance, the GDPR [1] was an essential step to protect personal data with its provisions adopted by other countries in the formulation of similar laws [8]. However, yet, according to researchers such as Cardona Vallès [7], the most modern regulations do not guarantee digital security to 100%, because of how fast technology and artificial intelligence are advancing.

Some authors emphasize the positive aspects of digitalization. For example, Sgueo [13] notes that digital platforms contribute to the growth of civic participation, in particular through electronic petitions and social networks. On the other hand, Heidemann [6] draws attention to the fact that digital algorithms can reproduce discriminatory practices, reinforcing social inequalities. The balance between security and digital freedoms remains an important issue. Afzal [19] points to the need to strengthen cybersecurity in connection with the growth of cybercrime, while Dowd [4] emphasizes the danger of excessive state control over the digital space, which can lead to the restriction of rights and freedoms.

Digitalization brings both advantages and difficulties despite its benefits to society. Further research should focus on:

1. Creating new protection systems for online human rights should let people stay free while keeping the digital world secure.
2. Studying the impact of artificial intelligence on human rights, in particular its role in administrative and judicial decision-making.
3. Global regulation of digital rights, as existing mechanisms are often focused on the national level and do not take into account the global nature of the digital space. Thus, the need for further studies is obvious, as the digitalization of human rights is a dynamic process that requires a constantly adaptive approach and international coordination.

Conclusions and prospects for further research

Digitalization is making radical changes to the approaches to the realization and protection of human rights, presenting both opportunities and risks that are subject to increased intensity and growing to wider scope. The study confirmed that international standards and national legislation are gradually adapting to digital realities, but the effectiveness of these mechanisms remains debatable. Among the main threats, privacy violations, digital inequality and cybercrime were highlighted, which require further regulatory regulation. The results revealed indicate the need to harmonize international digital standards, strengthen state control over the activities of technology corporations and, at the same time, prevent restrictions on digital freedoms. The study's contribution to the novelty lies in the holistic examination of the effect of the digitalization on the constitutional consolidation of human rights and the part of the state and international institutions in this process. First, the study is limited by lack of empirical basis of effectiveness of the modern digital regulation to reach a long-term outcome. Finally, we propose a promising field of future research, which are mechanisms of adaptivity of digital rights to large technological changes and consists of adoption of artificial intelligence technologies and blockchain in the legal system. Attention must also be paid to the balance between digital security and the preservation of democratic freedoms, as excessive state control can lead to restrictions on fundamental human rights in the digital age.

Reference

- [1] European Parliament and Council of the European Union. (2018). General Data Protection Regulation (GDPR). Official Journal of the European Union, L119, 1–88. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32016R0679>
- [2] Declaration on Digital Rights and Principles, European Commission. (2021). <https://digital-strategy.ec.europa.eu/en/library/european-declaration-digital-rights-and-principles>
- [3] Council of Europe. (2001). Convention on Cybercrime (Budapest Convention). <https://www.coe.int/en/web/cybercrime/the-budapest-convention>
- [4] Dowd, R. (2022). Digitized data protection as a fundamental human right. In *The birth of digital human rights* (pp. 27-69). Information Technology and Global Governance. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-030-82969-8_2
- [5] O'Brien, M. (2022). International human rights law. In: S. Sayapin, R. Atadjanov, U. Kadam, G. Kemp, N. Zambrana-Tévar, & N. Quénivet (Eds.), *International conflict and security law* (pp. 255-276). TMC Asser Press, The Hague. https://doi.org/10.1007/978-94-6265-515-7_11
- [6] Heidemann, F. (2024). International human rights law. In *An international law perspective on Harry Potter* (pp. 67-105). Springer Textbooks in Law. Springer, Cham. https://doi.org/10.1007/978-3-031-57571-6_4
- [7] Cardona Vallès, M. (2024). The limitations of human rights law enforcement. In *Mineral exploitation, violence and international law* (pp. 95-157). Global Issues. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-031-59439-7_3
- [8] Corapi, E. (2024). Informed consent in Italian digitalized insurance contracts: From the privacy shield this Schrems II. In M. Heidemann (Ed.), *The transformation of private law – Principles of contract and case as European and international law* (Vol. 2, pp. 1077-1100). LCF Studies in Commercial and Financial Law. Springer, Cham. https://doi.org/10.1007/978-3-031-28497-7_49
- [9] Shaban, A. (2024). Digital rights, digital representation, and digital justice — Towards digital democracy and freedom of expression. In A. Shaban (Ed.), *Digital geographies — Theory, space, and communities* (pp. 765-899). Springer, Singapore. https://doi.org/10.1007/978-981-97-4734-4_7

