

Chapter 1: The beginning

1.1 Introduction

In a broad sense, intellectual property (IP) is a bundle of rights granted over creations of the human intellect.¹ Unprotected creations and knowledge are usually non-excludable because it is not possible to prevent others from applying new knowledge even without the permission of its creator. If a creation is valuable, it is likely to be copied or imitated. The legal system of intellectual property rights (IPRs) includes the distinct but sometimes overlapping fields of patent, copyright, trademark, trade secret, plant variety protection and similar rights.² The granting of rights converts information into valuable tradeable assets that are legally protected. In order to create revenue from IP rights in any country, it is necessary to make sure these rights are protected.

Economists differ in their arguments on whether strong protection of IP will encourage or delay economic growth in developing countries.³ They also argue that: ‘If innovation is a principal engine of growth and agents innovate to capture or hold a share of the market they would not retain otherwise, then perhaps protection of intellectual property might boost long-run growth’.⁴ Article 7 of the *TRIPS Agreement* wistfully stipulates that ‘the protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and to the transfer and dissemination of technology ...’⁵ Further, art 66.2 of the *TRIPS Agreement* provides that developed nations should promote and encourage technology transfer to developing countries.⁶ However, transferring technology has become increasingly complex because it is embodied in many channels including: licensing of IP; foreign

¹ Jay Dratler Jr, *Licensing Intellectual Property* (Law Journal Press, 2006) 1, 4.

² *Ibid.*

³ David M Gould and William C Gruben, ‘The Role of Intellectual Property Rights in Economic Growth’ (1996) 48(2) *Journal of Development Economics* 323; and see Gene M Grossman and Elhanan Helpman, *Innovation and Growth in the Global Economy* (MIT Press, 1991); and Guifang Yang and Keith E Maskus, ‘Intellectual Property Rights and Licensing: An Econometric Investigation’ (2001) 137(1) *Review of World Economics* 58-79. See also, Walter G Park and Douglas Lippoldt, ‘International Licensing and the Strengthening of Intellectual Property Rights in Developing Countries During the 1990s’ (2005) 40(1) *OECD Economic Studies* 13.

⁴ Gould and Gruben, above n 3, 324.

⁵ *Marrakesh Agreement Establishing the World Trade Organization*, opened for signature 14 April 1994, 1867 UNTS 3 (entered into force 1 January 1995) annex 1C (‘*TRIPS Agreement*’) available at: <http://www.wto.org/english/tratop_e/trips_e/t_agm0_e.htm> access 12 December 2012.

⁶ *Ibid.*

direct investment; trade in goods and services; and cross-border movement of personnel. Technology also can be transferred by an agreement to supply a complete industrial plant turnkey contract or by engineering contract, a wholly foreign owned subsidiary or a joint venture.⁷

In light of these issues this thesis considers the Libyan patenting system and the law surrounding licensing patents in Libya, and how this Libyan environment fits into the global context.

With regard to the IPRs system, a licensing agreement is a broad concept able to be presented in a number of ways depending upon the main purpose of the licence: publishing and entertainment licenses (such as for books, music, cinematograph recordings, television productions and multimedia productions) primarily arise from copyright in creative work and neighbouring rights; technology licenses focus on patent, know-how, trade secrets, computer software, databases and instruction manuals;⁸ and trademark and merchandising licensing mainly cover trademarks, trade names and trade dress.⁹ There are also other type of licenses agreement, including confidential information, plant breeder rights and so forth.

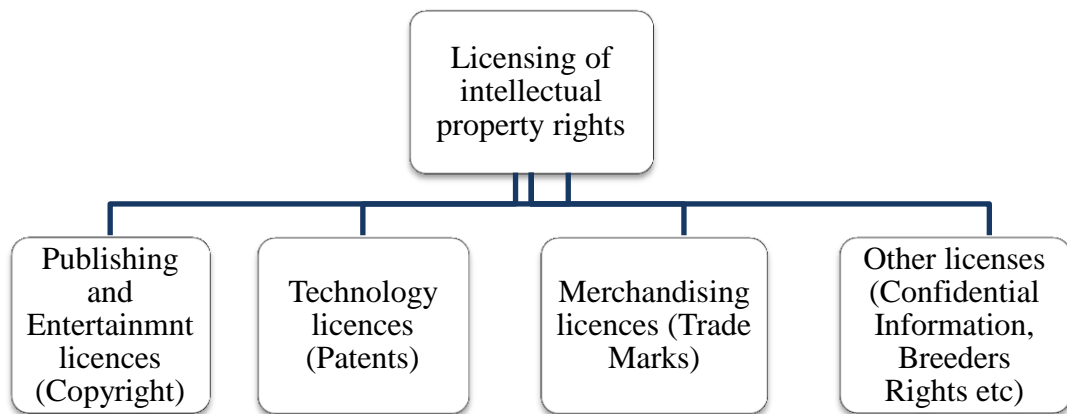


Figure 1.1: Types of IPRs licensing

⁷ International Centre for Science and High Technology (ICS) and United Nations Industrial Development Organization (UNIDO), “Technology Management Training Manual” (2008) <http://institute.unido.org/documents/M8_LearningResources/ICS/15.%20Technology%20Management%20-%20Training%20Manual.pdf> access 20 December 2013.

⁸ Technology licence or licensing of industrial property rights: the term ‘industrial property’ encompasses patents, utility models, industrial designs, trademarks, service marks, trade names, indications of source or appellations of origin, and the repression of unfair competition.

⁹ Dratler, above n 1, 1; and see, World Intellectual Property Organisation and International Trade Centre (WIPO), *Exchanging Value: Negotiation Technology Licensing Agreements. A Training Manual* (WIPO and International Trade Centre, 2005), 14.

Although a licence can cover any type of intellectual property rights, this thesis deals only with licensing of one type of IPR, the ‘patent’, and its effectiveness in transferring technology.

One purpose of the patent system is to improve the efficiency of technology. It enables the transfer of technology by regulating through a legal framework that permits patent owners to disclose the details of their inventions or license and sell patents without any ‘fear or free-riding’.¹⁰ A patent, as a means of intellectual property protection, is an exclusive right granted to the patentee by the state, upon application, which describes an invention and creates a legal monopoly to prevent others over a given time from using, making, selling or distributing the patented invention without authorisation. An invention is generally a solution to a specific problem in the field of technology.¹¹ In most countries, for this solution to be patentable it must satisfy the requirements of novelty, non-obviousness to those ‘skilled in the art’ to which it relates, and it must be capable of industrial application (useful). Further, the publication or exploitation of invention in some jurisdictions must not be generally anticipated to encourage offensive, immoral or anti-social behaviour.¹² One can state that the primary impetus for patenting is clearly economic. The most common reasons for a patent are to protect the new technology of a business and prohibit others from using or exploiting that technology,¹³ but a patent may be sought for other reasons;¹⁴ for example:

1. Enhance the ego or reputation of a senior employee;
2. Build up a library of patents as defensive measure in case a competitor asserts a patent claim against the business;
3. Provide a portfolio of technology to license; and
4. Assist in raising venture capital finance.¹⁵

The patent system is intended to package the knowledge with the inventor and the defined technical scope, which also makes it easier to convey or license the invention

¹⁰ WIPO, *Standing Committee on the Law of Patent: Transfer of Technology*, Document prepared by the Secretariat, 14th session (2010) 13.

¹¹ WIPO, ‘Fields of Intellectual Property Protection’ in *Intellectual Property Handbook: Policy, Law and Use* (2008)17.

¹² Simon Thorley et al, *Terrell on the Law of Patents* (Sweet& Maxwell, 16th ed, 2006) 15.

¹³ *Ibid.*

¹⁴ John V Swinson, ‘Security Interests in Intellectual Property in Australia’ (2002) 14(1) *Bond Law Review* 21.

¹⁵ *Ibid.*

to others.¹⁶ As Schacht succinctly puts it, ‘[P]atents encourage innovation by simultaneously protecting the inventor and fostering competition’.¹⁷ The patent system also promotes industrial and business competition.¹⁸ Since patent owners must disclose their inventions, other inventors and their competitors would race to recover these technologies and to use the knowledge to create new ones.¹⁹ This issue is widely debated but there is inadequate evidence to resolve it. Furthermore, one of the effects of the patent system is to assist the small firm with few resources to protect its business against the large well-funded company.²⁰ This, indeed, may not be very important and effective in developed nations, ‘but a less developed country can itself, in a sense, be looked on as a “small firm” by the developed industrial country’.²¹

Patented inventions, like other monopolistic rights, can be commercially exploited by their owner or, with the permission of the owner, by others. One method for others to exploit patentable technology without infringement is through licensing such patented technology from the owner. The term licence derives from the Latin term ‘licentia’, which means a ‘freedom’ or ‘liberty’.²² Consistent with this inference, Brunsvold and O’Reilley explain:

A licence in the law of land is ordinarily a permission merely to do something on or to the detriment of the land of the giver of the license ... It creates a privilege in favour of the licensee.²³

A patent right, on the other hand, is a right that gives the patent owner the right to exploit the technology or to license the patented technology to another person to

¹⁶ Ibid 13.

¹⁷ Wendy H Schacht, ‘The Bayh-Dole Act: Patent Policy and the Commercialization of Technology’ (Congressional Research Service, Library of Congress, 75700, 1994) 3. The author also argues that the patent system does not always facilitate innovation because ‘patents provide a monopoly which induces additional social costs and that cross licensing between companies can result in exploitation of markets’. As well, ‘the patent system was designed to assist the individual inventor and that the shift toward more R&D being performed in large companies has diminished the patent’s value to society since these firms can utilize other methods to protect their investment (eg trade secrets).

¹⁸ K Idris, *Intellectual Property: A Power Tool for Economic Growth*, (WIPO, 2004) 7.

¹⁹ Ibid.

²⁰ Edith Penrose, ‘International Patenting and the Less-Developed Countries (1973) 83(331) *The Economic Journal* 769.

²¹ Ibid.

²² Brian G Brunsvold and Dennis P O’Reilley, *Drafting Patent License Agreement*, (The Bureau of National Affairs, Inc, 2004) 5.

