Intellectual Property and Open Source

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In this article, there are defined and there are characterized the intellectual property and the open source concepts. There are emphasized their main advantages and disadvantages and the actual situation nationwide and worldwide.
Keywords: *intellectual property, open source, intellectual property versus open source.*

Introduction. Internet boom and the growth of demand for non-tangible products drive to the growth of the importance accorded to intellectual property and open source concepts from both governments and companies.

There are some differences between a tangible product and a non-tangible product as regards its properties and way we have access to it. A tangible product can be easily bought, modified and re-sold unlike the intangible product.

Intangible products are: easy to copy and multiply, easy to modify and transmit in every part of the world through the internet, easy to find on the Internet, we have access to them through hardware and software components, doesn't require to meet the product seller, an easy track of product usage by the users cannot be kept, unauthorized usage issue.

Intellectual property

Intellectual property includes the new and unique products and services that are market valuable and are created by individuals. Rights offered by the intellectual property are rights won by individuals, by groups or by organizations for their creative work such as inventions, literal and artistic creations, symbols, images, drawings used in commerce and software products. Intellectual property rights are monopoly rights and confer the author the right to deny usage of its creation for some period.

The main forms of intellectual property are [1]:

Industrial property

Patents – confer the author the right to prevent others from producing, using, selling, distributing, or importing the invention for a limited period. It is a contract between inventor and state.

Trademarks – represent any sign that may distinct products and services of various merchants.

Industrial design – represent the manner in which the product or a piece of it appears: shape, color, lines etc.

Trade secrets – consist of commercially valuable information about customers, business plan, production method etc.

Geographical indications – identify the geographical origin of product and other qualities that came from the place of origin.

Artistic and literary property

Copyright – confer the author the right to control the number of the exemplars from his creation. It prevents unauthorized reproduction, recording, translation, adaptation or broadcasting.

Unique systems

Integrated computer circuits – represent a specific form of protection for design of integrated computer circuits.

Plant breeders' rights – offer protection for at least fifteen years to breeders of new, distinct, uniform plant varieties.

Database protection – provide protection of databases, preventing unauthorized use of data.

Author rights are gained with the ending of work creation, without a special approach, while the intellectual property rights are gained through recording and examination, made by specialized persons, at an industrial property office.

Government has approved laws for the protection of non-material goods producers, intellectual property laws, and copyright laws. With these laws, non-material goods producers try to protect their work, researches or investment. For example, software products are easy to copy but hard to modify because access to source code is denied.

Organizations are having expenses with the research, programs elaboration through work, consumed time, technical equipment used, and these expenses must be supported from incomes obtained from selling other intangible products. Any organization needs money to be on the market. In his work "*Can We Let Ownership Go*?", Trent Russi brings a strong argument for the intellectual property "*Information may want to be free – but it doesn't grow on trees. It is created by people who need to be compensated for their creation" (Levinson 198)* [2].

The number of companies specialized in risk management services and intellectual property protection services are rising. In addition, for the software producers' protection there are many organizations specialized in technology escrow. Escrow services protect developers and clients interests. The clients are confident that the seller will provide maintenance and technical support, the contract provides them access to source code under specific circumstances. Providing source code to such a company minimizes the risk associated with licensing or technology development, and protects developers' intellectual property. The escrow contract has three participants: *a third party* (neutral), which handles the intellectual property protection based on the contract terms and agreements; *the owner* (the licensor, vendor or developer); *the beneficiary* (the licensee, customer or user).

Open Source

In 1984, FSF (Free Software Foundation) was promoting free software usage. [3] Richard Stallman, FSF founder, says that software should be „free". It should be allowed to copy and develop. Society may develop only in this way, through free access to researches made, to software and non-material products. In Stallman understanding, "free" is non-restricted access to source code, the right to use, copy, see, redistribute and modify code modules, not taking into account the elaboration cost and not asking money for this, but not zero costs. Stallman emphasizes the differences between "free" as non-restricted access to source code and "free" as gratuity.

FSF and OSI (Open Source Initiative) are two similar communities through their scope, but OSI emphasizes free programs evolution and considers OSI as a superior software development model, based on source code availability, the possibility to study it, modify it, use it and solve the errors. „ *The basic idea behind open source is very simple: When programmers can read, redistribute, and modify the source code for a piece of software, the software evolves. People improve it, people adapt it, people fix bugs. And this can happen at a speed that, if one is used to the slow pace of conventional software development, seems astonishing."* [3]

Open Source is a software development model, to which many communities of software development volunteers adhered. The most common Open Source expression is GNU GPL (General Public License).

GNU GPL offers the property right according with the laws, offering a free access standard to programs. For example, GNU GPL has authorized Linux usage by others, possibility to modify and distribute, as well as elaboration and distribution of new programs based on the initial product. Intellectual property denies some programs alteration and distribution without their author permission. Open source projects may be copied and altered in order to assure and promote creative work.

Open Source provides access to UNIX/ XWindows operating system with the least necessary cost. The cost comes from the fact that LINUX runs on compatible IBM which is, generally, more accessible in developing countries, compared to a PC. Open Source was encouraged by international organizations, by civil society groups and by educational institutes.

Niranjan Rajani, in its chapter 2 from "*Free*

as in education", 2003, make a clear distinction between "free" as no cost and "free" as non-restricted access to the product according to FSF or OSI. Some software programs, such as Microsoft Internet Explorer, Opera and others may be available at no cost. These products are gratuity products, but not free because you cannot access freely to the source code in terms of the FSF or the OSI. There are also products witch are free in terms of the OSI and the FSF, but they are available for a price.

