



ISCTBL 2020

INTERNATIONAL SCIENTIFIC CONFERENCE

Универзитет „Гоце Делчев“ –
Штип

Goce Delchev University
Shtip

Факултет за туризам и бизнис
логистика

Faculty of Tourism and
Business Logistics

**Трета Меѓународна Научна Конференција
Third International Scientific Conference**

**ПРЕДИЗВИЦИТЕ ВО ТУРИЗМОТ И БИЗНИС
ЛОГИСТИКАТА ВО 21 ВЕК**

**CHALLENGES OF TOURISM AND BUSINESS
LOGISTICS IN THE 21ST CENTURY**

**ЗБОРНИК НА ТРУДОВИ
CONFERENCE PROCEEDINGS**



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Prof. Gligor Bishev, University Professor and Chairman of the Board, Sparkasse Bank-Skopje – “*The impact of the pandemic on economic developments*”

Peter Tabak, Executive Director, Leading Regional Economist for Economics, Policy and Governance in the Western Balkans Vice-President for Policy and Partnerships, European Bank for Reconstruction and Development - “*Economic outlook for the Western Balkans during and after the epidemic*”

Milan Zdravkovic, Executive Director of the Distribution System Operator in J.P Srbijagas, Belgrade, Serbia – “*Supply of natural gas in COVID-19 conditions - experience and expectations*”

Prof. Misko Dzidrov, University Professor and Vice-rector for Teaching and Students, Goce Delcev University of Stip – “*UGD in a time of pandemic*”

Prof. Tatjana Boskov, University Professor and Dean of the Faculty of Tourism and Business Logistics, Goce Delcev University of Stip – “*The impact of coronavirus on global growth and global supply chain shifts*”

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I and II session

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УНИВЕРЗИТЕТ „ГОЦЕ ДЕЛЧЕВ“ - ШТИП
GOCE DELCEV UNIVERSITY OF STIP

ФАКУЛТЕТ ЗА ТУРИЗАМ И БИЗНИС ЛОГИСТИКА
FACULTY OF TOURISM AND BUSINESS LOGISTICS

ТРЕТА МЕЃУНАРОДНА НАУЧНА
КОНФЕРЕНЦИЈА

THIRD INTERNATIONAL
SCIENTIFIC CONFERENCE

ПРЕДИЗВИЦИТЕ ВО ТУРИЗМОТ И БИЗНИС
ЛОГИСТИКАТА ВО 21 ВЕК

CHALLENGES OF TOURISM AND BUSINESS LOGISTICS
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ЗБОРНИК НА ТРУДОВИ
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13 ноември, 2020, Штип / Shtip, November 13th, 2020

ПРЕДГОВОР

Факултетот за туризам и бизнис логистика при Универзитетот „Гоце Делчев“ во Штип, беше организатор на Третата меѓународна научна конференција „Предизвици на туризмот и бизнис логистика во 21 век“. Конференцијата се одржа на 13 ноември 2020 година на платформата Microsoft Teams, со повеќе од 90 учесници од матичната земја и странство. Оваа година Меѓународниот научен комитет брои еминентни професори од нашата земја и над 15 странски земји како Израел, Шпанија, Франција, Молдавија, Италија, Грција, Египет, Полска, Турција, Романија, Бугарија, Србија, Хрватска, Босна и Херцеговина и Словенија.

Целта на оваа конференција е да промовира поголемо разбирање на бизнис администрација, логистиката, туризмот и угостителство во однос на управувањето, економијата, образованието и претприемништвото. Ова подразбира дека фокусот на учесниците го насочивме кон најновите трендови и предизвици во врска со развојот на туризмот, менаџирањето со компаниите, пазарот на труд, можностите за придобивки и профит, изгледите за подобра конкурентност на меѓународниот пазар, што пак е императив за финансиската стабилност на нашата земја во целина.