²³ Ibid.

exploit.²⁴ A patent licence is the preferred legal and economical mechanism for patent owners who are not interested in innovating to create products. By granting an exclusive licence to a licensee, the patent holder abdicates the right of exploiting the invention and receives revenue in the form of royalties. Therefore, the licence sometimes provides an appropriate solution for patent holders to avoid the costs and the obstacles that are related to various phases of manufacturing the inventions.²⁵ The owners of the technology, however, may attempt to increase their position in the marketplace such as by demanding grant back clauses that force the licensee to communicate improvements of the licensed patent to the licensor.²⁶

A patent licence agreement is distinguished from another mechanism of transferring IPRs, known as an assignment agreement.²⁷ With an assignment agreement, the owners of a patent or intellectual property rights transfer all rights to another party,²⁸ whereas in a license agreement, the owner of IPRs retain all rights that have not been specifically waived in the licence agreement.²⁹ A patent licence, therefore, can be split into a contractual or voluntary licence and a non-voluntary licence (compulsory licence) or licence granted by public authorities. A compulsory licence may arise when the patentees do not exploit their patentable technology for a period of time or in order to address a national emergency or public interest needs.³⁰ A voluntary patent licence or contractual licence is granted based on the declaration of the patent holders that the licence is available as of their rights.³¹

A patent licence agreement is a contractual arrangement. The terms and conditions on which such arrangements are entered into are subject to negotiation.³² ‘The parties

²⁴ Australian *Patent Act 1990* (Cth) s 13; also s 42 of the *Canada Patent Act 1985* provides that ‘patent rights confers on the patentee the exclusive right, privilege and liberty of making, constructing and using the invention and selling it to others to be used’.

²⁵ Arnold Vahrenwald, *Patent Licence Contracts in English, French and Italian Law* (PHD Thesis, The University of Saarbrücken, 1995) 17.

²⁶ Valentine Korah, *Competition Law of Britain and the Common Market* (The Hague, 3rd ed, 1982,) 123.

²⁷ Bradley Scott Friedman, ‘Taking the Intellectual out of Intellectual Property Licenses Under Section 365 of the Bankruptcy Code’ (2011) 20(6) *Norton Journal of Bankruptcy Law & Practice* 825.

²⁸ *Waterman v Mackenzie* 138 US 255, 256, (1891) 256; See *Ibid*.

²⁹ Adam Mossoff, ‘Exclusion and Exclusive Use in Patent Law’ (2009) 22(2) *Harvard Journal of Law & Technology* 355.

³⁰ *Australia Patent Act 1990* (Cth) ss 133-140. Also *Libyan Law No 8 of 1959 on Patents and Industrial Designs and Models* (‘*Patent Law*’) art 30.

³¹ Arnold, above n 25.

³² Jane Nielsen, ‘Reach-Through Rights in Biomedical Patent Licensing: A Comparative Analysis of Their Anti-Competitive Reach’ (2004) 32(2) *Federal Law Review* 176.

may bargain to the point where they reach agreement on the terms to be included in the agreement.’³³ Thus, the subject of this study – patent licence agreements – is contracts that transfer rights in patented technology without necessarily transferring ownership.

1.2.The present study: Objectives, scope, methodology and structure

Licensing agreements are inextricably linked to the underlying intellectual or intangible subject matter. The question is the relationship between licensing agreements and the exploitation of IPRs, and the constraints that may be place on them by a particular jurisdiction

1.2.1. Objectives of the study

Inventions need to be protected and utilised in a balanced manner, and a legal framework for patent licensing is required to regulate the use and exploitation of the rights, fairly and reasonably. Furthermore, establishing the practice of appropriate management of licensing agreements has become indispensable. Due to the key role that technology plays in society today, developing countries have sought technology from industrial countries through ‘technology transfer’. A company that has the technology plays an important role in technology transfer; it is able to control its own markets for that technology and it is the stronger party in the contract. There is a real and imminent challenge for developing countries such Libya, not only to bring the technology itself into the country, but also to manage the absorption and development of such technologies. The balance between the patent, licence and technology depends on insight into the interaction of innovation, law, economics and social variables associated with transferring of technology. **The overall aim of this thesis is to examine the nature and operations of the patent licence system as a means of technology transfer, to explain how these licences are important to transferring technology and development, and to examine Libya’s legal framework as an example of a legal framework which is still underdeveloped to deal with this type of technology transfer.**

One of the issues facing the establishment of a contract for a patent licence in Libya is that there is currently no specific law or regulation identifying the nature and functioning of patent licensing, especially in regard to the identification of the rights

³³ Ibid.

and obligations of the parties. In Libya, the patent license is regulated under what is called ‘innominate contracts’ in the *Civil Code 1953*.³⁴ The current Libyan IP system, including legislative framework, administrative control and enforcement, therefore, is deficient; all these elements need improvement.

The specific objectives of this study are:

- To examine the concept of the patent licence in general and explain why it is considered as a significant channel for technology transfer;
- To determine the substantive and procedural requirements for obtaining patent protection under *Libyan Patent Law*;
- To determine the legal framework of preparing and implementing a patent licence under Libyan law;
- To isolate the general assumptions that parties can work under when they enter into negotiations for a patent license;
- To illustrate the obligations of the licensor and licensee; and
- To determine whether Libya can benefit from the *TRIPS Agreement* by adapting and strengthening the Libyan patent protection system.

The current legislation in Libya must be considered because there is no specific regulation that currently governs the kind of agreements that must be entered into for patent licencing, and the country is in the process of updating its legal system. Libya is a developing country and is a net recipient of technology. It needs to take advantage of the experiences of other countries to reform its legal system, especially for laws related to IPRs. Of course, the new Libyan Government will take the steps necessary to ensure legislative compliance with international IPR standards, and effectively implement and harness these near global norms for national development. However, there is limited understanding of IPRs and the implications of instituting effective IP protection systems because there are few people or institutions in Libya with experience and capacity to handle IPRs, especially with respect to trade, competition, investment and other recent global imperatives. This research provides analysis for patent licences as one field of IPRs and its importance for the process of technology transfer. The study should aid the Libyan Legislature when it considers the issue of

³⁴ The Libyan *Civil Code* is issued on 28 November 1953. It had been prepared in the light of the experiences of other countries prior to Libya in the field of legislation such Egypt and France as well as inspired many of the provisions from the Islamic Sharia principle.

technology transfer and will help to ensure that the Libyan economy has a strong legal foundation. Thus, the recommendations of this study should contribute to overcoming the legal impediments regarding patent licence and technology transfer to Libya. This research will benefit from the experience of patent law and the policies of technology transfer in other countries.

1.2.2. Scope and limitations

The scope of this research is limited to the Libyan patent licencing system compared to the better-developed legal systems of Australia, the United States of America (US), France and Egypt. It aims to illustrate the advantages of these developed legal systems, and how they could inform the reformation of the Libyan legal framework. As noted above, the patent licence can be a voluntary and non-voluntary licence; the scope of the study is limited to the voluntary patent licence – in the sense of the patent owner wishing to engage in licensing – its importance and its widespread use. Patent licencing issues have not received much attention in legislation, nor in legal journals and other scholarly publications in Libya.

1.2.3. Methodology

This study starts with a discussion of issues highlighted in primary materials and a large range of academic writing. Extensive use has been made of legal databases and other Internet resources. There is a lacuna of cases and articles relating to IPRs in Libya. This research uses the comparative approach in order to determine the deficiencies of the Libyan legal framework regarding patent law. The comparison of legal rules uses a functional method that takes into account how the various systems of law deal with a specific issue.³⁵ The basic differences between the legal systems studied for this thesis are that the French, Egyptian and Libyan systems operate under a Civil Code jurisdiction, while the Australia and the US operate under a Common Law system. An issue is how these differences affect the way patent licensing is regulated in the different legal systems under study; another issue is how the doctrine of Roman-Germanic law has affected the common law of contracts during the nineteenth century.³⁶ A further finding is that the common law countries have

³⁵ René David, *The Legal Systems of the World: Their Comparison and Unification* (Brill Archive, Vol. 2. 1974) 6.

³⁶ See generally, Patrick S Atiyah, *The Rise and Fall of Freedom of Contract*, (Clarendon Press, 1979).

statutory regulation of contracts and patents, and the fundamental principles required for contracting and patenting are the same across the common law jurisdictions.

1.2.4. Thesis outline

This thesis is divided into five chapters. The first chapter outlines the problem examined in this thesis, and the objectives, scope and limitations of the thesis, as well as the methodology and structure. The second chapter examines the existing literature on the nature of patent licencing and its effectiveness in transferring technology. The chapter also examines the issue of the legal framework of licencing university patents. The impact of the international patent system on Libya is also examined in this chapter. Chapter 3 studies the process of licensing patent rights under the current Libyan legal framework by examining the issue of licensing agreements and the requirements of effective licence agreements, and the issue of ownership of a patent. This chapter highlights the fundamental requirements of drafting a patent licence and the strategies that parties should take into account when drafting a patent licence agreement. The fourth chapter examines the effects of patent licence agreement on the parties in patent licence contract. The chapter also examines the reasons and impacts of terminating such contracts.

The final chapter summaries the research conclusions and provides several recommendations that should be taken into consideration by the new Libyan Legislature (i.e., post the 2011 revolution). This chapter also identifies further areas of potential interests that flow from the review of the limitation of the study.

1.3.Summary

Understanding the principles of patent licencing is important for parties involved in projects for transferring technology using patent licence agreements. Because patents and the licensing of patents are a significant means for encouraging and disseminating the technologies involved, they can benefit both the industry and consumer. Chapter 2 provides further explanation in this regard.

