

# Main threats to human rights and freedoms in the context of digitalization

## Principales amenazas a los derechos humanos y las libertades en el contexto de la digitalización

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### Abstract

The development of technologies and the Internet has transformed the fundamental rights and freedoms of citizens. New rights have emerged, such as the right to access the Internet, the right to be forgotten, the right to privacy, etc., so there is a need to consider a new category of rights and freedoms of citizens in the digital environment. The main objective of the study is to define and classify human rights and freedoms in the digital environment and highlight the main threats to human rights in the context of digitalization. Research methods are based on the analysis of a limited number of studies selected according to special parameters and considered comprehensively. Based on the study results, human rights in the digital environment are identified and classified. It is concluded that given the danger of digitization of personal documents, it is necessary to preserve paper documents and recognize the document on paper as the original. To protect the rights and freedoms of citizens in the context of digitalization, it is advisable to introduce a ban on the creation and use of social rating systems that pose a threat to the exercise of the rights and freedoms of citizens. It is also necessary to prohibit the use of personal data identification systems based on indirect signs that are contained in big data about users, which will prevent the calculation of personal data.

**Keywords:** Digitalization; Freedom of speech; Right to privacy; Discrimination; Human rights

### Resumen

El desarrollo de las tecnologías e Internet ha transformado los derechos y libertades fundamentales de los ciudadanos. Han surgido nuevos derechos, como el derecho a acceder a Internet, el derecho al olvido, el derecho a la privacidad, etc., por lo que es necesario considerar una nueva categoría de derechos y libertades de los ciudadanos en el entorno digital. El objetivo principal del estudio es definir y clasificar los derechos humanos y las libertades en el entorno digital y resaltar las principales amenazas a los derechos humanos en el contexto de la digitalización. Los métodos de investigación se basan en el análisis de un número limitado de estudios seleccionados de acuerdo con parámetros especiales y considerados de manera integral. A partir de los resultados del estudio, se identifican y clasifican los derechos humanos en el entorno digital. Se concluye que dado el peligro de digitalización de documentos personales, es necesario preservar los documentos en papel y reconocer el documento en papel como el original. Para proteger los derechos y libertades de los ciudadanos en el contexto de la digitalización, es aconsejable introducir una prohibición de la creación y el uso de sistemas de calificación social que representen una amenaza para el ejercicio de los derechos y libertades de los ciudadanos. También es necesario prohibir el uso de sistemas de identificación de datos personales basados en signos indirectos que están contenidos en big data sobre los usuarios, lo que impedirá el cálculo de datos personales.

**Palabras clave:** Digitalización; Libertad de expresión; Derecho a la privacidad; Discriminación; Derechos humanos



## INTRODUCTION

The world is undergoing a digital revolution. Such modern technologies as artificial intelligence, big data, smart contracts, distributed registries, etc. are being actively introduced into all spheres of life (Glagolev et al., 2020; Grigorieva and Nikulshin, 2022; Guterres, 2021). Due to the development of information technologies, a new digital reality is being formed that contributes to the transformation of human rights and freedoms (Varlamova, 2019; Zhilenko et al., 2021). The digital environment generates new rights and problems related to confidentiality and privacy (Grigorieva, 2017; Siegel, 1998). Digitalization has created a technological environment where human rights are different from offline human rights, i.e., they are more formalized and require additional guarantees and more effective protection (Kirillova et al., 2021; Langford, 2020).

Digitalization is rapidly developing and entering all spheres of life (Bekezhanov et al., 2021). In the new reality, digital platforms invade privacy (Riekkinen et al., 2019), i.e., collect facts about the personal habits of users to make a profit. For example, government agencies collect personal data and introduce digital services (Gurinovich and Petrykina, 2021; Zhatkanbayeva et al., 2017) which can switch from data collection to the surveillance of citizens. Consequently, the risks of leakage of personal data and their use in fraudulent schemes increase (Neznamova et al., 2020). In such conditions, the problem of protecting the rights of citizens in the digital environment is especially acute (Coccoli, 2017). To protect the rights and freedoms of citizens in networks, it is necessary to first identify the main threats to human rights in the context of digitalization and develop recommendations for their elimination.