The software products can be classified according to their price and source code like this:

- Zero price - gratuity products witch allow the source code to be open (source) or not.
- Non-zero price – products available for a price witch allow the source code to be open (open source) or not (proprietary software).

Generally, OSS is available for a low cost or gratis, depending on his producers which can be commercial or non-profit companies. The number of the companies, which offer technical assistance, is growing.

Advantages and disadvantages

Intellectual property has positive and negative parts according to some authors. Intellectual property offers a specific control over their products to the companies witch product intangible goods and ensures their existence on market. Instead, a society, in which people had free access at discoveries, researches and software would be an advanced society. Thus appeared open source versus proprietary software.

Some persons see in intellectual property rights, such as copyrights, a mean of existence. For example, some authors of books do not offer free access to the book in electronic format, to the users. They consider that, this thing leads to decrease of the sales. Other authors consider that the access to the opera in electronic format is a mean of increasing the sales and in the same time a decrease of piracy. They consider a downloaded exemplar on the Internet means much more sold copies of the book. The free access to the electronic book represents publicity to their books. For example, a person downloads an electronic book, read it, likes it and speak about it to his friends or/and buys the book for himself or for other person as a gift. On software market, a point of view that can be taken in consideration to determine advantages and disadvantages is demand and supply and how they are influenced by open source and intellectual property.

From the demand point of view, the following can be taken into account: the cost of acquisition, technical support and maintenance product, the risk in adopting the solution, the practicability of solution, the reliability, the cost with personnel instructing.

Open Source	**Property software**
Advantages	
Low acquisition cost. High reliability	High technical support and software product maintenance Low risk in adopting the solution and low cost with personnel instructing.
Disadvantages	
Low technical support and software product maintenance High risk in adopting the solution and the cost with personnel instructing	High acquisition cost Low reliability

From the supply point of view on software market, at this moment, there are many products from both categories. Each category has some specific facilities and performances.

Abdullah Gök analyses open source and intellectual property from the perspective of the following indicators: performance, reliability, functionality, manageability, compatibility and innovative potential [4].

From his researches result following advantages and disadvantage:

	Open Source Model		Proprietary Model	
Distinction	Strategy	Advantages and disadvantages	Strategy	Advantages and disadvantages
Design Architecture	Modularity	Reliability (+) Manageability (+) Compatibility (+) Innovative potential (+) Performance (-)	Less modularity, more integration	Performance (+) Manageability (-) Innovative potential (-) Reliability (-)
Organizational Structure	Decentralized Development	Functionality (+) Innovative potential (+) Reliability (-) Manageability (-)	Limited decentralization	Reliability (+) Flexibility (+) Functionality (-) Innovative potential (-)
Management mechanism	Non-hierarchical bottom-up approach	Innovative potential (+) Functionality (+) Compatibility (-)	Hierarchical top-down approach	Compatibility (+) Innovative potential (-) Functionality (-)
Testing processes	Testing in real conditions	Reliability (+)	Internal testing and Beta testing	Reliability (-)

In developing countries must find means, innovations for increase the economy. One of the means is using open source software.

National and international stage

There are important national and international organizations, which sustain the intellectual property, and there are lows that assure the intellectual property rights. There are companies, which deal with the protection of the intellectual property. The states tries to assure the protection of the author rights, the industrial property, the protection of the intellectual property and, at the same time, they encourage usage and creation free source (researches, software products etc.) for promotion development and innovation.

In Romania, the assurance of the intellectual property's protection is especially accomplished by two institutes: The State Office for Inventions and Trademarks (industrial property field), The Romanian Office for Author Rights (royalties) (author right and adjacent right field) [5].

The Romanian Government promulgated some intellectual property ordinances but he also undertook complete or partial normative acts from European legislation as regarded to intellectual property.

On international plan, Romania is part of Word Intellectual Property Organization (WIPO), is a member of the Paris Union for Industrial Property Protection, is a member of Berne Union for Artistic and Literary Opera Protection, and is a member of Patent European Organization [5]. The Romanian state grants a lot of importance to intellectual property and he establishes strategic means such as:

- the application's improving of the legislation in the domain of intellectual property in Romania;
- the achievement of an adequate administrative infrastructure within the framework of involved institutions in assurance of the intellectual property ;
- forming specialized source;
- the accomplishment of a transparent cooperation between institutes and organizations which are involved in the assurance of the intellectual property's protection.
- influencing, educating and realizing of the public as regarding to the role and the importance of the intellectual property rights;
- national legislation synchronization of intellectual property with community right regulations and with the guidelines from the international agreements where Romania is taking part.

In Romania, there are both open source and commercial applications. The nature of the used applications depends on domains and the requirements. In Romania, there are firms that sustain open source movement and offer services to those who wish a solution based on open source.

In France, the researchers from three gov-

ernmental companies, French Atomic Energy Commission (CEA), National Center for Scientific Research (CNRS) and National Research Institute for Computing and Automation (INRIA) launched a new license model, compatible witch GNU General Public License, called CeCILL and having as a scope the alignment of the open source software to the lows from France [6].

European Commission, in IDA program (Interchange of Data between Administrations), has published "The Open Source Migration Guidelines", a guidelines for helping public administrations across Europe migrating to open source software [7].

Officials from many European countries, as Germany, France, Norway, agree that the open source can be a measure for decreasing the costs and increasing the productivity in some sectors where products from this category can be used.

Conclusions

The Intellectual property and the open source are two trends that don't exclude each other and which help development and innovation. Each of them has advantages and disadvantages, and the competition and the dispute between them, on some planes, lead to the decreasing of the costs and technological advantage.

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