Chapter 2: Patent licences and technology transfer

2.1 Introduction

Patents and licensing are concerned with the protection and exploitation of technology. Patents protect patentable technology from competitors while a licence is a contract signed by a patent holder to permit others to exploit and manufacture such technology. In other words, the patent system is intended to package knowledge in a property right with a definite inventor-ship and technical scope, which, through licensing, enables exploitation of the technology by others.³⁷ The narrower meaning of technology transfer is generally known as licensing, which indicates the movement of technology from licensor to the licensee through a legal document. This allows the licensee to exploit the technology claimed in the patent through the license agreement.³⁸

Universities and other academic institutions are important sources for promoting innovations, and they tend to pay attention to patenting and licensing.³⁹ A significant issue for commercialising patentable inventions for universities is determining the ownership of inventions. This chapter discusses such issues in six sections. The first section broadly defines the meaning of a patent licence. The second section looks at the literature focusing on the relationship between patent and technology transfer. The third section explains the benefits of a patent regime in the context of a national economy. The fourth section provides an overview of patent licensing at universities and publicly funded research. The following section examines the impact of international patent protection. The final section focuses on the legal framework governing patent licences.

³⁷However, licensing is not the only way for exploiting and transferring technology. Mechanisms such as assignments, joint ventures and foreign direct investment are other channels for technology transfer.

³⁸Peter J Newman, 'Technology Transfer: Patent Licensing and Related Strategies' in Avery N Goldstein (ed), *Patent Laws for Scientists and Engineers*, (Taylor & Francis Group, 2005) 242.

³⁹Jeannette Colyvas et al, 'How Do University Inventions Get into Practice?' (2002) 48(1) *Management Science* 61; Tom Coupe, 'Science Is Golden: Academic R&D and University Patents' (2003) 28(1) *the Journal of Technology Transfer* 31.

2.2 The nature of a patent licence

2.2.1 Patent licences and contracts

A licence shows ‘permission by competent authority to do an act which, without such permission, would be illegal, a trespass, a tort, or otherwise not allowable’.⁴⁰ According to *Black’s Law Dictionary*, a patent licence is defined as ‘a written authority granted by the owner of a patent to another person empowering the latter to make or use the patented article for a limited period or in a limited territory’.⁴¹ The World Intellectual Property Organisation (WIPO) and International Trade Centre (ITC) define a licence as ‘a permission granted by the owner of the intellectual property right to another to use it on agreed terms and conditions, for a defined purpose, in a defined territory’.⁴² Therefore, the term licensing simply means that the owner of a patent or other intellectual property rights (the licensor) has enabled a third party (the licensee) to exploit the subject matter of a license, which the licensee could otherwise not use without such permission.⁴³

A contract, by contrast, is an arrangement between two or more parties which is legally binding, and thus enforceable.⁴⁴ There are legal remedies that can be applied if there is any breach of contract obligations.⁴⁵ Any contract under the Common Law system must consist of three elements: offer, acceptance and consideration. If one of these elements is missing, the agreement is not a legal contract.⁴⁶

Legal issues in contracts may also arise from the legal concept of licences as to whether a licence agreement – defined as a contract under which the owner of patent rights grants its contractual partner the right to use that right in return for remuneration. Generally, it is agreed that a patent licence is a form of contractual

⁴⁰ Carole A Quinn and R Scott Weide, ‘Violation of the Erie Doctrine: Application of a Rule of Federal Common Law to Issues of Patent License Transferability’ (1998) 32 *Creighton Law Review* 1121.

Also the courts have recognised the prospective quality of a patent license, which allows another party to use the patentee's property in the future without fear of suit. *See Wang Labs, Inc. v Oki Elec Ind C., Ltd*, 15 F Supp 2d 166, 172 (D Mass.1998), Furthermore, Kleyn defined a license as a process that includes the transfer of technology, patent, trade secret, know-how and other methods of intellectual property rights from its holders (the transferors) to users (the licensees) Martha Magdalena Kleyn, ‘An Overview of Licensing as a Form of Exploitation of IP Rights in China and Japan’ (Licensing Executives Society, 2012) 138.

⁴¹ Henry Campbell Black, *Black’s Law Dictionary*. (West Publishing Company, 4th ed, 1957) 1068.

⁴² WIPO, (2005), above no 9, 14.

⁴³ Heinz Goddar, et al, ‘Negotiation Skills for Licensing Technology’ in *WIPO National Seminar on Licensing and Transfer of Technology* (WIPO and Ministry of Commerce and Saudi Chamber of Commerce and Industry, ,2001) 2.

⁴⁴ Rachel Burnett, *It Contracts: Effective Negotiating and Drafting* (Thurgood publishing, 2009) 18.

⁴⁵ *Ibid*.

⁴⁶ *Ibid* 20.

arrangement between the licensor (the owner of IP rights) and the licensee, where the latter obtains legal permission from the licensor to operate or exploit the subject matter of a license for a specified purpose and period of time.⁴⁷ However, there is debate whether an open source license is also a contract or not? Before exploring this debate further, it is necessary to understand the meaning of an ‘open source license’:

An important concept well understood by anyone who has ever written computer software: programmers write source code to direct computers to perform specific tasks, while the computer itself takes care of the routine task of translating the source code into an executable program.⁴⁸

To understand and modify software for computer programmers, the source code must be open for all to see.⁴⁹ Basically, an open source software license ‘permits users to read, access change and reuse the source code of a software product’.⁵⁰ Furthermore, an open source license is the way for intellectual property rights to grant permission to others to utilise his or her IP ‘in such a way that *software freedom* is protected for all’.⁵¹ Despite the fact that the open source software licensing is a model to disseminate creative works and scientific research, patents also may be licensed an open source licence.⁵²

⁴⁷ Duncan Curley, *Intellectual Property Licences and Technology Transfer: A practical guide to the New European Licensing Regime* (Chandos Publications, 2004) 4; See also, Thomas M Apke, ‘Acquisition and Licensing of Intellectual Property’ (1998) 40(6), *Managerial Law*, 5; Ashish Arora and Andrea Fosfuri defined patent license as ‘a contract by which the patent holder authorises another party to use its invention under certain, normally financial conditions’. See Ashish Arora and Andrea Fosfuri, "Licensing the Market for Technology" (2003) 52(3) *Journal of Economic Behavior & Organization* 277. Economic scholars, however, define a licence agreement as a means of transferring technology or a method for supplying knowledge from a company to another party and permission to exploit technology for a monetary fee or for other forms of compensation. According to Vicki Sara et al, license agreement, however, is a form of transferring technology between two parties, where the licensor permits the licensee to share the rights to exploit the subject matter of license agreement. Vicki Sara et al, ‘National Survey of Research Commercialisation’ (Australian Research Council, Commonwealth Scientific and Industrial Research Organisation and National Health and Medical Research Council 2000) 29; Preet S Aulakh1, Marshall S Jiang and Yigang Pan, ‘International Technology Licensing: Monopoly Rents, Transaction Costs and Exclusive Rights’ (2009) 41(4) *Journal of International Business Studies* 594.

⁴⁸ The term ‘open source’ was created to dismiss confusion resulting from the meaning of old term ‘freedom’. See, Lawrence Rosen, *Open Source Licensing Software Freedom and Intellectual Property* (Prentice Hall Barnes & Noble and Amazon, 2005) 2.

⁴⁹ Ibid. ‘The most common open source license is the GNU GPL (General Public Licence), which exists in several versions and it is called GNU because it was originally written for the GNU project.’ See, Burnett Rachel, *It Contracts: Effective Negotiating and Drafting* (Thurgood publishing, 2009) 41.

⁵⁰ Mark Hall, ‘Open-source licensing’ (2000) 36(32) *Computerworld* 32.

⁵¹ Rosen, above n 48, 52. See, Andrew M St Laurent, *Understanding Open Source and Free Software Licensing* (O’Reilly Media, Inc, 2009) 4.

⁵² Rosen, above n 48, 303. And see section 2.2.3.4 “Open source patent licence.”

On the one side of the debate of whether an open source licence is a contract is the argument that all licences are a standard form of contract.⁵³ However, this argument is based on the confusion about the relationship between open source licences and contracts.⁵⁴ Rosen suggests that open source agreements are better off relying on contract rules than on copyright and patent laws because:

Contract law, unlike copyright and patent law, provides procedures and rules for license interpretation and enforcement. Contract law, in the published court decisions and in the statutes adopted by legislatures around the world, addresses almost every possible term or condition a lawyer could dream up for a contract. Contract law specifies how contracts are to be formed, how they are to be interpreted, how they are to be enforced, and the remedies for breach. In many situations, where a license is silent about a particular term or condition, contract law even provides default “fill-in” provisions.⁵⁵

However, as noted above, a contract must comprise three elements: offer, acceptance and consideration; and an open source licence is often offered for free, which would mean that there is no consideration.⁵⁶ In some free open source software licensing (FOSS) arrangements, there consideration is practically provided in copyleft licenses,⁵⁷ and, in some Civil Law systems, a contract is completed when the elements of offer and acceptance have been met.⁵⁸ Hence, an open source license agreement may be considered a bilateral or unilateral contract; free open source software licensing may be an example of a unilateral contract.

2.2.2 Types of patent licenses

Patent licensing may be divided according to the nature of the contract into voluntary licence and non-voluntary licence (compulsory licence) categories. There are also various forms of patent licenses derived from the purpose of a contract, including exclusive licence, non-exclusive licenses, cross-licenses and open source licences.⁵⁹

⁵³ *proCD inc v Zeidenberg* 86 US 1447 (1996).

⁵⁴ Andres Guadamuz, ‘The License/Contract Dichotomy in Open Licenses: A Comparative Analysis’ (2009) 30(2) *University of La Verne Law Review* 299.

⁵⁵ See, Rosen, above n 48, 57.

⁵⁶ See, Guadamuz, above n 54, 301; and Rosen, above n 48.

⁵⁷ Guadamuz, above n 54, 302.

⁵⁸ *Libyan Civil Code* 1953 art 89.

⁵⁹ Adam Liberman, Peter Chrocziel and Russell E Levine, PC, *International Licensing and Technology Transfer: Practice and the Law* (Kluwer Law International, 2011) ch 7.