This study utilized a desk review and comparative analysis of scientific works on digitalization and human rights. This review included scientific papers from the Scopus and Web of Science databases, as well as media reports, indices related to human rights on the Internet, and sites that have statistical reports on the number of requests and thematic publications. The number of scientific studies on such topics as “digitalization” and “human rights” on the website <https://scholar.google.com> as of July 16, 2023 was about 177,000. As of July 17, 2023, there were 76,206 results for the keywords “digitalization” and “human rights” on the website <https://wordstat.yandex.ru>, which proves the relevance of the topic.

In the media, the topic of human rights in the context of digitalization was discussed in more than 24,334 publications in 2023, according to the data taken from <https://yandex.ru>.

The analysis was performed as a real-time and comprehensive assessment, which is related to access to research and statistics, as well as the nature of virtual assessments.

The study used the following key definitions:

- Digitalization is the use of digital algorithms by entities and citizens in various fields, which leads to the need to reassess legal mechanisms for regulating legal relations in this area;
- Digital transformation is an organizational re-registration of working meth-

- ods in the economy and society associated with the use of digital technologies;
- Digital human rights are the rights of citizens when using digital technologies and networks.
  - The study aims at defining and classifying human rights and freedoms in the digital environment and highlighting the main threats to human rights in the context of digitalization. Meta-analysis embraced 61 works selected from more than 160 scientific papers. For sampling, a wide range of publications was used, according to the type in Scopus, Web of Science, and other citation bases. The new database of selected studies was formed based on the following criteria:
    - Papers on the rights and freedoms of citizens in the context of digitalization;
    - Papers written between 1998 and 2023;
    - The authors must have at least three publications on the topic “rights and freedoms of citizens in the context of digitalization”;
    - The selected study should be concerned with human rights in the digital environment.

Based on the study conducted, a classification of specific human rights and freedoms in the context of digitalization was proposed, and the main threats to human rights and freedoms in the digital environment were identified.

## DISCUSSION

Digitalization and human rights are closely related concepts ([Afanasev, 2017](#); [Zorkin, 2020](#)). On the one hand, digitalization allows for greater accessibility and ease of use of various services, which contributes to the empowerment of people. On the other hand, digitalization can lead to a violation of human rights if it does not comply with international standards and principles for the protection of human rights. For example, the use of biometric data without the consent of a person may violate their right to privacy ([Barton et al., 2016](#)). Therefore, it is important that digital technologies are used with due regard to the rights and interests of a person, and comply with international standards ([Chirkov et al., 2022](#)).

Among the fundamental human rights in the digital environment, scholars highlight the first right to access the Internet ([Gaivoronskaya et al., 2021](#)). Accordingly, everyone has the right to freely access information and resources located on the Internet. This right can only be limited in conformity with law and security requirements ([Cerf, 2012](#)). Not all people have the opportunity to use the Internet, i.e., the poorest population in many countries cannot afford to have smartphones, computers, or laptops. In some remote settlements, there is no Internet, and the digitalization of public life can discriminate against this category of citizens ([Szoszkiewicz, 2018](#)). Fundamental human rights are broad, universally applicable rights recognized and protected under international law. Specific human rights, while grounded in these fundamental rights, are more focused on the nuances and specific challenges posed by the digital environment. They provide a detailed framework to address the particular needs and vulnerabilities of individuals in the digital age.

To provide access to the Internet, the state must create and maintain an infra-

structure that will allow people to connect to the network. This infrastructure may include cables, communication towers, servers, and other technical devices (Belyanskaya et al., 2022). To ensure the high quality of the Internet, some countries introduced secured access to broadband Internet (Meskic et al., 2022). In addition, the state must protect the personal data of Internet users, as well as monitor that there is no violation of copyrights and other laws related to the use of the Internet (Brovka et al., 2020). The right to access the Internet is the foundation for building mechanisms for the realization of human rights and freedoms in the digital environment.

Another right in the digital environment, to which experts pay special attention, is the right to search, receive and transmit information on the Internet (Livson et al., 2021; Rayes and Salam, 2019). Internet of things from hype to reality: The road to digitization). According to this right, everyone has the opportunity to freely seek, receive, transmit, and disseminate information, as well as use it for any purpose, without violating existing laws and the rights of others. This right is guaranteed by the constitutions of many countries and international documents such as the Universal Declaration of Human Rights, the European Convention for the Protection of Human Rights and Fundamental Freedoms, etc. (Heugas, 2021). However, this right may be limited by law in the interests of national security, public order, privacy, morality, etc. (Payan, 2022).

