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Institutional Protection of Intellectual Property in the Digital Environment

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Abstract:

The study aims to shed light on the issue of protecting the intellectual property rights of individuals and institutions in the digital environment by ensuring the security of the vast information that these people circulate daily through the modern media and communication produced by the technology of the World Wide Web of Information, the Internet, and addressing attempts to attack it as one of the rights that respond to the property of Man is the product of his mind, his thinking and his intellectual creations.

Keywords: Intellectual property; Rights; Digital Environment; Institutional protection.

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1. Introduction:

Intellectual production of all kinds plays an important role among the various types of production carried out by man, which led to the emergence of the issue of intellectual property rights on the international front, especially with the increasing awareness of the depth of their impact on the modern economy and international trade, and thus, highliting the importance of intellectual property protection, which has become, more thane ever, a decisive matter, for its impact on raising the cultural and civilizational level of peoples and countries.

Therefore, most countries have sought to include intellectual property within national policies as an essential tool in the development of societies. They have enacted legislation that guarantees and safeguards these rights from loss, violation or infringement. This was also accompanied by a worldwide interest represented in the creation of many international conventions regulating the protection of these rights within a tight international framework that guarantees effective protection of these rights.

Accordingly, intellectual property has become one of the important topics that draw increasing attention regarding technological development and its repercussions on various fields, especially the field of information and communication, as it has become of great importance in terms of use, as well as the huge flow of information that individuals, bodies and institutions circulate daily through the modern media and communication induced by network technology.

As the world of information is represented in the Internet, it has become necessary to It has become necessary to keep pace with this rapid development in this respect and to pay attention to the protection of intellectual property rights and to address attempts to attack rhese rights that are part pf the rights for human ownership of the products

of human's mind, thoughts and intellectual creations.

Hence, This is how the present study's object crystallized, with the aim of focusing on the institutional protection of modern intellectual property rights in the field of information and communication technology, The problem posed in our present study is as follows:

What are the legal mechanisms necessary to activate the institutional protection of intellectual property rights in the digital environment?

2.Institutional protection of intellectual property rights in the field of information and communication technology

2.1 The concept of information and communication technology

Technology has developed greatly in the modern era thanks to many of the research conducted in laboratories, which has contributed a lot to the development of various technology techniques, and technology has become an important part of the lives of both individuals and scientific and commercial entities (Brahimi, 2014-2015,p.93) as well.

The Internet is the best example of the expansion of the role of technology in all areas of life. Technology is divided into various types including information technology, industrial technology, urbanistic technology, creative technology, in addition to ICT that contributes in many areas. This article will explain the concept of information and communication technology.

Initially, the concept of technology should be defined as follows:

The word technology is derived from the Greek language TECHNOLOGY and is divided into two parts:

TECHNO means technology, art or skill, and LOGY or LOGES means science and study, and when the two words are combined, we find the science of technology(Makawi, 2000, P.9).
To clarify the concept of information and communication technology, it should be noted that the term primarily emphasizes the role of communications and computers, as well as the necessary corporate software that enables users to access, store, transmit and process information (Deliou, 2007, P.17).

The term information and communication technology is used to refer to the convergence of audio-visual and telephone networks with computer networks through a single system of cabling or links, where there are great economic incentives to integrate the telephone network with the computer network system using a single unified cabling system(Deliou, 2014, P.19).

Indeed, modern communication technology has given rise to a real revolution in the transfer and storage of information and the emergence of new services has also allowed the transfer of information and its circulation which has effectively perfected this technology so that the electronic book has spread among the intellectuals by supplanting the place of the conventional book while in the fields of commerce and economics new terms which are specific to these fields have emerged, such as electronic commerce and intangible economy (Lagab, 2003,PP 66-67).