Имено, со пристигнатите трудови и авторските истражувања се оствари целта на конференцијата - а тоа е оценувањето на тековната состојба и идните изгледи за развој на микро план што се однесува на домашниот пазар, како и движењата на глобалната економија, подготвувајќи ја бизнис заедницата за предизвиците со кои ќе се соочуваат при остварувањето на нивните цели, што де факто влијае врз одржувањето на финансиите особено во времето кое го живееме под притисокот на пандемијата.

Препораките кои се пренесоа се однесуваат како да се зајакнува капацитетот на компаниите како и промените во регулативите кои го диктираат нашиот пат кон ЕУ. Дискусиите во текот на конференцијата беа одговор на тоа како реагираа и се позиционираа менаџерите на финансиски средства во услови на голем пазарен ризик, пазарни шокови и турбуленции и како треба да се подготвуваат инвеститорите во поедини сектори. Трудовите прикажаа изгледи и кон идната интеграција на земјите од Западен Балкан, со осврт на досегашните постигнувања и идните предизвици пред овие економии како и размена на искуства на сите учесници кои сме денес присутни од повеќе земји.

Токму овие препораки треба да бидат двигател на процесите на реформата во насока на подигање на квалитетот на образованието заради поголема продуктивност на трудот, конкурентност на економијата и намалување на неусогласеноста на понудата на вештини и компетенции како и побарувачката на пазарот на труд.

Постигнувањето на овие цели е заедничка задача на сите оние што се во позиција да го дадат својот придонес за имплементација на реформите во општеството. Токму тие реформи, тие промени во начинот на пристап, методологија на работа и организација, не треба да ги правиме само за да станеме дел од економскиот блок, туку да бидат во насока да постигнеме нешто друго, многу позначајно, односно сите напори што ги правиме да бидат за остварување на повисок степен на благосостојбата на нашите граѓани, за создавање на достоинствени услови за живот и работа.

Во регионот, меѓутоа и пошироко, во Европа, искуствата се најразлични. Наидуваме на успешни, и на не толку успешни модели. Токму ваквите научните конференции, дебатите што се развиваат тука, се најдобриот начин за размена на искуства, за идентификација на предизвиците и перспективите, за споредување на моделите и третирањето на нивните недостатоци или предности, меѓутоа и презентирање

на можните нови комбинирани модели. Едукацијата на новите генерации кои ќе бидат подготвени да се соочат со предизвиците што ги носи глобализацијата, е заеднички предизвик на Универзитетите, на бизнис заедницата, но и на централната и локалната власт.

Штип,
13 Ноември 2020

Главен уредник
Проф. д-р Татјана Бошков, *Декан*

PREFACE

The Faculty of Tourism and Business Logistics in Gevgelia, part of the University Goce Delchev from Shtip, hosted the Third International Scientific Conference, "Challenges of Tourism and Business Logistics in the 21st Century". The conference was held on 13th of November 2020 on the platform Microsoft Teams, with more than 90 participants from the country and abroad. This year the International scientific committee included eminent professors from our country and more than 15 from foreign countries, such as Israel, Spain, France, Moldova, Italy, Greece, Egypt, Poland, Turkey, Romania, Bulgaria, Serbia, Croatia, Bosnia and Herzegovina and Slovenia.

The aim of this conference is promoting a greater understanding of the business administration, logistics, tourism and hospitality in terms of management, economics, education and entrepreneurship. In that context, the focus of our participants was on the latest trends and challenges related to tourism development, company management, labour market, opportunities for gain and profit, opportunities for better competitiveness in the international market, which is imperative for the financial stability of our country entirely.

Furthermore, the conference papers and authors' researches fulfilled the aim of the conference, the assessment of the current situation and future prospects for the development of the micro plan in terms of the domestic market, as well as the global economy changes, prepared the business community for the challenges that will they face during their goal achievement, which de facto affects the maintenance of finances especially in the time we live under the pandemic pressure.

The detection of the conditions that have been presented is a real mirror of where we are, where we have been, and what is even more difficult, to answer the question what next? Achieving these goals is a common task of all those who are in a position to contribute to the implementation of reforms in society. Exactly those reforms, those changes in the way of approach, methodology of work and organization, we should not make only to become part of the economic block, but to be in the direction of achieving something else, something much more significant - efforts for achieving a higher degree of well-being of our citizens, for creating dignified living and working conditions.