The right to seek and transmit information does not mean that a person can disseminate any information without restrictions. Legislation may establish certain requirements for the content, its form, and methods of distribution to ensure the protection of the rights and freedoms of other people (Smith, 2013). Furthermore, the dissemination of false or harmful information may violate the rights of others and lead to negative consequences. Therefore, it is important to comply with ethical and legal standards when using the Internet (Budanova et al., 2022).

Many scholars dwell on the right to use, create and publish digital works (Hick et al., 2016; Satriawan et al., 2023) which is one of the key rights in the modern world. It guarantees authors and copyright holders the ability to create, distribute and use their works in digital form.

The right to use one's digital works embraces the right to use such works in any form, including sale, rental, public performance, broadcast, etc. It also includes the right to receive remuneration for the use of one's works in digital form (Skepys, 2012).

The right to create includes the ability to create works and protect one's copyright (Lim and Sexton, 2012). This right protects authors from the illegal use of their works without their consent. The right to publish includes the ability to publish works in any format and on any platform. This right guarantees authors the freedom to choose where and how their works will be presented to a wide audience (Brysk, 2002).

The right to privacy is among the basic rights that are guaranteed to a person on the Internet (Hafner-Burton, 2012). It allows users to control their personal information and protect their privacy.

Each user has the right to ensure that their personal information is not transferred to third parties without their consent (Yerkinbayeva et al., 2022). This includes information about bank accounts, credit cards, passport details, medical information, etc. In addition, users have the right not to have their personal data used without their consent for marketing purposes or for other purposes that might harm them (Alston and Goodman, 2013).

To protect their privacy, users opt for various tools and methods. For example, they set passwords for social media accounts, use two-factor authentication, do not publish personal information in the public domain, etc. (Manta, 2021). However, online privacy is not only a matter of security but also a matter of control over one's data (Donnelly and Whelan, 2020).

The right to anonymity on the Internet is quite controversial as some lawyers claim that the abuse of this right can harm both an individual and society. In other words, this right is ambivalent (Neville, 2017). Anonymity is a right that guarantees the confidentiality of personal data when one is using the Internet. This can be useful for protecting personal information, privacy, and free speech (Beitz, 2009).

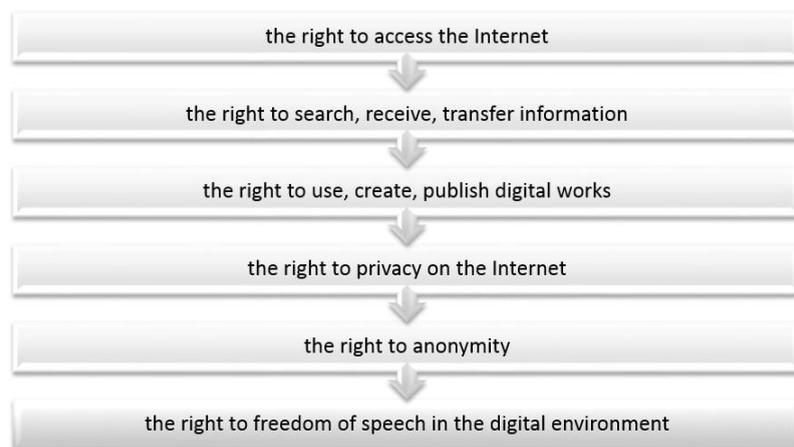
Anonymity can be achieved in a variety of ways, including the use of proxy servers, VPNs, the Tor network, and other technologies. However, anonymity is not absolute and can be limited by law or other security measures (Jørgensen, 2018).

Freedom of speech is one of the fundamental human rights. It guarantees everyone the opportunity to freely express their thoughts, ideas, and opinions. On the Internet, this right has its own characteristics since online information is distributed faster and becomes more accessible than in real life (Hick and Halpin, 2001).

Freedom of speech on the Internet means that users have the right to speak on any topic and publish their opinions, articles, videos, photos, etc. (Whaley, 2000). However, freedom of speech does not mean permissiveness and violation of the rights of other people. Therefore, it is necessary to follow the rules of conduct on the Internet to avoid conflicts and violations of the rights of other users.

The main human rights in the digital environment are presented in Figure 1.