2.2 Communication Technology Features

Although modern communication technologies are the result of the modern technological revolution, they are still almost similar in many characteristics with traditional media. However, there are other characteristics that set them apart, as follows :

2.2.1 Interactivity

This feature brings out the degree to which participants in the communication process influence the roles of others and their abilities to exchange in a communication process and this exercise is referred to as exchange practice or interactivity, in the sense that there is a series of communication acts in which a person (A) can take convert into a person (B) and practice his communication acts. This is because the transmitter transmits and receives at the same time, and the so does the recipient.

Communicators are called participants rather than sources. The example that this well illustrates this is the interactivity that exists in some teletext systems and that has resulted in the decline of state control over information and information sources and the individual has become fully responsible for the selection of his information and programs, according to his trends, potential and cognitive abilities. (Ilm El Din, p.177).

2.2.2 Asynchrony

It is the possibility of interacting with the communicative process in a timely manner for the individual, whether he is a recipient or a sender.

It also means the possibility of sending and receiving the means at a suitable time for the individual user and does not require all participants to use the system at the same time. For example, in the e-mail system, the message is sent directly from the message producer to its recipient at any time without the need for the recipient of the message to be present(Ilm El Din, p.177).

2.2.3 Unpopularity

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It means that the communicative message can be directed to an individual or to a particular group, and not to huge audiences as was the case in the past. It also means the degree of control in the communication system so that the message reaches directly from the message producer to its consumer(Sinacer, p.222).

2.2.4 Motility or mobility

There are many means of communication that the user can take advantage of to communicate anywhere from one place to another while on the move, such as the cell phone, the car phone, the phone built into the wristwatch, and there is the multi-ounce copier, the tiny video machine, the fax machine, and the laptop computer fit with a printer(Boulaouidat, p.83).

2.2.5 Transferability

It is the ability of means of communication to transfer information from one medium to another, such as computer technologies and programs that can convert the audio message into a printed message and vice versa, such as voice recognition systems, and there are machine translation systems which first appeared in the French Mintel system(Boulaouidat, p.83).

2.2.6 Connectivity

This means that communication devices such as computers, printers and phones can be connected to a wide variety of other devices, regardless of the country in which the device is built.

Thanks to the earlier characteristics of modern technology, it is clear that the integration of media and communication and information technologies has brought about great transformations in the nature of communication processes and has provided recipients ,

with unlimited possibilities to choice and free interaction with those responsible for communication.

Just as many high-tech media have the ability to transfer information from one medium and convert it from one medium to another, such as converting audio message to written message and vice versa, and what has increased its ability to do this, was the ability to connect communication devices with each other to form an integrated communication system.

3. Forms of information and communication technology in the organization:

Information technology has six main components:

3.1 Devices and equipment (computers)

It is an electronic device intended to accept, process, store and display data and information, and the existence of the computer has become an irreplaceable necessity today. It is hard to find a position or a job in which the computer is not required(Boulaouidat, p.84).

3.2 Human Resources Skills

Human resources are represented by a set of skills and knowledge. The human resource is one of the most important components of information technology, as it is responsible for controlling, managing and operating other components.

3.3 Software: It can be classified into

System software: such as operating system software that manages the operations of a computer system.

Application software:

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These are programs that do direct processing for personal use by the end user, such as payroll programs and word processing programs.

3.4 Procedures :

It is a set of instructions on how to integrate hardware, software, data and the network for the purpose of data processing and output generation.

3.5 Communication networks:

It is the means used to send and receive data and information, such as the Internet (Brahimi,p. 93).

3.6 Database:

It is a group of interconnected data or information stored in data storage devices. Databases help to provide security and protection for data from unauthorized access, and protection may vary from a simple one that uses a password to the most complex.

4. Protection of intellectual property rights for works of the digital environment

Digital works are the mental creative works that pertain to information technology and which are dealt with in a digital way, which are computer programs, databases, integrated circuits and multimedia(Abdul Sadiq, 2002,P.412).