2.2.2.1 Types of licences according to the nature of the contract

A patent license can be a voluntary licence or non-voluntary licence. While voluntary licences belong to the contractual licence category, non-voluntary licences or compulsory licences for patented inventions are licensed by the states.⁶⁰

1. Voluntary licence

A voluntary licence is an arrangement between a patentee and another party to exploit, use, manufacture or sale of a patentable technology in a period of time.⁶¹ This licence can be an exclusive or non-exclusive licence, depending on the terms and conditions that are negotiated and then agreed to by parties in a licence agreement.

2. Non-voluntary licence (compulsory licence)

In most countries,⁶² the government has the power to restrict a previously authorised exclusive patent right.⁶³ For example, the provisions of a compulsory licence give governments the ability to grant or force patent owners to license their patented technology to another party, although the patentee's retains the property interest in the patent.⁶⁴ Article 31 of the *TRIPS Agreement* provides several rules that are applicable to all compulsory licences:

The would-be licensee must first seek to obtain a license from the patent holder (except where the abuse by the right holder is deemed anti-competitive by national judicial or administrative authorities);

The scope and duration of the use are limited;

Use is non-exclusive and non-assignable;

Use must be made predominantly for the national market (no exporting);

The right holder must be paid adequate compensation.⁶⁵

Any decision on compulsory licensing (authorisation, payment terms) shall be subject to judicial review.⁶⁶

⁶⁰ In France, the non-voluntary licence is called the licence of dependency. See Vahrenwald, above n 25, 116.

⁶¹ Germán Velásquez, et al, 'Cost-Containment Mechanisms for Essential Medicines, Including Antiretroviral, in China' (No 13 in Essential Drugs and Medicine Policy, World Health Organization, 2003) 7.

⁶² Australia, United States, United Kingdom, China, Japan, Egypt, Libya...ect. These nations have included compulsory licences in their national patent laws.

⁶³ Joseph A Yosick, 'Compulsory Patent Licensing for Efficient Use of Inventions' (2001) 5 *University of Illinois law review* 1287.

⁶⁴ Ibid 1275.

⁶⁵ *TRIPS Agreement*.

2.2.2.2 Types of licences according to the purpose of the contract

1. An exclusive licence

An exclusive licence grants exclusive rights to the licensee to make, use or sell certain products and markets in a certain territory in a period of time.⁶⁷ The patent owners do not retain any right to utilise the licensed technology. In this sense, ‘the licensor is left with the formal right and title in the respective patent etc., without any right to develop further activities in relation to the licensed subject.’⁶⁸ In the United Kingdom (UK), the legislature defines an ‘exclusive license’ as:

A licence from the proprietor of or applicant for a patent conferring on the licensee, or on him and persons authorised by him, to the exclusion of all other persons (including the proprietor or applicant) ...⁶⁹

The *Australian Patent Act 1990* (Cth) defines an exclusive licensee, in schedule 1, as:

a licensee under a license granted by the patentee and conferring on the licensee, or on the licensee and persons authorized by the licensee, the right to exploit the patented invention throughout the patent area to exclusion of the patentee and all other persons.⁷⁰

An exclusive licence means that only one licence shall be created and the patent owner cannot exploit the patent rights. In this regard, there is an overlap in meaning between an exclusive license agreement and an assignment agreement because an exclusive licence ‘confers powers on the licensee that are equivalent to those of the proprietor.’⁷¹ However, the difference between an exclusive licence and assignment is that a patent assignment transfers the ownership of the patent, whereas the licensee in

⁶⁶ Johan Erauw, *Negotiating and Drafting Patent Licensing Contracts under the TRIPS Agreement: The Business Dimension* (UNCTAD/WTO, No 70, 2001) 6.

⁶⁷ Gail E Evans, ‘Strategic Patent Licensing for Public Research Organizations: Deploying Restriction and Reservation Clauses to Promote Medical R&D in Developing Countries’ (2008) 34 (2/3) *American Journal of Law and Medicine* 200, 316. An exclusive license is a permission given exclusively to the licensee to use the licensed technology in a period of time without any intervention from the licensor to use the invention.

⁶⁸ Goddar, et al, above n 43, 4.

⁶⁹ *The Patent Act 1977* (UK) c 37 s 130(1).

⁷⁰ *Australian Patent Act 1990* (Cth) sch 1 s (3).

⁷¹ For example, the licensees in an exclusive license can sue infringers in their own right, see, sec 67(1) of the *Patent Act 1977* (UK) (as amended), which provides that ‘the holder of an exclusive licence under a patent shall have the same right as the proprietor of the patent to bring proceedings in respect of any infringement of the patent committed after the date of the licence; and references to the proprietor of the patent in the provisions of this Act relating to infringement shall be construed accordingly’. Also under *Australian Patent Act 1990* (Cth), the exclusive licensee has the right to start proceedings for infringement, see, ss 120-121. Generally, see, Gail E Evans, "University Patent Licensing for the Research and Development of Pharmaceuticals in Developing Countries" (2009) 3 *Intellectual Property Quarterly* 311.

an exclusive license only has an exclusive right to exploit the patentable technology within a specified time limit.

Therefore, if the parties agree that a licence is to be exclusive, the patent owner is excluded from making and using the patentable technology.⁷² A different type of an exclusive licence, originally designed in the US, is a sole licence; the patent owner grants an exclusive type license but the patentee can continue to utilise⁷³ the licensed technology.⁷⁴ The impact of a sole licence is that the owner of the patent and the sole licensee are the only two persons who have the right to exploit the licensed patent. However, the licensor has only the right to use or exploit the licensed patent without any further right to license the patent to a third party. This differentiates sole licence and non-exclusive licence.

2. Non-exclusive licence

A non-exclusive licence grants a licensee the right to use and exploit the licensed technology while maintaining the right of the licensor to engage or grant multiple licenses in the same territory.⁷⁵ In the case of non-exclusive licenses, the patentee has the right to exploit the licensed invention, as well as the right to authorise additional licenses to other parties.⁷⁶

A category between a non-exclusive and an exclusive licence is a field of use licence;⁷⁷ this licence enables the patentee to license patentable technology to more than one licensee, 'but requires each licensee to restrict the technology use to a particular field of application'.⁷⁸ The field of use licence provides the benefits of a non-exclusive licence to licensors and the benefits of an exclusive licence to licensees.⁷⁹

3. Cross-licence

⁷² Michael A Epstein and Frank L Politano, *Drafting License Agreements* (Aspen Publishers, 4th ed, Vol 1, 2002).

⁷³ Although the difference between sole and exclusive license is often unclear and usually the words are used as synonyms. For more information see *Avel Pty Ltd v Multicoin Amusements Pty Ltd* [1990] HCA 58; (1990) 171 CLR 88.

⁷⁴ Goddar, et al, above n 43, 4.

⁷⁵ Aulakh1 et al, above n 47.

⁷⁶ Evans, above n 67, 316.

⁷⁷ Theodore A Wood, 'Launching Patent Licensing for an Emerging Company' (2004) 30(2) *University Dayton law Review* 268.

⁷⁸ *Ibid.*

⁷⁹ *Ibid.*

A cross-licence is an agreement between two entities that authorises each to the right to use the other's patentable technology.⁸⁰ In other words, cross licensing means 'different owners or holders of patents or rights in applications authorise each other mutually/reciprocally to utilise the inventions against remuneration'.⁸¹ An agreement to cross-license provides each party with legal access to another party's intellectual property and participation in the design and making of new products without the risk of being litigated for patent infringement.⁸² This would lead parties to focus on innovations rather than suing each other for infringements.⁸³ Cross-licence agreement also reduces contractual costs.⁸⁴ For instance, in the absence of a cross-licence, each party would have to carry out an extensive and costly patent search and negotiation to obtain the same level of protection that could otherwise be obtained in a simple cross license agreement.⁸⁵

However, not all cross-licence agreements eliminate the issue of suing for patent infringement between parties, because the subject matter of the agreement would sometimes be limited to specific parts of either party's patent rights.⁸⁶ For example, a diversified company working in both the chemical industry and in the electronic device industry may not wish to include all patents in one agreement.⁸⁷ 'If this hypothetical firm made an agreement involving chemical patents only, it might wish to further limit the agreement based on field of application'.⁸⁸ Such an agreement will allow another party to make use of the patents for fertilisers but not for screen or other industrial applications if that occurs, it would be a subject of suing for the patent infringement.

4. Open source patent licence

⁸⁰ Alberto Galasso, 'Broad Cross-License Negotiations' (2012) 21(4) *Journal of Economics & Management Strategy* 874.

⁸¹ Arnold Vahrenwald, 'Technology Licences: Comparative Overview of Practices in Germany, France, Italy and England' (WIPO, 2000) 30.

⁸² Ibid; T Randolph Beard and David L Kaserman, 'Patent Thickets, Cross-Licensing, and Antitrust' (2002) 47(2) *Antitrust Bulletin* 355.

⁸³ Beard and Kaserman, above n 82.

⁸⁴ Ibid 356.

⁸⁵ Ibid.

⁸⁶ Clifford Scott, 'Cross-Licensing' in Charles Wankel (Ed), *Encyclopaedia of Business in Today's World*, (SAGE Publications, 2009) 447-448.

⁸⁷ Ibid.

⁸⁸ Ibid.

Open source software generally refers to the computer software for which a source code is created and freely available for utilisation, distribution or development in other types of software.⁸⁹ This open source software is mainly protected by copyright laws.

Insofar as a patent is concerned, the debate focuses on the question of whether the principle of open source license is applicable to patents or not. There is a belief that the principles of open source software would not be applied to patents because the original form of open source license is in the context of software that is protected by copyright law which creates a relationship between the creators and the users of the software, and also due to the differences in the nature of patent rights to the original open source model.⁹⁰ Furthermore, the software industry itself is subject to another debate about whether a patent is an obstacle or an incentive for the software industry. Proponents of software patents assert that the patent system encourages innovations, thus there is no reason to deem inventions related to software different from inventions and ‘those software inventors should have the right to recuperate their investments.’⁹¹ Others believe that open source and proprietary software may coexist.⁹² Indeed, there are firms that combine open source software options and a proprietary software approach. Opponents of software patents state that patents are a hindrance ‘not only to open or free software, but in respect of the whole software industry’.⁹³ This is because:

Software patents give excessive control over the technology to patent holders, they increase cost and they block a smooth expansion of the software industry, which may only continue to evolve in an environment where software is mutually shared and jointly developed. In addition, they criticize the duration of patents in respect of software as being too long for the short life of most software.⁹⁴

⁸⁹ WIPO, *Current and Emerging Issues Relating to Patents* <<http://www.wipo.int/patent-law/en/developments/>>.