Figure 1. Human rights on the Internet



Source: Compiled by authors (2023)

Fundamental human rights are broad, universally applicable rights recognized and protected under international law. Specific human rights, while grounded in these fundamental rights, are more focused on the nuances and specific challenges posed by the digital environment. They provide a detailed framework to address the particular needs and vulnerabilities of individuals in the digital age.

**Table 1.** Human Rights on the Internet

Category	Human Rights
Fundamental Human Rights	- Right to access the Internet
	- Right to search, receive, and transmit information
	- Right to use, create, and publish digital works
	- Right to privacy
	- Right to anonymity
Specific Human Rights	- Right to freedom of speech
	- Right to digital sovereignty
	- Right to manage and protect a digital profile
	- Right to protect biometric data
	- Right to withdraw data and the right to be forgotten
	- Right to safety on the Internet

**Source:** Compiled by authors (2023)

On the one hand, digitalization allows for greater accessibility and ease of use of various services, which contributes to the empowerment of people. On the other hand, digitalization can lead to a violation of human rights if it does not comply with international standards and principles for the protection of human rights.

In that case, it is necessary to highlight specific human rights and freedoms in the digital environment:

- The right to ensure digital sovereignty is the right of each person to independently determine what personal information they want to disclose and how to use it (Belli and De Filippi, 2015). For example, a person may choose to have their personal information only available to themselves or those close to them or to make it publicly available. They can also choose what data will be included in the profile on social networks or other online platforms, and how it will be used (Tully, 2014). Ensuring the digital sovereignty of each person is an important step in protecting their rights and freedoms in the digital age (McIver et al., 2003).
- The right to dispose of a digital profile and protect digital identity is the ability of a person to manage their personal data in the digital space, as well as to protect their digital identity from unauthorized use and disclosure (Brkan et al., 2020). This right includes the ability to create and manage a digital profile (Mihir, 2017). A person can create their digital profile, add information about

themselves, edit it, and delete it.

- The right to protect biometric personal data is one of the important human rights in the digital age ([Shandler and Canetti, 2019](#)). Biometric data are unique characteristics of a person, such as fingerprints, voice, face, eye shape, etc., that can be used to identify an individual ([Eigenstetter, 2020](#)). In this regard, the right to the protection of personal data includes protection against the misuse of biometric data, as well as against their theft or leakage. This right protects a person from the undesirable consequences associated with the use of their biometric data without their consent or without following the relevant rules and procedures ([Wicker and Santoso, 2013](#)).

Various technologies are used to protect biometric data, such as biometric authentication, biometric encryption, and biometric security ([Carr, 2013](#)). There are also laws and rules that regulate the use of biometric data and establish liability for their violation. Thus, the right to protect biometric personal data is an important tool for ensuring security and privacy in the digital environment ([Schelenz and Schopp, 2018](#)).

- The right to withdraw data and the right to be forgotten are two important aspects of personal data protection in the digital space. Data withdrawal is the process of removing personal data from the databases of companies and organizations ([Mathiesen, 2012](#)). This allows the user to revoke their consent to the processing of personal data and request that they be permanently deleted from the databases.

Digital oblivion is a procedure for deleting information from search engines and other databases, which allows the user to delete their personal data from open sources without the possibility of their recovery ([Zalnieriute and Milan, 2019](#)). Both rights ensure the protection of the user's personal data and allow them to control their data in the digital space.

The right to safety on the Internet is the right to be protected from illegal acts, information and psychological manipulation, and negative social consequences ([Best, 2004](#)). Each person shall be protected from possible digital threats in the digital environment ([Brophy and Halpin, 1999](#)). To attain this end, there are many mechanisms, such as antivirus programs, firewalls, and other protection tools.

Experts emphasize the legal insecurity of an individual and highlight the main threats to human rights and freedoms in the context of digitalization ([Lucchi, 2014](#); [Reglitz, 2020](#); [Vasilev et al., 2020](#)). The main threats to human rights are the research object of many scholars. Table 2 below presents the main threats and authors who singled out one or another type of threat.