- [10] Masferrer, A. (2023). From human rights this natural rights . In *The making of dignity and human rights in the Western tradition* (Vol. 29, pp. 1-97). Studies in the History of Law and Justice. Springer, Cham. https://doi.org/10.1007/978-3-031-46667-0_1
- [11] Giang, NL (2023). Human rights limitation in the rule of law from Vietnam's practice. In M. Deguchi & K. Yakushiji (Eds.), *Europe and Asia as a legal area for fundamental rights* (pp. 93-103). Springer, Singapore. https://doi.org/10.1007/978-981-19-7542-4_7
- [12] Sjöholm, M. (2022). Challenges in international human rights law . In *International human rights law and protection against gender-based harm on the Internet* (pp. 75-202). Springer, Cham. https://doi.org/10.1007/978-3-031-15866-7_3
- [13] Sgueo, G. (2023). Re-conceptualising the aesthetics of digital democracy . In *The design of digital democracy* (pp. 97-128). Springer Textbooks in Law. Springer, Cham. https://doi.org/10.1007/978-3-031-36946-9_5
- [14] Jougleux, P. (2024). The rise of the legal principle of open justice in Europe. In *Open justice in the digital age* (Vol. 66, pp. 21-49). Law, Governance and Technology Series. Springer, Cham. https://doi.org/10.1007/978-3-031-61436-1_3
- [15] Jougleux, P. (2024). The imperative of open justice from a human rights perspective. In *Open justice in the digital age* (Vol. 66, pp. 51-69). Law, Governance and Technology Series. Springer, Cham. https://doi.org/10.1007/978-3-031-61436-1_4
- [16] Zekos, GI (2021). AI and international law. In: *Economics and law of artificial intelligence* (pp. 491-528). Springer, Cham. https://doi.org/10.1007/978-3-030-64254-9_12
- [17] Zekos, G. I. (2022). AI & demarcation of the rule of law. In: *Political, economic and legal effects of artificial intelligence* (pp. 85-156). Contributions this Political Science. Springer, Cham. https://doi.org/10.1007/978-3-030-94736-1_4
- [18] Cui, Y. (2024). AI and the rule of law releases and announcements . In Y. Cui (Ed.), *Blue book on AI and rule of law in the world (2021)* (pp. 1-49). Artificial Intelligence and the Rule of Law. Springer, Singapore https://doi.org/10.1007/978-981-99-9085-6_1
- [19] Afzal, J. (2024). Digital law enforcement challenges and improvement. In *Implementation of digital law as a legal tool in the current digital era*. Springer, Singapore. pp. 47-78 https://doi.org/10.1007/978-981-97-7106-6_3
- [20] Uddin, MM, Khan, AA, & Disha, JS (2024). International law and climate-induced migration: The case of Bangladesh. In: M. Uddin (Ed.), *International law, climate change and Bangladesh* (pp. 401-423). Springer, Cham. https://doi.org/10.1007/978-3-031-71297-5_18
- [21] Binder, C. (2023). Human dignity in international human rights law. In PB Donath, A. Heger, M. Malkmus , & O. Bayrak (Eds.), *Der Protection des Individuals through that Recht* (pp. 225-239). Springer, Berlin, Heidelberg . https://doi.org/10.1007/978-3-662-66978-5_15
- [22] Zheng, X. (2023). The Nagoya Protocol and international human rights law. In *The complementarity between the Nagoya Protocol and human rights* (pp. 3-18). Sustainable Development Goals Series. Springer, Singapore. https://doi.org/10.1007/978-981-99-3513-0_1
- [23] Nardo, A. N., (2025). Experimental evolution reveals trade-offs between sexual selection and heat tolerance in *Drosophila* *prolongata*. *Evolution*. <https://doi.org/10.1093/evolut/qpaf035>
- [24] Fornasiero, R., & Tolio, T. (Eds.). (2024). The Future of Manufacturing: The Italian Roadmap. Springer Tracts in Mechanical Engineering. <https://doi.org/10.1007/978-3-031-60560-4>
- [25] Malkmus, M. (2023). Protection of new minorities under international law. In: PB Donath, A. Heger, M. Malkmus, & O. Bayrak (Eds.), *Der Protection des Individuals through that Recht* (pp. 609-631). Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-662-66978-5_39
- [26] Walters, R. (2020). A pathway forward . In *National identity and social cohesion at a time of geopolitical and economy tension: Australia – European Union – Slovenia* (pp. 329-356). Springer, Singapore. https://doi.org/10.1007/978-981-15-2164-5_12
- [27] Busch, A. F. (2015). Chapter III. The broader legal framework. In *Protection of traditional cultural expressions in Latin America* (Vol. 3, pp. 213-280). Munich Studies on Innovation and Competition . Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-662-46770-1_3
- [28] Siliquini-Cinelli, L. (2019). Legal positivism in a global and transnational age: Introduction. In L. Siliquini-Cinelli (Ed.), *Legal positivism in a global and transnational age* (Vol. 131, pp. 1-44). Law and Philosophy Library . Springer, Cham. https://doi.org/10.1007/978-3-030-24705-8_1
- [29] Bloom, P. (2020). Legal reboot: From human control this transhuman possibilities. In *Identity , institutions and governance in an AI world* (pp. 211-246). Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-030-36181-5_7