In the region, but also beyond, in Europe, the experiences are diverse. We come across successful and not so successful models. Exactly such scientific conferences, debates that develop here, are the best way to exchange experiences, to identify challenges and perspectives, to compare models and how to treat their disadvantages or advantages, but also to present possible new combined models. The education of the new generations that will be ready to face the challenges posed by globalization is a common challenge of the Universities, the business community, but also of the central and local government.

Shtip,
November, 13th, 2020

Editor
Tatjana Boshkov, Ph.D. *Dean*

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INTELLECTUAL PROPERTY IN DIGITAL ENVIRONMENT

Svetla Panayotova¹; Ventsislava Nikolova-Minkova²

Abstract

*Intellectual property and its objects are a significant element of the policy of the modern enterprise. Along with the development of machinery and technology, intellectual property has become a powerful economic factor of specific importance in digital environment. The **purpose** of this paper is to clarify the nature of intellectual property and its manifestation in digital space. In this regard, by using **empirical research methods** (study, comparison and analyzes) the objects of intellectual property are analyzed, as well as their manifestation in digital environment. As a result of the research, the author's definition of intellectual property is derived, the scope of intellectual property is determined and the role of intellectual property in the process of digitalization is presented. In **conclusion**, recommendations are made for the management of intellectual property objects in a digital environment.*

Key Words: *intellectual property, digital environment, digitalization.*

JEL classification: *O34, L 86.*

Introduction

The development of human society is associated with various discoveries of human thought and intellect. These discoveries contribute to the development and regulation of intellectual property and its objects, which are a significant element of the policy of the modern enterprise. Along with the development of machinery and technology, and the creation of information networks through the connection and interaction between computers and communications, intellectual property is becoming a powerful economic factor. It is of particular importance in a digital environment. The development of the Internet as the largest computer network contributes to the dissemination of a variety of information, including information that is intellectual property. This requires familiarization with the objects of intellectual property available in the digital environment and the possibilities for their use, without infringing the rights of the owners of intellectual property.

The **purpose** of this report is to clarify the nature of intellectual property and its manifestation in the digital space. In this regard, by using **empirical research methods** (study, comparison and analyzes) the objects of intellectual property are analyzed, as well as their manifestation in the digital environment. As a **result** of the research, the author's definition of intellectual property is derived, the scope of intellectual property is determined and the role of intellectual

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property in the process of digitalization is presented. In **conclusion**, recommendations are made for the management of intellectual property in a digital environment.

Features of intellectual property

One of the characteristic features of the property is that it can be used only by its owner or, with their express permission, by other persons. This issue is especially relevant in the years of the Industrial Revolution, which is characterized by the creation and use of a number of technical innovations and inventions. During this period, however, the ownership of creative products was not legally regulated in any country. Thus, it turns out that a person who invests intelligence, resources, labor and time to develop an invention remains unprotected against abuse by stakeholders, who with impunity and without making an effort use the created technical innovation to earn money. This necessitated the creation of a normative solution, the first of which was made in 1624, when the **Statute of Monopolies** (Statute of Privileges) was adopted in England (Borisov, 2006; Sarakinov, 2007). Its role is to guarantee the creators the exclusive right to use technical inventions for a period of fourteen years, during which period the use of these innovations by others is prohibited. In essence, this is the world's first patent law.

Differences in individual national laws regarding patents require an international agreement to harmonize legislation with regard to the basic provisions of patent laws. Thus, in 1883, the **Paris Convention for the Protection of Industrial Property** was adopted (WIPO, 1883). Industrial property objects enshrined in the convention are: patents for inventions; utility models; industrial design; trademarks and service marks; trade names; designations of origin of the products; geographical indications; unfair competition. The Paris Convention entered into force in 1884 with 14 member States, which set up an International Bureau to carry out administrative tasks, such as organizing meetings of the member States.

