

## INTELLECTUAL PROPERTY ENFORCEMENT TO SAFEGUARDING IT ENVIRONMENT

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### ABSTRACT

The world has started to appreciate more and more the value of information and its impact on humanity and sustainable developments. However, due to the increase in cybercrimes, information technology needs to be secured using certain policies and laws. In Iraq, as one of the developing countries, information technology field has evolved but the readiness to secure information technology is believed to be at the infancy. This paper introduces the potential role of intellectual property in safeguarding information technology from infringed and theft threats. It also suggests some recommendations as a basis for developing intellectual property law and policies to protect the rights of information technologies in Iraq.

### I. INTRODUCTION

Nowadays, the protection of information is considered as an important issue in almost every field, since IT has become deeply involved in our social life and business life. The important information needs security, and different sectors such as education, healthcare, electrical power generations, financial and banking that involves crucial activities are the most important sectors which require protecting their information. In order to preserve creations of the organizations and individuals, laws and policies need to be established and implemented. The purpose of this paper is to present the impact of intellectual property in protecting the valuable types of information.

This paper is organized as follows: In the following section, the two important terms information technology and intellectual property will be explained. This is followed by

explaining the importance of intellectual property system related to IT. Later, some challenges of IP implementation at Iraq are introduced. The paper ends with a conclusion and discussion.

## **II. Intellectual Property and Information Technology**

At this point, the research will provide operational definitions for each of intellectual property, information technology, according to the context of this paper.

### **A. Intellectual Property (IP)**

According to World Intellectual Property Organization (WIPO), intellectual property (IP) pertaining to creations of minds: literary and artistic works; designs; and symbols, names and images used in commerce. As shown in figure 1, Intellectual property (IP) is divided into two types:

- i. Industrial Property: it includes patents for inventions, trademarks, industrial designs and geographical indications.
- ii. Copyright which 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.

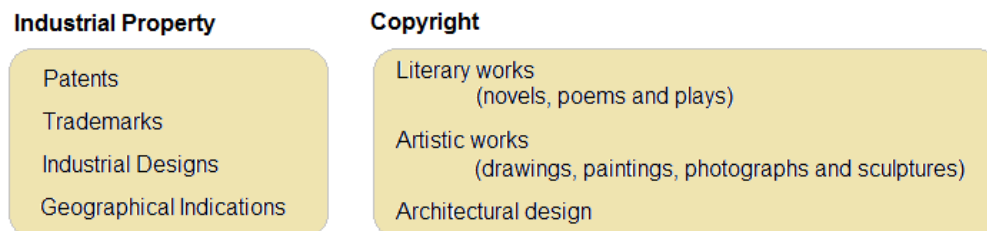


Figure (1): IP Two Categories.

### **B. Information Technology**

Information Technology (IT) is the activity of using computers and other electronic equipment to store and send information (Cambridge Dictionaries Online, 2015). Similarly, IT is the development, maintenance, and use of computer systems, software, and networks for the processing and distribution of data (Goczyla & Zawadzka, 2006). Information Technology has expanded along with advances in computers, networking and data technology, and has grown exponentially with the advent of the Internet.

There are essentially four types of intellectual property relevant to Information Technology: patents, copyrights, trade secrets and trademarks. Each affords a different type of legal protection (Eric S. Freibrun, 2015).

Patents, copyrights and trade secrets can be used to protect the technology itself. Trademarks do not protect technology, but the names or symbols used to distinguish a product in the marketplace.

### **III. Importance of Intellectual Property System Related to IT**

Virtually everyone in society is a user and potential creator of intellectual property. Its protection, through a system of national and international rules called intellectual property rights, which is necessary to provide incentives and funding for innovation and creation, which in turn lead to economic, cultural and social progress. Moreover, in providing protection for intellectual property this will encourage the production and dissemination of knowledge and a wide range of quality goods and services. Intellectual property rights add value for consumers and can provide a guarantee of source and quality (ICC, 2005) .

There is no doubt that the development and implementation of digital technology is very important in today's world. The wide spread adoption of technology in every aspect of life has affected the law and policies of intellectual property (Holmes, 2002).

In relation to information technology, countless technologies and creations that have touched and changed the lives of millions would probably not exist in our day without the incentives provided by intellectual property rights. Patent protection has encouraged the development of key technologies for examples the transistor, telephone communication and electrical energy (ICC, 2005), down to touch screens and 3D printing technologies.

In general, addressing the challenges of developing an IP system requires a careful analysis of the costs (including opportunity costs) and benefits to the society of expanding IPRs (Intellectual Property Rights). However, identifying these benefits and costs is no easy task (Maredia, 2001). With the understanding, that identifying these benefits and costs is no easy task, certainly it is more difficult to identify the benefits and costs of developing IP system with relation to IT.