**Table 2.** Main threats to the rights of citizens in the digital environment

<b>Main threats to human rights in the context of digitalization</b>	<b>Authors who identified the main threats to human rights in the context of digitalization</b>
1. Violation of the right to privacy when processing personal data in the digital environment	A. Guterres (2021), N.V. Varlamova (2019), J. Coccoli (2017), A. Pūraitė, R. Adamonienė, A. Žemeckė (2020), L. Amelicheva, O. Martyniuk, I. Pyroha, C. Qaracayev, V. Myroshnychenko (2021), M. McAuliffe, J. Blower, A. Beduschi (2021), D.S. Obloberdievna and R.B. Rustamovna (2022), D. Burchardt and M. Varaki (2023), E.O. Tchinaryan, E.S. Kuchenin, V.L. Slesarev, A.V. Ryzhik (2021), O.V. Belyanskaya, J.A. Kazanovskaya, T.A. Strutinskaya (2022), M. Livson, S. Eshtokin, V. Vasyukov, E. Yudina, A. Baybarin, S. Pivneva (2021).
2. Cyber-attacks by hackers	G.M. Brovka, I.N. Kandrichina, O.V. Veremeychik (2020), M. Langford (2020), A.T. Karasev, O.A. Kozhevnikov, V.A. Misuragina (2019), V.D. Zorkin (2020), L. Schelenz and K. Schopp (2018), A. Barton, P.J. Bracke, A.M. Clark (2016), J. Nida-Rümelin and N. Weidenfeld (2022), L. Budanova, O. Mikhailova, B. Kazak (2022), G. Payan (2022), M. Eigenstetter (2020).
3. Acts of aggression directed against a person (trolling, cyberbullying, etc.)	Y.V. Gaivoronskaya, A.Y. Mamychev, D.A. Petrova, O.R. Dashkovska (2021), M. Brkan, M. Claes, C. Rauchegger (2020), A.C. Heugas (2021), Z. Meskic, M. Albakjaji, N. Jevremovic, E. Omerovic, J. Adams (2022), L. Yerkinbayeva, D. Nurmukhankyzy, B. Kalymbek, A. Ozenbayeva, Z. Kalymbekova (2022), O. Manta (2021), V.L. Vasilev, A.R. Gapsalamov, E.M. Akhmetshin, T.N. Bochkareva, A.V. Yumashev, T.I. Anisimova (2020).
4. Disinformation in networks, including using DeepFake technologies	A. Rayes and S. Salam (2019), S. Hick, E. Halpin, E. Hoskins (2016), M. Reglitz (2020), B. Skepys (2012), D. Joyce (2015), M.L. Best (2004), N. Lucchi (2014), M.L. Siegel (1998), S. Tully (2014), Ł. Szoszkiewicz (2018).
5. Information warfare to rule over mass consciousness, attempts to take networks under complete control	V.G. Cerf (2012), P. Brophy and E. Halpin (1999), M. Zalnieriute and S. Milan, (2019), M. Carr (2013), K. Mathiesen (2012), S.B. Wicker and S.M. Santoso (2013), R. Shandler and D. Canetti (2019), R.F. Jørgensen (2018), A. Mihr (2017).
6. New ways of monitoring and control based on the collection and analysis of data that influence the decision-making of citizens	L. Belli and P. De Filippi (2015), Y.J. Lim and S.E. Sexton (2012), W.J. McIver, W.F. Birdsall, M. Rasmussen (2003), P. Whaley (2000), P.S. Smith (2013).
7. Fraudulent activities in the digital environment	A. Neville (2017), S. Hick and E. Halpin (2001), I. Satriawan, T.M.A. Elven, T. Lailam (2023), J. Kulesza (2012), C.R. Beitz (2009), J. Donnelly and D.J. Whelan (2020), P. Alston and R. Goodman (2013), E.M. Hafner-Burton (2012), A. Brysk (2002).

Source: Compiled by authors (2023)

However, there are more risks that need to be highlighted. A large array of digital data is collected and circulated in a gray legal zone, i.e., huge amounts of personal information about citizens are collected by digital platforms without citizens' awareness of the fact of collection. This information is repeatedly copied and used for various purposes like advertising, surveillance, or manipulation (Kulesza, 2012). In addition, there is a new method of gathering personal data by indirect signs and entering them into a digital citizen profile (Pūraitė et al., 2020). Using information about purchases, communication, and personal messages, digital platforms can form a personal user profile (identification tools are able to attribute the calculated data and link them to a specific citizen, i.e., their smartphone, Wi-Fi network, place of work, which provides opportunities for discrimination, blackmailing, etc. (Barton et al., 2016). At the legislative level, it is necessary to prohibit the use of systems for identifying personal data by indirect signs that are contained in big data to prevent the breach of personal data (Amelicheva et al., 2021).