In 1886 the **Berne Convention for the Protection of Literary and Artistic Works** was signed in Bern, Switzerland (WIPO, 1886). It legally regulates two core definitions – “copyright” and the right to publish or reproduce the original. The Convention covers all works in the field of literature, science and art. According to WIPO (*A Brief History*), works protected include:

- Novels, short stories, poems, plays;
- Songs, operas, musicals, sonatas; and
- Drawings, paintings, sculptures, architectural works.

The signatory states form the **Berne Union for the Protection of Literary and Artistic Works**.

Later, in 1893, the two international organizations merged into the **United International Bureau for the Protection of Intellectual Property** – best known by its French acronym, **BIRPI** (Bogsch, 1992).

The Stockholm Conference was held on July 14, 1967, when the two unions, retaining their independence, united and signed the **Convention establishing the World Intellectual Property Organization** (WIPO, 1967). Its headquarters are in Geneva, and later it became one of the specialized organizations of the United Nations. The main contribution of the Convention is in the recognition of another type of property – intellectual property.

According to WIPO (publ. No. 450), *“Intellectual property refers to creations of the mind: inventions; literary and artistic works; and symbols, names and images used in commerce.*

Intellectual property is divided into two categories: Industrial Property includes patents for inventions, trademarks, industrial designs and geographical indications. Copyright covers literary works (such as novels, poems and plays), films, music, artistic works (e.g., drawings, paintings, photographs and sculptures) and architectural design. Rights related to copyright include those of performing artists in their performances, producers of phonograms in their recordings, and broadcasters in their radio and television programs.” (p. 2).

This definition clearly distinguishes and at the same time unites two types of property in the composition of intellectual property – industrial property and “copyright” – copyright and the right to reproduce works in the field of science, art, literature, etc. It should be noted that the introduction of the term “intellectual property” is not unambiguously accepted in WIPO member countries. In some countries (France, Italy) *intellectual property* means copyright, as evidenced by a number of publications and legal practice in the countries in the late 19th and early 20th century. A similar practice is observed in Spain, where *intellectual property* for Spanish-speaking lawyers means copyright law, as the term “propiedad intelectual” means copyright and related rights. A detailed review of the effects of the introduction of *intellectual property* for the designation of industrial property and copyright and the right to reproduce works in science, art, literature was conducted by Hughes (2011), who presents an in-depth analysis of the origin and development of the term “intellectual property” in WIPO member states.

Intellectual property as a concept is relatively new in the economic practice of Bulgaria. Very often it is associated with the scientific and creative activity of a person but the scope of the concept is much wider. It should be noted that along with the concept of *intellectual property*, in a number of developments there are the concepts of *knowledge, intellect, process of knowledge*, which are the basis of the theory of intellectual capital management. According to the International Federation of Accountants (IFAC, 1998) intellectual capital is classified into three categories (Table 1).

Table 1: *Elements of intellectual capital*

Elements	Features
Human capital	Includes the set of knowledge, skills, competencies, experience and motivation of employees in the organization.
Structural capital	Consists of patents, trademarks, copyrights, technologies, communications and all other components that contribute to the formation of infrastructure supporting human capital and its development.
Client capital	Covers all relations with the external environment – customers, suppliers, stakeholders and partners.

Source: *Compiled by Author from Various Sources*

As shown in Table 1, structural capital includes intellectual property objects. This allows authors to assume that **intellectual property and its objects are part of the intellectual capital**, which is the subject of subsequent developments of the authors. Based on the information provided so far, for the purposes of this paper, the authors assume that **intellectual property is a unifying category that includes the creations of human labor. It covers both**

industrial property and related rights and copyright and related rights. For a detailed description of the intellectual property rights, it is necessary to first consider the objects of intellectual property.

Intellectual property objects

Based on the TRIPS agreement (WTO) and the Bulgarian legislation (Section 1, Item. 31 of the Additional Provisions to the Personal Income Tax Act), intellectual property is categorized into the following areas: Copyrights and related rights; Trademarks; Geographical indications; Industrial designs; Patents; Layout-Designs (Topographies) of Integrated Circuits; Protection of Undisclosed Information; Control of Anti-Competitive Practices in Contractual Licenses.