⁹⁰ Sara Boettinger and Dan L Burk, ‘Open source patenting’ (2005) 1 *Journal of International Business and Law* 225.

⁹¹ WIPO, *Current and Emerging Issues Relating to Patents*, above n 89.

⁹² *Ibid.*

⁹³ *Ibid.*

⁹⁴ *Ibid.*

The older and most important software open source licences distributed around the world do not include or express patent licence grant;⁹⁵ including the two best known licences, the General Public License (GPL) and the Berkeley Software Distribution license (BSD).⁹⁶ The Artistic License is the only one which has a patent grant.⁹⁷ Typically, these licenses used copyright language to identify the rights granted in the licenses.⁹⁸ The GPL also does not expressly exclude patents from the license grant.⁹⁹

Instead of using open source software licenses, some scholars in the field of life sciences develop a way of open source licensing of patent technology.¹⁰⁰ In the areas of health and agricultural biotechnology, ‘Biological Open Source’ (BiOS) licenses are developed for Plant Enabling Technologies and Genetic Resource Indexing Technologies. BiOS license for health technologies is under development.¹⁰¹ The aim of this licence is to ‘create a shared pool of core enabling technologies that are free for licensees to use provided improvements to the core technology are also shared’.¹⁰²

In general, open source patent licence is different to the patent licence; the patent rights in open source licence are not exploited through exclusive licence and the patent may be used indirectly to obtain financial return.¹⁰³

2.3. Patent and technology transfer

2.3.1. The definition of technology transfer

Before examining the collective understanding of the term ‘technology transfer’, it is necessary to first define the term ‘technology’.

2.3.1.1. The concept of technology

Existing literature shows that the term technology has been defined from various perspectives. For legal purposes, technology is defined to include ‘all forms of commercially usable knowledge, whether patented or unpatented, which can form the

⁹⁵ Christian H Nadan, ‘Closing the Loophole: Open Source Licensing & the Implied Patent License’ (2009) 26(8) *Computer and Internet Lawyer* 1.

⁹⁶ The first GPL licence was dated 1989 and the second version was 1991, the BSD license dates to 1989 or earlier. See *Ibid.*

⁹⁷ *Ibid.*

⁹⁸ *Ibid.*

⁹⁹ *Ibid.* 2.

¹⁰⁰ WIPO, *Current and Emerging Issues Relating to Patents*, above n 89.

¹⁰¹ *Ibid.*

¹⁰² *Ibid.*

¹⁰³ *Ibid.*

subject matter of a transfer transaction'.¹⁰⁴ For economic purposes, the term technology includes two main elements: the first element is a physical element that includes items such as 'products, tooling, equipment, blueprints, techniques and processes';¹⁰⁵ the second element is an 'informational component' comprised of 'know-how in management, marketing, production, quality control, reliability and skilled labour and functional areas.'¹⁰⁶ Furthermore, technology has been classified as submitted ideas, manufacturing information and trade secrets.¹⁰⁷ In addition, technology has also been classified into the categories of embodied or disembodied.¹⁰⁸ For instance, technology may be embodied if it is used in particular products and it may be disembodied as codified technology or know-how.¹⁰⁹

The earlier definition views technology as processes, configurations and products that are not useful without knowledge.¹¹⁰ In this sense, technology is conceived of as firm-specific information concerning 'characteristics and performance properties of the production process and product design.'¹¹¹ Yet technology has also been defined as essential information used to achieve a certain production, resulting from 'a particular means of combining or processing selected input.'¹¹² In addition to scientific and industrial know-how, as well as operational and managerial know-how, the term technology also refers to the process of establishing and operating 'industrial', 'agricultural', 'tourist' and other types of large projects.¹¹³

In a document designed to guide developing countries to license their inventions, the World Intellectual Property Organisation (WIPO) has applied a broad definition of 'technology' that states:

¹⁰⁴ United Nations, 'Transfer of Technology' (UNCTAD Series on International Investment Agreements, 2001) 5.

¹⁰⁵ Barry Bozeman, 'Technology Transfer and Public Policy: A Review of Research and Theory' (2000) 29 *Research Policy* 628.

¹⁰⁶ Vinod Kumar, et al, 'Building Technological Capability Through Importing Technology: The Case of Indonesian Manufacturing Industry' (1999) 24 (1) *The Journal of Technology Transfer* 82.

¹⁰⁷ Brunsvold and Reilley, above n 22.

¹⁰⁸ Ibid 9; further, the process of technology, on the one hand, is embodied in the means that produced a defined product, and on the other hand, 'the product design or product technology is that which is manifested in the finished product'. See N Mohan Reddy and Liming Zhao, 'International Technology Transfer: A Review' (1990) 19(4) *Research Policy* 294

¹⁰⁹ Keith E Maskus, Encouraging International Technology Transfer (ICTSD and UNCTAD, 2004) 7, 9.

¹¹⁰ Devendra Sahal, 'Alternative Conceptions of Technology' (1981) 10(1) *Research Policy* 2.

¹¹¹ Reddy and Zhao, above n 108, 294.

¹¹² Maskus, above n 109, 9.

¹¹³ Samuel V Goekjian, 'Legal Problems of Transferring Technology to the Third World' (1977) 25(3) *The American Journal of Comparative Law* 565.

Technology is the systematic knowledge for product manufacture and service provision in industry, farming and commercial fields. Knowledge is reflected in inventions, utility models, designs, and in data forms. Knowledge is also shown in industrial plants, design, installation, operation, and equipment maintenance, management of industrial & commercial corporations, the technical skill and experience of experts for those activities ...¹¹⁴

In the context of this definition, there are three standards found in the meaning of ‘technology’. First, the knowledge must be systematic. Second, it must exist in a certain place and must be presentable. Third, the knowledge must be oriented towards purpose.¹¹⁵

The current study on technology transfer indicates that pre-established definitions of ‘technology’ tend to define one or more of ‘the combinations of skills or rights’ whether ‘technology’ is embodied in a physical form, such as a machine or product, an intangible form, such as technical skills and managerial knowledge, or whether it is ‘enshrined in legal documents, such as patent licenses, know-how agreements or registered designs’.¹¹⁶ The value of technology or knowledge is really dependent upon a number of factors. The crucial legal factor that affects the worth of knowledge is whether the technology is protected by IPRs.¹¹⁷ For instance, if the idea for a water filter is patented, this patentable knowledge can be used and exploited for value, through making, selling and licensing the patented invention, and no competitors can make, sell or license the patented water filter.¹¹⁸

2.3.1.2. The concept of technology transfer

Transferring technology is a complex and difficult process, not just in terms of the process itself, but also with regard to the package that is being transferred.¹¹⁹ No absolute consensus has emerged, at least in the available literature, on the definition of ‘technology transfer’.¹²⁰ Therefore, the meaning of ‘technology transfer’ has been

¹¹⁴ David M Haug, ‘International Transfer of Technology: Lessons That East Europe Can Learn from the Failed Third World Experience’ (1992) 5 *Harvard Journal of Law & Technology*, 210–11.

¹¹⁵ Sunita Tripathy, *Perspectives on Technology Transfer* (Master Thesis, the University of Western Ontario, 2011) 17.

¹¹⁶ *Ibid.*

¹¹⁷ Margaret Calvert, *Technology Contracts: A Handbook for Law and Business in Australia* (Butterworths, 1995) 5.

¹¹⁸ *Ibid.* 6.

¹¹⁹ Tamir Agmon and Mary Ann Von Glinow, *Technology Transfer in International Business* (Oxford University Press, 1991) 7; Sazali Abdul Wahab, Raduan Che rose and Suzana Idayu Wati Osman, ‘Defining the Concepts of Technology and Technology Transfer: A Literature Analysis’ (2012) 5(1) *Canadian Center of Science and Education*, 63.

¹²⁰ Haug, above n 114, 212.

discussed in many different ways according to the area of research and sometimes based on the purpose of the research.¹²¹

The legal definition of ‘technology transfer’ leads to an understanding of the term ‘[a]s a process by which commercial technology is disseminated.’¹²² More generally, technology transfer refers to ‘any process by which one party gains access to a second party’s information and successfully learns and absorbs it into his production function’.¹²³ Overall, contracts of technology transfer are agreements that cover technical skills or managerial knowledge that allow one party to use the subject matter under contract in a given period of time to produce a definite product.¹²⁴

However, economists often define the process of technology transfer on the basis of ‘properties of generic knowledge’, by focusing on ‘variables that are related to production and design’.¹²⁵ Further, sociologists tend to connect ‘technology transfer’ with innovation, and they view technology as a means of creating efficient design to reduce the uncertain relationship between cause and effect involved in reaching a desired consequence.¹²⁶ Further, scholars of management place an emphasis on the process of transferring technology and pay particular attention to the relationship between the design, production and sales phases.¹²⁷

Based on the context of patents, the term ‘technology transfer’ may be understood in either a narrow or broad meaning. Broad meanings focus on technology transfer as ‘a series of processes for sharing ideas, knowledge, technology and skills with another individual or institution’.¹²⁸ In the narrow sense, the concept of ‘technology transfer’ is sometimes understood as ‘a synonym of “technology commercialization” whereby basic scientific research outcomes from universities and public research institutions are applied to practical, commercial products for the market by private companies’.¹²⁹

¹²¹ Bozeman, above n 105, 627. See also, Tripathy, above n 115, 18; Wahab et al, above n 119; Kumar, et al, above n 106, 82

¹²² UN, above n 104, 6.

¹²³ Maskus, above n 109, 9.

¹²⁴ Jamal al-Din Salahuddin, *Technology Transfer Contracts Study in the Framework of Private International Law and International Trade Law* (Dar Alfecr Aljame, 2004) 24.