4.1 Protection of computer programs

There are many definitions of computer programs, both from the standpoint of case law and that of other bodies such as the International Copyright Society and the World Intellectual Property Organization. Part of the case law has defined it as: "a set of instructions in a language or code, the intention of which is to make a

computer capable of preserving and organizing information in such a way as to lead to the realization of 'a specific result, function or task"(Abdul Sadiq, 2002,P.412).

It also defined it as: "a set of instructions directed from a human to a machine that enables him to perform a specific task. "(Afifi,2003, p.26)

Algeria protects this work under the law on copyright and neighboring rights. The law on copyright and neighboring rights (Ordinance 03-05 of 2003) provides for the protection of computer programs as a literary work, in accordance with the text of article (04) of this decree, which specifies: "The following texts are considered as protected literary or artistic works:

Written literary works such as: ..., computer programs ..."

In order to protect the works in accordance with said ordinance, it is required that this work be original according to Article (03) from the same Ordinance, which states: " each owner of an original literary or artistic creation is granted the rights stipulated in this order. Protection is granted whatever the type of the work, the style of expression, the degree of maturity and its destination, as soon as the work is created, whether the work is installed or on any support that allows it to be communicated to the public."

From the aforementioned provisions of articles, it is stipulated as a criterion for eligibility for protection, the existence of the originality of the computer program as a literary work(Al-Hafnawi,2001,pp.187-188).

The international conventions, especially the TRIPS Agreement, has dealt with the protection of computer programs in Article (10), which states: "Computer programs, whether in the language of the source or in the language of the machine, enjoy protection as literary works under the Berne Treaty (1971)." (the TRIPS Agreement, art.10).

As well as in the WIPO Copyright Convention, Article (04) stipulates: “Computer programs, as literary works, enjoy the meaning of Article (02) of the Berne Convention, and this protection shall be applied to computer programs, whatever their method or form is.” (the WIPO Copyright Convention, art.04).

As for the opinion of international conventions and national legislation on the possibility of granting a patent for computer programs and thus subjecting it to the patent system, it is obvious that the scope of granting a patent for a computer program has been narrowed by expressly stipulating that this idea is completely excluded..(Al-Hafnawi,2001,pp.187-188).

The bottom line is that intellectual property rights have added the necessary protection to computer programs and considered them literary property to be protected by copyright law, and barriers have been placed against imitation and competition to protect computer programs.

4.2 Protection of databases:

The database is a distinguished collection of data in which the element of innovation, arrangement or tabulation is available through personal effort in any language or code and is stored in a computer., and it includes a set of materials that may be data, articles, texts... or computer programs (Al- Salmi, 2002, p.407)

In accordance with Ordinance 05-03 relating to copyright and related rights, it is also referred to databases which are considered to be protected works under this ordinance.

Through this text, the Algerian legislator has considered the databases to be intellectual works that are protected on the basis of the law of authorship, whenever they meet the condition of originality in accordance with Article (03) thereof.

As for the Berne Convention for the Protection of Literary and Artistic Works, its article (02) qualifies for the protection of the database, and the TRIPS Agreement similarly qualifies in Article (10) for the protection of the database (Al- Hefnaoui, p.267).

In addition to the web convention on copyright, article 05 also provides for the protection of databases and data. If the condition of authenticity shall be met to benefit from legal protection, a simple compilation of data, does not enjoy this protection (Correa, 2002,p.158).

Through the foregoing, we conclude that the various national legislations, whether Arab or foreign, as well as international agreements, agree on legal protection of databases on the basis of the copyright law when they meet the condition of originality and consider them intellectual works, and this is what the Algerian legislator has taken as well under the legal provisions on the copyright law and related rights.

4.3 Protection of integrated circuits

The electronics industry has developed day by day, to the manufacture of the so-called semiconductors, which is a new opening after the development of the processes of integrating electronic

circuits on the chips to perform electronic tasks and functions, as well as the incorporation of integrated circuits on the semiconductor chip, and form together with some connections or all of them an integrated entity aimed at the realization of a functional electronic circuits integrated chip (Saleh, 2014,p.41).