The Convention establishing WIPO provides a broader scope for the concept of “intellectual property” and includes protected objects under the Paris Convention and the Berne Convention. Thus, according to the provision of Article 2 (viii) of Convention establishing WIPO, the following are recognized for intellectual property objects: Literary, artistic and scientific works; Performances of performing artists, phonograms, and broadcasts; Inventions in all fields of human endeavor; Scientific discoveries; Industrial designs; Trademarks, service marks, and commercial names and designations; Protection against unfair competition; and All other rights resulting from intellectual activity in the industrial, scientific, literary or artistic fields.

The recognition of the specified intellectual property objects gives to their holders the respective rights (Intellectual Property Rights – IPR). According to Deltsova (2019) *“Intellectual property represents a special object of civil rights: these are intangible results of intellectual activity expressed in an objective form, protected by virtue of law”* (p. 769). Acquisition of intellectual property rights plays a significant role in the economic growth of enterprises. Intellectual property rights are seen not only as an important tool for innovation and technological improvement, but according to some authors (Albach and Rosenkranz, 1995), are a crucial factor in the existence and progress of enterprises.

Author research on intellectual property rights and their impact on economic growth of enterprises has different directions. Mansfield (1986) focused his research on the role of patents, Goldstein and Strauss (2009) sought a link between trademarks and design and enterprise performance. The results of author analyzes indicate the existence of a connection between intellectual property and the development of enterprises, which also depends on the specifics of the features of the specific sector or the structure of enterprises (Thurow, 1997; Mansfield, 1994).

Intellectual property rights (IPR) contain two core categories that correspond to the categories of intellectual property – Industrial property and Copyright. The rights deriving from industrial property are related to inventions and patents, trademarks, industrial designs and geographical indications. Copyright protects rights are aimed at preserving the works of the human intellect and opportunities in the field of literature, scientific, music, art and audio-visual works, etc.

Industrial Property

Industrial property rights are shown in Table 2.

Table 2: *Specifics of the objects of industrial property rights*

Object	Features
Patent/ Invention	The authors Georgieva and Nikolova-Minkova (2019) point out that “As an indicator of the degree and direction of technological development in the economy, patents characterize the innovative potential of a country and its capacity to use own and foreign knowledge and transform them into potential economic benefits” (p. 3). In this regard, the rights of patent holders are exclusive rights and provide protection of inventions for a certain period of time in the country of patenting, in exchange for the public disclosure of the invention.
Utility models	Exclusive rights that allow the holder to oppose the use of the protected invention by others without their permission for a limited period of time.
Industrial Designs	The rights protect the visual design of the objects of intellectual property. They cover the three-dimensional characteristics of the product as a shape or surface, as well as two-dimensional characteristics such as color, patterns, lines, etc.
Trademarks	According to Panayotova (2018) “From the point of view of business brands they play a role not only in recognition, identification, and differentiation for consumers, but also act as a protector” (p. 81). By registering the trademark, its owner receives the right: to use the trademark, to dispose of the trademark, to prohibit the use of the trademark by third parties in its activities without the consent of the owner.
Geographical indications	The rights protect the right holder against the use of a registered geographical indication (indications of origin, designation of origin, geographical indications, traditional and specific designations) by designating a good/ service misleading the consumer as to their origin.
Layout Designs of Integrated Circuits	The rights on topology are exclusive rights and include: the right of use, the right of disposal and the right of the holder to prohibit its use by third parties without their permission.
Undisclosed Information/ Trade secrets	Trade secret rights are related to the unauthorized knowledge and use of specific information, secrets, facts, decisions and data that underlie the business activities of the rightful claimants and for which they have taken appropriate measures to maintain in secret.

Source: *Compiled by Author from Various Sources*

Industrial property rights (Table 2) provide an opportunity for their owners (inventors) to establish themselves as right holders, to enter new markets with minimal risk, to recoup the investments made in the research process and to contribute to the creation of innovation. From a practical point of view, these innovative activities are the basis for the development of some of the modern technologies that dominate our daily lives and which are at the heart of the digitalization process.