There is also a risk of digital corruption due to the ease of committing crimes and hiding their traces. The personal data of citizens in digital format have become a commodity that brings considerable profits (McAuliffe et al., 2021).

The digital environment increases the possibility of corruption as it allows to effectively hide traces, erase documents, and pay for criminal services anonymously in a cross-border format, for example, using bitcoins (Obloberdievna and Rustamovna, 2022). The introduction of artificial intelligence that makes decisions in lending, hiring, and competition helps corrupt officials sell services to improve ratings, while the decisions made by artificial intelligence are absolutized and not subject to revision (Burchardt and Varaki, 2023). Therefore, it is necessary to introduce a ban on the use of social rating systems to protect the rights and freedoms of citizens in the digital environment and, therefore prevent digital discrimination of citizens.

A social rating system is a mechanism that evaluates and assigns scores to individuals based on their behavior, activities, and interactions within digital and physical environments. These systems collect data from various sources, such as social media, financial transactions, online behavior, and public records, to create a comprehensive profile of an individual's social credit. The most notable example is China's Social Credit System, which rates citizens on parameters including their online behavior, financial creditworthiness, and social conduct. However social rating systems require the collection and analysis of large amounts of personal data, raising significant privacy concerns. Individuals may have their private activities monitored and evaluated without explicit consent.

The active introduction of electronic document management creates the risk of losing these documents. In addition, digital documents are subject to leakage, theft, and distortion due to the ease of replication (Tchinaryan et al., 2021). As practice shows, digital documents live no more than 20 years since the previous format for storing digital information quickly becomes obsolete and documents become unreadable (Karasev et al., 2019). The digital storage of documents has proved that it is difficult to ensure the safety of data due to software failures, emergencies, and project closures, for example, the destruction of millions of websites during the closure

of GeoCities hosting ([Nida-Rümelin and Weidenfeld, 2022](#)). To store documents in a digital format, the state needs to provide an expensive procedure of permanent backup. In addition, digital documents increase the risk of fraudulent activities, which is especially dangerous in relation to birth certificates, death certificates, diseases, marital status, education, etc. Therefore, it is necessary to preserve the electronic-paper workflow, recognizing the document on paper as the original.

The term “document on paper as the original” refers to the legal recognition that the paper version of a document is considered the authoritative and legally binding version, particularly in cases where authenticity and originality are crucial. This concept is based on the idea that paper documents can be physically verified and are less susceptible to certain types of fraud compared to digital documents. However, it does not imply that paper documents are immune to falsification or modification. Instead, it highlights the challenges in ensuring the integrity and authenticity of digital documents, which can be more easily altered without detection.

## CONCLUSION

Based on the study results, human rights in the digital environment have been identified and classified. The basic human rights are as follows: the right to access the Internet; the right to search, receive, and transfer information; the right to use, create, and publish digital works; the right to privacy on the Internet; the right to anonymity; the right to freedom of speech in the digital environment. Specific human rights include the right to ensure digital sovereignty, the right to manage a digital profile and protect digital identity, the right to protect biometric personal data, the right to recall data and the right to be forgotten, and the right to safety on the Internet.

In the context of digitalization, we highlighted and considered the following threats to the rights and freedoms of citizens: violation of the right to privacy when processing personal data in a digital environment; cyber-attacks by hackers; acts of aggression directed against a person (trolling, cyberbullying, etc.); misinformation in the network, including the use of DeepFake technologies; information warfare to rule over mass consciousness, attempts to take networks under complete control; new ways of monitoring and control based on the collection and analysis of data that influence the decision-making of citizens; fraudulent activity in the digital environment; the collection and circulation of digital personal data without awareness of the fact of collection and not regulated by law; gathering of personal data by indirect signs; digital corruption.

Considering the main threats to human rights and freedoms, legal regulation should aim at protecting the rights of citizens in the digital environment. Given the danger of digitization of personal documents, it is necessary to preserve paper documents and recognize a document on paper as the original. To protect the rights and freedoms of citizens in the context of digitalization, it is advisable to prohibit the creation and use of social rating systems that pose a threat to the realization of the rights and freedoms of citizens. It is also necessary to introduce a ban on the use of systems for identifying personal data by indirect signs that are contained in big data, which will prevent the calculation of personal data.

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