- [30] French Constitution. (1791). https://www.conseil-constitutionnel.fr/sites/default/files/as/root/bank_mm/anglais/cst1.pdf
- [31] Universal Declaration of Human Rights, United Nations. (1948). Retrieved from <https://www.un.org/en/about-us/universal-declaration-of-human-rights>
- [32] European Convention on Human Rights, Council of Europe. (1950). https://www.echr.coe.int/documents/convention_eng.pdf
- [33] International Covenant on Civil and Political Rights, United Nations. (1966). <https://www.ohchr.org/en/instruments-mechanisms/instruments/international-covenant-civil-and-political-rights>
- [34] Declaration des rights from the man and du citizen [Declaration of the Rights of Man and of the Citizen], France. (1789). https://www.conseil-constitutionnel.fr/sites/default/files/as/root/bank_mm/anglais/cst2.pdf
- [35] Declaration of Independence. US (1776). <https://www.archives.gov/founding-docs/declaration-transcript>
- [36] Anonymous. (2022). *Analysis of the activities of law enforcement authorities in the field of combating crime and corruption offences. Journal of Money Laundering Control*, 25(3), 700–716. <https://doi.org/10.1108/JMLC-07-2021-0073>
- [37] Khatniuk, N., Shestakovska, T., Rovnyi, V., Pobiianska, N., & Surzhyk, Y. (2023). Legal principles and features of artificial intelligence use in the provision of legal services. *Journal of Law and Sustainable Development*, 11(5), Article e01173. <https://doi.org/10.55908/sdgs.v11i5.1173>
- [38] Kortukova, T., Kolosovskyi, Y., Korolchuk, O. L., Shchokin, R., & Volkov, A. S. (2023). Peculiarities of the legal regulation of temporary protection in the European Union in the context of the aggressive war of the Russian Federation against Ukraine. *International Journal for the Semiotics of Law*, 36(2), 667–678. <https://doi.org/10.1007/s11196-022-09945-y>