Copyright and Related Rights

Copyright is a set of rights granted to authors of literary and artistic works (Table 3). The creators of the works have the exclusive rights to use or grant licenses to third parties to use the work under agreed conditions. It should be noted that the above-mentioned unions and conventions provide different legal protection to the authors of works, which together protect the creative content – the form of presentation of the work and not its idea.

Table 3: *Objects of copyright protection*

Object	Composition
Original works	Literary; stage; musical; audiovisual; artwork; photographic; architectural projects, maps, etc.; cadastral and state topographic maps; graphic design of printed publications.
Secondary works	Processing; translations; adaptation; arrangements; dramatization.
Collected works	Periodicals; collections; databases; anthologies; bibliography.
Part of works	Parts that are relevant to and that reveal the specific content of the work.

Source: *adapted from Borisov, B., Borisova, V. (2015). Intelektualna sobstvenost. IK – UNSS, Sofiya, ISBN 978-954-644-809-5 p. 417. [in BG]*

The indicated copyright objects (Table 3) after their economic realization fall under the scope of related rights. Related rights are exclusive rights that arise after the termination of the performance of the work and its recording and broadcasting. Related rights are not subject to registration and arise automatically upon completion of the process of performance or recording.

Chattopadhyay (2013) summarizes the rights arising from intellectual property objects and the main sectors and activities affected by their implementation (Table 4).

Table 4: *Main sectors, affected by the intellectual property rights.*

Types of Intellectual Property Rights	Main Sectors
Copy right	Printing, Entertainment (Audio, Video, Motion Pictures), Software collection works, Broad casting, Library works etc.
Patents	Chemicals, Drugs, Plastics, Engines, Electronics, Scientific Equipment
Trademarks	All Industries
Integrated Circuits	Micro-Electronics
Breeders rights	Agricultural and food Industries
Trade secret	All Industries
Industrial Designs	Clothing, Automobiles, Electronics etc.
Geographical Indication	Wines, Spirit, Cheese and other food products
Utility Models	Mechanical Industry

Source: *adapted by Chattopadhyay, S. (2013). Intellectual Property Rights in Digital Environment. In National Conference on Reprographic Rights and Copyright Act: Challenges and Management, Indian Statistical Institute, Kolkata, 7th-8th March 2013.*

As shown Table 4, intellectual property and its objects have penetrated deeply into all spheres of human life. One of them, the technological sphere and its manifestation in digital environment, is of particular importance today, due to its rapid development and its comprehensiveness, as well as the opportunities it provides to people.

Intellectual property in digital environment

Intellectual property and its objects are widely used in both digital and computer systems, thanks to the development of existing technologies. These intellectual property objects created and managed by computer programs and in the conditions of digital environment receive mainly copyright protection, as they are not independent objects of intellectual property, but a set of such objects.

A number of developments are known, which are based on the use of intellectual property in modern conditions and digital environment. Authors Vishwakarma & Mukherjee (2014) focus their research on the protection of intellectual content in the digital age, Afoaku (2017) explores copyright in augmented reality, and Lemley & Volokh (2018) focuses on virtual and augmented reality legislation. The authors Petrova & Panayotova (2018) study the impact of digitalization on the labor market, and Kur & Maunsbach (2019) compare national and international legislation in the field of intellectual property with the challenges of the modern information environment and information technology. Studies by Barbu and Militaru (2019) examine the development of innovation and intellectual property rights in manufacturing, while Senchenia (2019) analyzes the possibilities for effective use of intellectual property in Russia.

Through the development of technology (Nikolova-Minkova, 2019), the use of big data, wireless communications, artificial intelligence, distributed ledger system (block chain), virtual and augmented reality, robotics, sensorics, etc., which also constitute intellectual property, has become a feature of modern society and its activities it. In this world of technology it is inevitable to “implement” the existing database, located on analog information resources, through the so-called “digitalization” process.