¹²⁵ Wahab et al, above n 119.

¹²⁶ Everett M Rogers and F. Floyd Shoemaker, *Communication of Innovations: A Cross Cultural Approach* (Free Press, 1971).

¹²⁷ Tripathy, above n 115, 22.

¹²⁸ Institutions such as companies, universities or government agencies; see UNCTAD Secretariat, Standing Committee on the Law of Patents, ‘Transfer of Technology’ (WIPO, 14th Session, 2010) 4.

¹²⁹ Ibid.

The technology transfer process usually includes patent right, know-how and other important information related to the technology.

2.3.2. The role of patents in technology transfer

Literature on the effectiveness of patent protection in the context of technology transfer reveals that there are two primary arguments on the impact of intellectual property protection (e.g. patents) at the international level. One argument suggests that the absence of intellectual property protection encourages technology transfer and technological learning through copying and imitation, while others argue that the protection of IPRs is a mechanism that stimulates technology transfer from abroad through licensing or direct investment, ‘and the indirect effects are effective means of technological learning’.¹³⁰ Therefore, the level of technology transfer is higher in countries where the protection of IPRs is strong.¹³¹ Generally speaking, however, the strength of an intellectual property protection system is a prerequisite for developing nations to update their technology through licensing or foreign direct investment.¹³²

Patent protection systems and mechanisms for implementing patent rights are significant preconditions for transferring technology and investments.¹³³ Consequently, without intellectual property protection, businesses are often uncomfortable about disclosing or transferring their technologies.¹³⁴ This issue should be an important concern in most developing countries, such as Libya since these jurisdictions often lack a strong legal framework for intellectual property protection and have few mechanisms for effectively enforcing IPRs. Additionally, a patent protection system is not only for patent holders to disclose and register their inventions, but is also used to provide some guarantee and security to foreign inventors to exploit and authorise their technology.¹³⁵ By reducing the uncertainty of legalities surrounding the patent protection system and by encouraging technology

¹³⁰ Commission on Intellectual Property Rights, *Integrating Intellectual Property Rights and Development Policy* (CIPR 2002) 21.

¹³¹ Guifang Yang, and Keith E Maskus, ‘Intellectual Property Rights and Licensing: An Econometric Investigation’ (2001) 137(1) *Review of World Economics* 58.

¹³² WIPO, *The Economics of Intellectual Property: Suggestions for Further Research in Developing Countries and Countries with Economies in Transition* (2009) 5. See also, Getachew Mengistie, *The Impact of the International Patent System on Developing Countries* (WIPO, 2003) 5; see also Apke, above n 47.

¹³³ Mengistie, above n 132, 14; See Idris, above n 18.

¹³⁴ Idris, above n 18.

¹³⁵ Mengistie, above n 132; see also, Michael Blakeney, *Legal Aspects of the Transfer of Technology to Developing Countries* (ESC Publisher, 1989), 204.

commercialisation, patents can easily facilitate technology transfer.¹³⁶ Thus, the strength of a patent protection system ‘makes it more difficult for anyone to free ride on the right to use or produce the technology’.¹³⁷

Scholars argue that stronger protection of patent systems provide a positive effect on the decision to license technology.¹³⁸ For instance, effective patent protection may decrease ‘the risk of opportunistic behaviour by the licensee’ and it may also reinforce ‘the licensor’s bargaining power, which enables him to appropriate a larger share of the total surplus generated by the licensing deal’.¹³⁹ Consequently, a more effective and unambiguous patent protection system will increase the advantages of a patent license.¹⁴⁰

Despite the importance of this issue, empirical literature on the effectiveness of patent protection in international technology transfer and licensing is scarce.¹⁴¹ For example, an early report indicated that weak intellectual property rights protection has a negative impact on the quality of technology transfer, depending on the extent of ownership control.¹⁴² In addition, scholars have attempted to find the relationship between technology licensing and the effectiveness of patent protection, and have found that technology licensing is more frequent when a patent system provides greater protection.¹⁴³ Also, the strength of a patent rights system creates incentives for companies from developed countries to license technology to companies in developing nations.¹⁴⁴ In industries, such as chemicals and pharmaceuticals, and

¹³⁶ Pluvia Zuniga, *The state of patenting at research institutions in developing countries policy approaches and practices* (WIPO, Work Paper no 4, 2011) 10; See also, S Greenstein, review of ‘Markets for Technology: The Economics of Innovation and Corporate Strategy by Ashish Arora, Andrea Fosfuri and Alfonso Gambardella’ (2002) 27(4) *Academy of Management Review* 626.

¹³⁷ Alfonso Gambardella, Paola Giurib and Alessandra Luzzi, ‘The Market for Patents in Europe’ (2007) 36(8) *Research Policy* 4.

¹³⁸ Ashish Arora and Robert P Merges, ‘Specialized Supply Firms, Property Rights and Firm Boundaries’ (2004) 13(3) *Industrial and Corporate Change*, 451.

¹³⁹ *Ibid.*

¹⁴⁰ (For example, this will happen by decreasing transaction cost or by increasing the licensor’s bargaining power) see, Ashish Arora and Marco Ceccagnoli, ‘Patent Protection, Complementary Assets, and Firm Incentives for Technology Licensing’ (2006) 52(2) *Management Science* 295.

¹⁴¹ Sadao Nagaoka, ‘Does Strong Patent Protection Facilitate International Technology Transfer? Some Evidence from Licensing Contracts of Japanese Firms’ (2009) 34(2) *The Journal of Technology Transfer*, 129.

¹⁴² Edwin Mansfield, ‘Intellectual Property Protection, Foreign Direct Investment, and Technology Transfer’ (International Finance Corporation discussion Paper Number 19, 1994) 2.

¹⁴³ Gambardella, et al, above n 137, 1-37.

¹⁴⁴ Yang Lei and Keith E Maskus, ‘Intellectual Property Rights, Technology Transfer and Exports in Developing Countries’ (2009) 90(2) *Journal of Development Economics* 231.

where patent protection systems are more effective, patent licenses tend to be higher than in other industries.¹⁴⁵

However, transferring of patented invention through licensing agreements seems to be ineffective in middle and low-income developing nations.¹⁴⁶ For example, a study undertaken in Nigeria and Ghana showed that, in both countries, ‘patent licensing as a vehicle for the transfer of technology is very rare for lack of competent licensee capable of independently exploiting the licensed inventions or due to the difficulty patentees face in getting capable licensees’.¹⁴⁷ Furthermore, the effective transmission of technology is rendered difficult due to several unfavourable conditions specified in licence agreements; it is common to find onerous conditions imposed, which are one-sided and establish restrictive practices or monopolistic abuses, prohibited by the competition rules of advanced countries, and imposed on developing countries.¹⁴⁸ The restrictive terms include grant back clauses, which impose an obligation upon a transferee to convey any improvement to the transferred invention, prohibit the transferee from conducting further research on or creating improvements, and restrictions on research and development or adaptation to the licensed technology.¹⁴⁹ Restrictions on exploiting the technology after expiration of the patent protection period also reduce the benefits of introducing the patented invention into a developing nation.¹⁵⁰

2.4.The benefits of the patent system on the national economy

The main purpose of a patent regime is to promote inventions and technical progress by providing a period of exclusivity over the inventions in exchange for its disclosure.¹⁵¹ Patent laws in most developed countries provide an economic incentive

¹⁴⁵ They show that 80% of licensing deals are made in chemicals-pharmaceuticals (46%), electric equipment and electronics (22%) and materials and industrial equipment (12%); see, Bharat N. Anand, and Tarun Khanna, ‘The Structure of Licensing Contracts’ (2000) 48(1) *The Journal of Industrial Economics* 112, 113.

¹⁴⁶ Mengistie, above n 132, 15.

¹⁴⁷ Ibid.

¹⁴⁸ See generally, United Nations Department of Economic and Social Affairs, the UNCTAD Secretariat and the International Bureau of the World Intellectual Property Organization, *The role of the patent system in the transfer of technology to developing countries* (UN, TD/B/AC.11/19/REV.1. 1979).

¹⁴⁹ Mengistie, above n 132, 15.

¹⁵⁰ Ibid.

¹⁵¹ OECD, *Patent Statistics Manual* (2009), 21. See also, Paul Gormley, ‘Compulsory Patent Licenses and Environmental Protection’ (1993) 7(1) *Tulane Environmental Law Journal* 132.

for inventors to provide disclosure in the form a ‘monopoly’.¹⁵² Also, a patent for an invention should be understood as a typical type of intellectual property right ensuring that great amounts of research and development are directed to ‘discovering what is to be unearthed’¹⁵³ and putting those inventions to practical use.¹⁵⁴ In this context, the patent system is a key to economic progress.¹⁵⁵

Additionally, the existence of the patent system with its basic provisions not only ensures that inventions are used to improve research and development, and thus to enrich society information of inventions, but is also an important indicator for measuring the performance of a nation’s economy. As a result of these benefits, the number of patent applications worldwide has grown at an average annual rate of 4.7 per cent between 1995 and 2005 and continues to increase.¹⁵⁶ For instance, the total number of patent applications at the United States Patent and Trademark Office (USPTO) has increased by an average of seven per cent annually, while the European Patent Office (EPO) indicates that patent applications have risen by six per cent annually.¹⁵⁷ For the first time in 2011, more than two million patent applications were filed worldwide; China received 526,412 applications compared to 503,582 for the US and 342,610 for Japan.¹⁵⁸ The total number of international filings through the Patent Cooperation Treaty (PCT) set a new record in 2011, ‘with 182,354 applications. The 11 per cent growth in 2011 was the fastest since 2005. China, Japan and the US accounted for 82 per cent of this growth’.¹⁵⁹ Furthermore, in 2011, the total number of patents granted is estimated at one million patents, where the largest number of

¹⁵² OECD, above n 151.

¹⁵³ W R Cornish, ‘The International Relations of Intellectual Property’ (1993) 52(1) *Cambridge Law Journal* 49.

¹⁵⁴ OECD, above n 151, 23

¹⁵⁵ Vahrenwald, above n 25, 290.