Here are some benefits of implementing IP system related to IT:

1. Helping technology transfer (Sarkissian, 2008).
2. Pro-competitive effects such as “patenting around” existing technology (thereby increasing marginal innovation, at least in theory, and preventing any single invention from taking on a dominant role by providing close substitutes (Sarkissian, 2008).

3. If intellectual property rights are not enforced, the prices of pirate copies of software product can be expected to fall to zero via Bertrand competition. On the other hand, when bootleggers are in danger of being punished for their activities, it may be costly for them to inform potential consumers of their products, since this may increase the risk of being caught and receiving a penalty (Ilkka, 2008).
4. If intellectual property rights are not adequately protected and enforced, then researchers and scientists will have less incentive to create new technological knowledge and even in the event that knowledge is created, the lack of intellectual property rights protection will greatly hinder distribution of such new knowledge (Chen & Dahlman, 2005).
5. If intellectual property rights are not well respected, both the local software industry and international software will be reluctant to make their products available locally for fear of piracy or infringement (Kleinwächter, 2007).
6. Intellectual property and antitrust laws work in tandem to bring new and better technologies, products, and services to consumers at lower prices (Harris & Fuller, 2008).
7. More incremental innovation, because the community would gain the benefits of competition in every field through the development of new ideas along as many diverse paths as the technology justified. No firm would be prevented from developing any new product as long as it was ready to share with the benefit of hindsight in both the investment and the risk, which had brought that market into being (Kingston, 2001).
8. Unless the inventor/innovator owes strong accepted protection against imitation and/or strong intellectual property safeguard, then the innovator's prospective future income is at risk. For example, the case of IBM making its server operating system reachable as a nonproprietary product to gain advantage in the sale of related hardware, applications, and services (Al-Aali & Teece, 2013).

All of the stated benefits of implementing IP system, according to this research are summarized in figure 2 below.



Figure 2: IP system benefits towards IT

#### **IV. Challenges of IP Implementation in Iraq**

According to World Intellectual Property Organization, Iraq has joined WIPO since 1976 (WIPO, 2015). There are two main competent administrations: the first competent administration is responsible for copyrights which is represented by Ministry of Culture, while the second one is responsible for industrial property which is represented by Central Organization for Standardization & Quality Control (COSQC) and this organization is a part from Ministry of Planning (WIPO, 2015).

Intellectual property is considered necessary in order to attract the foreign direction investment. It was stated that legislations would not be the exclusive solution to the IP in Iraq; there are still other reasons for the all Middle Eastern countries to struggle with IP protection within their territories. There is a lack of IP enforcement in Iraq; the essential reason for this inapplicability of statutes is the absence of suitable training for Judges and officials on how to develop an enforcement system that is TRIPS (Trade-Related Aspects of Intellectual Property Rights) compliant (Al-Dajani, 2007).

Surprisingly, there is no separate course about intellectual property in the law curriculum in the Iraqi law colleges (including our university – LFU), intellectual property right is a very brief section in the topic of real property. In fact, no attention is paid to the topic of intellectual property in the postgraduate studies programs, this negligence may be the main reason behind the inapplicability of statutes of intellectual property in Iraq (Althabawi & Zainol, 2014).

## V. Discussion and Conclusions

Different types of intellectual properties might have different local and international procedures and systems to protect them. Nevertheless, all these types go through common general sequence.

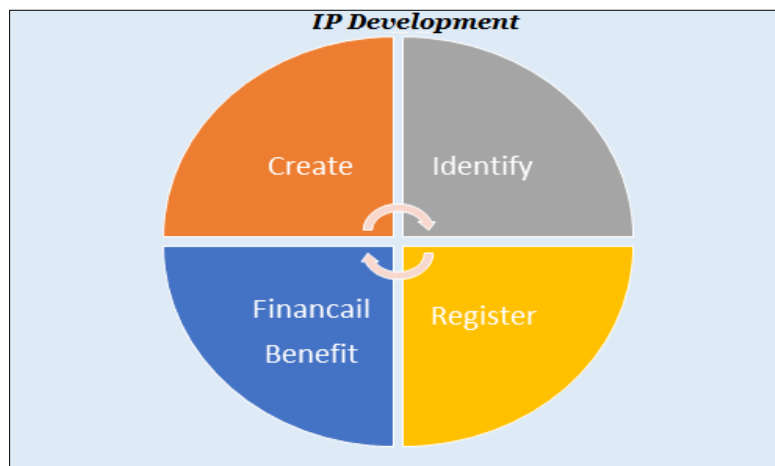


Figure 3: Assessment model of IP

Figure 3 above presents four phases that any IP in general should go through them. At the beginning the IP should be created by a person or an organization, then this IP should be identified by its type as well as evaluating its uniqueness and value. Afterwards, if the IP is worthy it should be registered to protect the right of its inventor. In the last phase, the financial benefit is granted in case the IP is utilized or sold.