Digitalization as a concept can be considered in a broad and narrow sense. In the broad sense, Deltsova, N. V. (2019) describe the term as “*a modern world vector of the development of the economy and society based on transformation of information in the digital form and leading to an increase in efficiency of economics and life quality improvement*” (p. 769). In a narrow sense, digitalization is a technology that, through various activities, forms a process of creating and using various intellectual property objects or provides access to products that contain such objects. As a process, digitalization creates an electronic copy of analog information resources by scanning or other method.

Digitalization, aided by the development of technological capabilities, allows access to creative content. It is a technical tool that creates a new environment for the dissemination of creative content and a process of transforming the form of an existing object by reproducing or by creating a new object.

The objects of intellectual property themselves in a digital environment (Table 5) are systems that ensure the functioning of the Internet or contain other objects of intellectual property. Various software programs, networks, the specific design of various sites and websites, user interface, chips, integrated circuits and more might be specified as such. Among the objects of intellectual property that appear in the digital environment is the trademark, which due to the lack of territoriality and the impossibility to transfer protection to trademarks in the digital environment, is transformed into a domain name.

Table 5: *Objects of intellectual property in digital environment*

Object	Features
Domain names	A sign that distinguishes the creative products of an enterprise. It is expressed through a combination of letters and numbers that create an Internet address.
Computer Programs	A set of instructions to the computer that indicate how to achieve a certain result
Data Base	Independent object of intellectual property, which contains a set of independent works, materials or other data, systematically arranged and accessible through electronic environment or otherwise. It is an extensive file, subject to periodic updating, containing digitized information.
Topology of integrated circuits	A topology is a layout of the standard elements located on an integrated circuit.
Multimedia products	Multimedia products combine audiovisual, telecommunications and informatics, through a set of software products, hardware, information technology, creative ideas and content, for effective presentation of information. This set of sites and services is available online and offline.

Source: *Compiled by Author from Various Sources*

Table 5 presents the more common intellectual property objects in the digital environment and in computer systems. The objects of intellectual property included in the table are not exhaustive, and it is necessary to indicate that they are subject to constant development, change and improvement.

Intellectual property in digital environments and computer systems is also subject to legal protection. They receive mainly protection under the Copyright Act, and some of them (computer programs) can also receive patent protection. The technical characteristics of computer programs, the combination of hardware and software may enjoy legal patent protection. The computer program, as an arrangement of characters (zeroes and ones), is subject to protection as a literary work and protection under copyright law. Some of the objects of intellectual property in the digital environment also enjoy special protection (*sui generis*), which can be used as an independent or complementary to the copyright law.

The economic realization of the objects of intellectual property is achieved in a digital environment through the management of the rights over the objects. The management of the rights can be agreed individually (the rights holder negotiates the license conditions under the agreements) or collectively, through bilateral cooperation agreements. Regardless of the chosen manner of managing intellectual property rights in the digital environment, there are difficulties regarding the protection of objects. In this regard, the following recommendations can be made:

- Establishment of an international organization for the protection of intellectual property rights in the constantly evolving digital environment.
- Standardization and rationalization of the opportunities for exchange of information between the existing organizations for protection of the objects of intellectual property in order to expand the scope of their protection in digital environment.
- Expanding the legal protection of intellectual property in the digital environment and in computer systems in accordance with the continuous development of technology.

Conclusion

Based on the information provided regarding the nature of intellectual property, intellectual property objects and their manifestation in digital environments and computer systems, the following conclusions can be made:

- Intellectual property is present in every sphere of public and economic life. This fact arises from the development of science, technology and the intellectual sphere of human activity, which make this process irreversible and implies a constant expansion of the scope of intellectual property.
- The legal protection of the owner of intellectual property objects can be used only in the cases of registration of the object according to the requirements of the international agreements guaranteeing this protection.
- Entering the era of digital technologies, it is essential that the management of intellectual property is consistent with the lack of territoriality on the Internet and the impossibility of restricting the use of the object of protection outside the territories and persons for which the author has given his consent.

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