¹⁵⁶ WIPO, *WIPO Patent Report: Statistic on Worldwide Patent Activities*, (2007) <http://www.wipo.int/freepublications/en/patents/931/wipo_pub_931.pdf>: ‘The total number of applications filed across the world in 2006 is estimated to be 1.76 million, representing a 4.9% increase from the previous year. Between 2005 and 2006, the number of filings worldwide by applicants from China, the Republic of Korea and the United States of America increased by 32.1%, 6.6% and 6.7% respectively’. See also WIPO, *World Patent Report: A Statistical Review - 2008 Edition*, <http://www.wipo.int/ipstats/en/statistics/patents/wipo_pub_931.html#highlights>.

¹⁵⁷ OECD, above n 151, 21.

¹⁵⁸ Patent applications rebounded strongly in 2010 with growth of 7.5%, and continued to grow by 7.8% in 2011. WIPO, *World Intellectual Property Indicators* (2012) <http://www.wipo.int/export/sites/www/freepublications/en/intproperty/941/wipo_pub_941_2012.pdf>.

¹⁵⁹ *Ibid.*

patents granted was 238,323 patents by the Japanese Patent Office (JPO) followed by USPTO at 224,505 patents.¹⁶⁰

One historical perspective shows four major arguments related to the principle of a patent system:¹⁶¹

- A man or woman has a natural property right in his own ideas. Their appropriation by others must be condemned as stealing;
- Justice requires that people receive, and therefore that society secure to them, reward for services in proportion to these services are for society;
- Industrial progress is advanced by granting exclusive rights in inventions, because this ensures a return in research and development;
- The disclosure of inventions within the patent system provides a useful service to society because it helps to promote science and industrial progress.

Despite the positive roles of a patent system in the fulfilment of a number of functions relating to social and economic development, many studies on the operation of patent systems in various developing nations show that patent systems frequently do not attain their presumed aims nor do they achieve their claimed functions.¹⁶² However, the ineffective nature of patent systems in these countries can be explained by a number of factors. The first factor is related particularly to the question of how national patent systems are tailored.¹⁶³ Unlike in developed nations, the patent system in most developing countries is not developed from within the national context but adapted from a foreign framework or designed to satisfy international requirements.¹⁶⁴ A second factor is linked to external ones relating to the patent system. In this respect, developing nations are not aware of the role of patent systems as an instrument for economic growth and development, there is a weak industrial base and an absence of complementary strategies and support schemes.¹⁶⁵ The concern is how to overcome these factors and create appropriate grounds for better resource distribution and for better processes and products.

¹⁶⁰ Ibid.

¹⁶¹ Fritz Machlup and Edith Penrose on "The Patent Controversy in the Nineteenth Century", (1950) 10 (1) *The Journal of Economic History* 10.

¹⁶² United Nations Department of Economic and Social Affairs, the UNCTAD Secretariat and the International Bureau of the World Intellectual Property Organization, above n 148.

¹⁶³ Mengistie, above n 132, 8.

¹⁶⁴ UNCTAD Seretariat, above n 128.

¹⁶⁵ Ibid.

There is a broad debate among economists regarding the best design for a patent regime if it is to be used to help build a country's economy and technological base, and whether it is favourable for certain societies to even have such a system in the first place. There is currently no consensus, but the following points have received broad agreement:¹⁶⁶

- Patents granted should be of 'high quality', meaning that they should cover significant inventions only and reveal the actual content of the invention.
- Competition policy allies should keep close watch on the patent system.
- The patent system should be used as a complement to other instruments of innovation policy, notably science policy, sectoral policies and public procurement.
- Mechanisms that facilitate the circulation of and access to patents should be encouraged, although not to the detriment of competition.¹⁶⁷

These points should be taken into consideration when enacting or reforming the Libyan patent system. Since 1980, the importance of these points has emerged in some countries, such as the US, where even non-profit entities have received federal funding for patenting and commercialising their technologies.

2.5. The patent licence system in universities and publicly-funded research institutions

Universities and public research institutions are important sources for promoting innovations through their diffusion and transference of knowledge functions.¹⁶⁸

Universities and academic institutions also tend to pay particular attention to patenting and licensing in the areas of biotechnology, drugs, medical science, engineering and science.¹⁶⁹ However, there are three major policy areas that should be taken into consideration when commercialising IP rights at universities and other academic institutions. First, identifying the ownership of patents at the university level is

¹⁶⁶ OECD, above n 151, 22

¹⁶⁷ Ibid.

¹⁶⁸ For example, in developed countries, 'on average, in 2009 the public sectors performed more than three quarters of all basic research'. For more information see, WIPO, *The Changing Face of Innovation* (WIPO Economics & Statistics Series, 2011), 139, 140. Also see Zuniga, above n 136, 10. The activities of university patents and licenses are important for implementing technology transfer; see Colyvas et al, above n 39; and Coupe, above n 39.

¹⁶⁹ Fabio Montobbio, 'Intellectual Property Rights and Knowledge Transfer from Public Research to Industry in the US and Europe: Which Lessons for Innovation Systems in Developing Countries?' in *The Economics of Intellectual Property* (WIPO, 2009) 180.

required for the process of transferring technology.¹⁷⁰ Second, researchers and inventors should participate in technology transfer activities.¹⁷¹ Third, preparations are necessary to link with the non-academia environments and implement 'technology transfer activities'.¹⁷²

2.5.1. Propensity to patent has increased in universities

The impact of universities in the development of technology can be seen in the numbers of patents they have taken up. An early study using data from USPTO showed that the number of university patents increased faster than other types of patents in the US.¹⁷³ The study also showed that the overall propensity of patents has decreased, while university-related patent propensity has increased.¹⁷⁴

In addition, a survey of more than 112 institutions on the commercialisation of intellectual property in higher education sectors in Canada and the US showed that the number of patents that are held and commercialised in 2008 was higher than the total patents held in 2007 in both countries.¹⁷⁵ The study also showed that the total patents held in Canada in 2007 was 415 and that this number increased to 779 in 2008. Similarly, the total patents held in the US in 2008 increased to 2,481 from 1,709 in 2007.¹⁷⁶ In addition, 524 new licenses and options were granted in Canada in 2008,¹⁷⁷ which was up from 320 in 2001.¹⁷⁸ It should be noted that in 2009 the majority of patents licensed in the US and Canada were under non-exclusive licenses (in the US, 1,682 licenses were exclusive, 2,595 were non-exclusive; in Canada, 177 licenses out of 317 were exclusive).¹⁷⁹ Another survey illustrated that the percentage of patents

¹⁷⁰ Donald S Siegel, Reinhilde Veugelers and Mike Wright, 'Technology Transfer Offices and Commercialization of University Intellectual Property: Performance and Policy Implications' (2007) 23(4) *Oxford Review of Economic Policy*, 640.

¹⁷¹ Zuniga, above n 136, 55.

¹⁷² Ibid.

¹⁷³ The data had been collected between 1966 to 1988 by Rebecca Henderson et al, "Universities as a Source of Commercial Technology: A Detailed Analysis of University Patenting, 1965-1988" (1998) 40 (1) *The Review of Economics and Statistics* 119-127 also the same data showed that universities tended to be more interested in drugs and medical technologies and less interested in mechanical technologies.

¹⁷⁴ Rebecca Henderson, Adam B Jaffe and Manuel Trajtenberg, 'Universities as a Source of Commercial Technology: A Detailed Analysis of University Patenting, 1965-1988' (1998) 40(1) *The Review of Economics and Statistics* 119.

¹⁷⁵ 'Survey of Intellectual Property Commercialization in the Higher Education Sector' (Statistics Canada, no 88-222-X, 2008) 22.

¹⁷⁶ Ibid.

¹⁷⁷ This information was based on responses to questionnaires received from 125 institutions, Ibid 23.

¹⁷⁸ Cathy Read, 'Survey of Intellectual Property Commercialization in the Higher Education Sector, 2001' (Statics Canada, 2003) 24.

¹⁷⁹ WIPO, 'Changing Face of Innovation' (WIPO Economics & Statistics Series, 2011) 153.

owned by universities in Japan and some European countries have grown significantly since the middle of the 1990s.¹⁸⁰ According to the availability of national reports or studies in Australia, new patents and/or plant-breeder rights applications in Australia have increased to reach 744 applications in 2009.¹⁸¹ Nevertheless, national university patent applications in Germany and Italy doubled from 2000 to 2007, reaching 647 and 197 applications respectively.¹⁸² In Japan, the total number of local university patent applications stood at 7,151 applications in 2009.¹⁸³

2.5.2. Overview of university technology transfer legislation

Over the last three decades, many countries have reformed their legislation and have created new mechanisms to improve interactions between universities and industry, which in turn helps in promoting transfer of technology.¹⁸⁴ The *US Bayh-Dole Act of 1980* was the first specific legislation that operated under federal contracts to explicitly regulate the process of transferring technology between universities and businesses.¹⁸⁵ This *Act* did more than clarify the ownership of inventions at academic institutions; it also makes provisions for invention disclosure and requires institutions to provide incentives for researchers.¹⁸⁶

Concerning inventor-ship, the rules clearly provide rights granted to universities and Public Research Organizations (PRO) to own inventions, while previously researchers and professors had typically owned such inventions.¹⁸⁷ In Germany, for example, university patent policies changed with the amendment of the *Employee Invention Act 2009*. As a result, inventors at Germany's academic institutions are forced to disclose their inventions to their respective universities and the universities have the right to

¹⁸⁰ OECD, *Compendium of Patent Statistics 2008* (2008) <www.oecd.org/sti/ipr-statistics> 12 November 2012.

¹⁸¹ 'Overall, the number of Licence and Options and Assignments executed per year has increased by 19% from 2000 to 2009'. Department of industry, Innovation Science, Research and Tertiary Education, *National Survey of Research Commercialisation (NSRC) 2008-2009* (May 2011) <<http://www.innovation.gov.au/Innovation/ReportsandStudies/Documents/NSRCReport200809.pdf>>

¹⁸² WIPO, (2011), above n 179, 151

¹⁸³ Ibid; also see Japan Patent Office <<http://www.jpo.go.jp/>> 06 November 2012.