Although Iraq joined the WIPO since 1976, there is a lack of IP enforcement in Iraq. It was stated that legislations by Ministry of Culture (which is responsible for copyrights) and Central Organization for Standardization & Quality Control (COSQC) (which is responsible for industrial property) would not be the exclusive solution to the IP in Iraq.

The essential reasons behind the inapplicability of statutes of intellectual property in Iraq are:

- a. The absence of suitable training for Judges and officials on how to develop an enforcement system.
- b. The absence of courses about intellectual property in both Iraqi law colleges and IT colleges.
- c. The absence of the topic of intellectual property in the programs of the postgraduate studies and topics of theses.
- d. The absence of the guides for the people who work in IT fields that explain how to get copyrights, patents and trademarks for their works.

When enforces the IP well, this will safeguard the following IT tracks:

- a. Helping transfer IT technologies, incentive to create new technological knowledge and to bring new and better technologies, products, and services to consumers at lower prices.
- b. Increasing innovation, at least in theory, and preventing any single invention from taking on a dominant role.
- c. The prices of pirate copies of software product will be increased, since this may increase the risk of being caught and receiving a penalty.
- d. The local software industry will be encouraged to make their products available locally and globally.

In order to verify the findings of this research, the conclusions were sent to the office of the Arab Union for the Protection of Intellectual Property Rights at Baghdad city. The deputy president of the Arab Union office stated at first that the department of the Trade Marks at the Ministry of Industry should also be mentioned in the conclusion of this research because it has many experts in IP field. The second issue is to save IP rights by issuing a new IP law then submit it to the Iraq Parliament for voting on it, because some of the current laws are outdated and need for amendments to deal with the current infringements. In addition, Iraq should work actively with both of Arab Federation for the Protection of Intellectual Property Rights (AFPIPR) and World Intellectual Property Organization (WIPO) since they are specialized international organizations.

Finally, as a conclusion, we suggest that both law and IT colleges should work together with the Ministry of Culture and COSQC in three parallel lines with a strategic plan to safeguard IT environment in Iraq by doing the followings:

1. Train the judges and officials on how to develop an enforcement system based on the facts that patents and copyrights are subject to being infringed, while the trade secrets are subject to theft.
2. Increase the awareness of Ministry of Culture and COSQC for the value of IT copyrights, patents and trademarks that encourages the local IT industry and maximizes the economic value of an IT asset
3. Increase the awareness of IP for those who works in IT fields, and learn them how to get copyrights, patents and trademarks for their works.
4. Increase the topics of IP (especially laws that are closed to IP like copyright laws, patent laws and trade secret laws) in the postgraduate studies programs and theses.

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### پوخته:

جيهان له نيسنادا ههنگاو به ههنگاو بۆي دهردكهوئ كه تهكنهلوژياي زانيارى چهنده سودي ههيه بۆ مرؤف كارىگهري لهسهر پيشكهوتنهكانى مرؤفايهتى. له ههمان كاتدا لهگهله زيادبوونى مهترسيهكان و تاوانهكان، تهكنهلوژياي زانيارى دهبي بپاريزري بههوى رينمايههكان و ياساكان.

له عيراقدا كه وهك يهكيك له دهولهته پهرهسههندوهكان ههژمار دهكرئ، تهكنهلوژياي زانيارى پهرى سهندوهه، بهلام تهكنهلوژياي زانيارهكى پاريزراو تهنها له ههنگاوكانى يهكهמידايه.

لهم تويزينهوهدا باسى دهورى هزرى كهسى دهكرئ بۆ پاراستنى تهكنهلوژياي زانيارى لهدهست ههههشهو دزين. وه ههروهها تويزهر چهند بۆچونيك دهخاته بهردست بۆ پهرهپيدانى ياساى هزرى كهسى كه بۆ پاراستنى مافهكانى تهكنهلوژياي زانيارى له عيراقدا.

### المخلص:

بدا العالم يدرك قيمة المعلومات وتأثيرها على البشرية وعلى التنمية المستدامة شيء فشيئ. ويعود سبب تنامي هذا الادراك الى زيادة حجم جرائم على شبكة الإنترنت، لذا فإن تكنولوجيا المعلومات تحتاج لان تكون آمنة من خلال استخدام سياسات وقوانين معينة.

في العراق كواحد من البلدان النامية، قد تطور فيه حقل تكنولوجيا المعلومات لكن استعداد تأمين تكنولوجيا المعلومات لازال في مراحلها الاولى.

هذا البحث يقدم الدور المحتمل للملكية الفكرية في حماية تكنولوجيا المعلومات من تهديدات التعدي والسرقة، فضلا عن اقتراح بعض التوصيات كأساس لتطوير قانون الملكية الفكرية والسياسات الرامية إلى تأمين حماية حقوق تكنولوجيا المعلومات في العراق.