The Algerian legislator has laid down provisions on the protection of integrated circuits, according to Ordinance 03-08 dated July 19, 2003.

As for the protection of the formal designs of integrated circuits, he has provided for the integrated circuits and decided to protect them, whereby the ordinance can protect the formal designs of the original integrated circuits. So, the formal design is considered original if it is the fruit of an innovative intellectual effort that was not circulated among the creators of formal designs and manufacturers of integrated circuitsu (Ordinance 03-08,2003)

The protection granted to a formal design does not apply except to the formal designs of the integrated circuits themselves, with the exception of any visualization, method, system, technology or information encoded in this formal design.

By extrapolating the articles included in the Washington Convention on Integrated Circuits of 1989, we find that they are concerned with the integrated circuits, where the conditions for their protection were specified in Article 3/2 of the said Convention, where it was stipulated that the protected thing shall fulfill the following two conditions:

- The design must be original.

- The product must be unfamiliar within the industry of design innovators and the integrated circuit industry (Washington Agreement, art.02/3).

The seventh article of the Washington Agreement also allows the member state to make of registration a condition of protection. As for the period of protection, it was stipulated in Article (08) of the agreement, and set at eight years. (Washington Agreement, arts.7-8).

The main purpose of IC protection is to prevent copying of original chip designs and trafficking in transitive chips or the products that contain them (Correa, p.157).

4.4 Multimedia protection

Multimedia files are meant to be a container for storing information, and an interactive medium that transmits information to the user.

It allows the imaginary assumption or virtual reality through which the user moves to the medium he uses and interacts with its elements and people. As the multimedia is of a complex nature , it contains a package of intellectual property rights consisting of images, video, music, animation and others.

Authors of texts, computer programmes, databases, music, pictures, and animations, as well as performers can apply for copyright and related rights in multimedia work which can be protected under copyright law(Correa, p.157).

Multimedia rights can also be protected through granting their authors patents under patent law on multimedia products.

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In addition, multimedia is considered a trade secret, and therefore, it can benefit from the same protection set for trade secrets.

5. CONCLUSION

In the face of the technological revolution that the world is witnessing today, the spread of information technology is receiving great attention all over the world.

The latter contributed to all aspects of political, economic and social life, which led to the occurrence of many problems that impede this spread.

The protection of intellectual property rights internationally and nationally have had an impact on information security in several aspects, which has had a positive developmental impact.

Where the protection of intellectual property rights has helped the spread of information technology through the protection of computer programs, databases, multimedia and integrated circuits, especially since information technology is constantly evolving, it is therefore needing more protection.

We arrive at the conclusion of this research to say that the copyright and related rights in Multimedia facilities have not been given the careful attention and care of international conventions.

In the Algerian legislation, and in particular Ordinance 50/53 relating to copyright and related rights, these are:

Laws still fall short of understanding the special nature of multimedia as It carries an intellectual, literary or youthful product that results from the union, synthesis and blood of a group of characteristics.

For others, its content is used via computers, and it is circulated via the Internet in a regular manner interactive.

In order to achieve this, we offer a set of suggestions:

-Presenting new and renewable studies and readings in the field of intellectual property rights in the environment Digital, stresses the need to keep pace with the rapid technological development and legal adaptation For intellectual and literary products, young and scientific, included in digital media.

Especially Multimedia laws and legislation on intellectual property and copyright need to keep pace with Continuous rapid and successive technological developments, or updating the arsenal

-Legal regulation of the field of intellectual property in the digital environment, in a manner that guarantees copyright and neighboring rights in a fair and equitable manner in light of what these technologies provide Ease of trading information and products of all kinds.

- Inviting the Algerian legislator to involve specialists in the field of modern technologies,digital applications, multimedia applications, and interactive multimedia,to reach an accurate definition of the legal nature of these terms, in order to guarantee the rights of Authors in a fair manner put an end to all legal and moral infringements against It is available via the internet.

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