¹⁸⁴ WIPO, (2011), above n 179, 143.

¹⁸⁵ Ibid 144.

¹⁸⁶ Ibid.

¹⁸⁷ Furthermore, the situation in most European countries was established 'according to which IP ownership was assigned to the faculty inventor –the so-called professor's privilege – or to the firms that funded the researchers rather than the to the university or PRO itself', Ibid 144..

patent and license these inventions.¹⁸⁸ Japan also implemented similar rules in 1998 and changed its legal framework regarding university-developed patents.¹⁸⁹

In addition, India, Brazil, China, Malaysia and South Africa have recently enacted legislation akin to the *US Bayh-Dole Act*.¹⁹⁰ Thus, as of the early 2000s, universities in these nations have the right to own and license inventions generated by university-affiliated researchers.¹⁹¹ Further, in 2004, the *Brazilian Innovation Law* was passed to provide ‘further incentives for IP exploitation and collaborative public-private research relationships’.¹⁹² Recently, South Africa enacted their Intellectual Property Rights based on a *Publicly Financed Research and development Act* no 51 of 2008; this law was also influenced by the *US Bayh-Dole Act*.¹⁹³

However, other countries, including Australia, Canada and the UK, have no explicit regulation regarding the legal framework of university patents, and the situation in question is still governed under the general rule of intellectual property law as well as under university IP policies and statutes.¹⁹⁴ In Australia, for instance, universities can claim ownership of inventions created by researchers under common law.¹⁹⁵ However, in two universities (University of Melbourne and the University of Technology, Sydney) inventors can claim full or part ownership of inventions. In the UK and Canada, the experience of ownership and managing patent rights resulting from universities is generally in line with the *US Bayh-Dole Act* approach of licensing patents from university and publicly-funded research institutions.¹⁹⁶ Indeed, ‘the common points shared by the UK and Canadian proposals for reform of IP management in publicly funded research bodies can be summarised as follows:

- ‘IP should be vested in the research bodies;

¹⁸⁸ Marcel Huelsbeck and Erik E Lehmann, ‘German University Patenting and Licensing: Legally Prescribed Incentives and Institutional Determinants of University-Industry technology-Transfer’ (Paper presented at the DRUID-DIME Academy Winter Conference, 2007) 6.

¹⁸⁹ WIPO, (2011), above n 179.

¹⁹⁰ Bhaven N Sampat, ‘The Bayh-Dole Model in Developing Countries: Reflections on the Indian Bill on Publicly Funded Intellectual Property’ (UNCTAD-ICTSD Project on IPRs and Sustainable Development-Policy Brief, 2009) 5.

¹⁹¹ WIPO, (2011), above n 179, 145; and Zuniga, above n 136.

¹⁹² Zuniga, above n 136.

¹⁹³ *Ibid*; See also *South African Intellectual Property Rights from Publicly Financed Research and Development Act No. 51 of 2008*.

¹⁹⁴ See Christie, et al, *Analysis of the Legal Framework for Patent Ownership in Publicly Funded Research Institutions* (CSIRO, 2003).

¹⁹⁵ *Ibid*.

¹⁹⁶ *Ibid*.

- IP ownership should be coupled with responsibilities designed to encourage research bodies to implement strategies and systems to identify, protect, manage and exploit valuable IP;
- Knowledge transfer or innovation should be included as an express objective of research bodies;
- IP owned by research bodies should be disclosed to the government on a regular basis.¹⁹⁷

Similarly, most African countries have neither a specific law on IP ownership by research institutions nor any technology transfer laws.¹⁹⁸ They still rely on general rules and employment Acts to regulate IP ownership resulting from publicly funded research. Nigeria and Ghana are working on establishing technology transfer offices (TTOs) in all institutions of higher education.¹⁹⁹ Recently, countries, including Egypt, Algeria, Morocco and Tunisia, have begun the process of drafting legislation and regulating general technology transfers.²⁰⁰

2.5.3. Objectives of the *Bayh-Dole Act*

There are a number of important policy objectives that the *Bayh-Dole Act* has brought forth, but the most significant are reducing delays and promoting technology transfer, and encouraging innovation.

2.5.3.1.Reducing delays and promoting technology transfer

Regarding issues of research funding and ownership of patents, US universities were forced to deal with over twenty different statutory provisions that existed before the *Bayh-Dole Act*.²⁰¹ This issue made the process of commercialising a university's inventions drawn out and, thereby, deprived the public of receiving the full benefits of university-affiliated research and development efforts.²⁰² To address this issue, the *Bayh-Dole Act* abolishing previous statutory provisions that regulated technology transfer²⁰³ and created clear and uniform processes for IP of inventions from universities and other publicly funded research institutions, and allows universities to

¹⁹⁷ Ibid.

¹⁹⁸ See Zuniga, above n 136, 31.

¹⁹⁹ Ibid

²⁰⁰ Ibid 32.

²⁰¹ Kenneth Sutherland Dueker, 'Biobusiness on Campus: Commercialization of University-Developed Biomedical Technologies' (1997) 52 *Food & Drug Law Journal* 455.

²⁰² Peter Mikhail and Hopkins V Cellpro, 'An Illustration That Patenting and Exclusive Licensing of Fundamental Science Is Not Always in the Public Interest' (2000) 13(2) *Harvard Journal of Law & Technology* 379.

²⁰³ Dueker, above n 201, 462. Also see, Mikhail, above n 202, 379.

patent inventions arising from ‘publicly funded research’.²⁰⁴ This change was designed to encourage and improve the development of technologies stemming from university research.²⁰⁵

Research on the effects of the *Acti* indicates that ‘the most probable effect of the [the *Bayh-Dole Act*] legislation is that it accelerated the trend in patenting by universities by removing obstacles surrounding complicated patent ownership rights.’²⁰⁶ However, a number of empirical studies suggest that ‘the increase in patenting by US universities in the 1990s was due only in part to this piece of legislation.’²⁰⁷

2.5.3.2. Encouraging innovation

Generally speaking, the *Bayh-Dole Act* provides a licensing ‘model’ of transferring technology from universities and publicly funded research institutions to the private sectors, with the purpose of promoting and stimulating innovation and using the patent system to encourage the utilisation of inventions.²⁰⁸ Proponents of the *Bayh-Dole Act* argued that enacting the *Act* made transferring technology more enticing to corporations and universities.²⁰⁹ Patenting and licensing grew significantly after the *Bayh-Dole Act* was passed. As a result, the expansion in these activities improved innovation and ‘enhanced the social returns to publicly funded research academics’.²¹⁰ However, it has been argued that the significant growth in patents and licences at universities that has occurred ‘since the passage of the *Bayh-Dole Act* almost certainly would have occurred in the absence of this piece of legislation’.²¹¹ US universities were active in patenting and licensing for periods before the *1980 Bayh-Dole Act*, the increase in patent activities at universities after 1980 occurred in a few specific fields of sciences, ‘at least, however, some of which also have benefited from rapid growth in public research funding and significant advances in basic science.’²¹²

²⁰⁴ Evans, above n 67, 313; see also, Sampat, above n 190.

²⁰⁵ Evans, above n 67, 313.

²⁰⁶ Christie, et al, above n 194.

²⁰⁷ Aldo Geuna and Federica Rossi, ‘Changes to University IPR Regulations in Europe and the Impact on Academic Patenting’ (2010) 40(8) *Research Policy* 4.

²⁰⁸ Mikhail, above n 202, 379; See also, Evans, above n 67, 312.

²⁰⁹ Mikhail, above n 202, 379.

²¹⁰ David C Mowery and Bhaven N Sampat, ‘The Bayh-Dole Act of 1980 and University–Industry Technology Transfer: A Model for Other OECD Governments?’ (2005) 30(1) *Journal of Technology Transfer* 115.

²¹¹ Ibid 124.

²¹² Ibid.

2.6. The impact of the international patent system on Libya

2.6.1. The rationale of the international patent system

The underlying advantage of the harmonisation of international patent law is bringing the IP legislations of countries into an arrangement for the benefit of the common good.²¹³ The need for this harmonisation of patent system is ‘driven by the globalization of commerce, the reduction of trade barriers, and the need for stability and predictability in international patent protection.’²¹⁴ There are a number of reasons for difficulties in obtaining a patent protection in foreign nations, including the difference between national laws, possible discriminatory treatment, and the issue of cost, ‘time and distance relating to the filing and processing of patent applications’.²¹⁵ To alleviate the difficulties in safeguarding intellectual property rights in foreign countries, several international agreements were concluded.²¹⁶ The three most important procedural and substantive treaties and agreements are the *Paris Industrial Property Convention 1883*, the *Patent Cooperation Treaty (PCT) 1970*, and the *Trade Aspects of Intellectual Property Rights Agreement (TRIPS) 1994*.

2.6.2. Paris Industrial Property Convention

The Paris Industrial Convention 1883 (‘*Paris Convention*’)²¹⁷ is the first multilateral agreement in the field of patents that provides a significant right to inventors of signatory nations to obtain patents in multiple other signatory countries.²¹⁸ There are a number of fundamental principles stipulated in the *Paris Convention* including the right of priority, the principle of national treatment, patentability and other common rules.²¹⁹ Libya became a contracting member of the *Paris Convention* in 1976, currently there are 174 members.²²⁰

²¹³ Robert R Willis, ‘International Patent Law: Should United States and Foreign Patent Law Be Uniform-an Analysis of the Benefits, Problems, and Barriers’ (2009) 10(2) *North Carolina Journal of Law & Technology* 283.

²¹⁴ Ryan M Corbett, ‘Harmonization of Us and Foreign Patent Law and Hr 2795: The Patent Reform Act of 2005’ (2006) 18 *Florida Journal of International Law* 722.

²¹⁵ Mengistie, above n 132, 15.

²¹⁶ Ibid.

²¹⁷ *Paris Convention for the Protection of Industrial Property*, last revised 14 July 1967 and as amended 28 September 1979, signed 20 March 1883, 828 UNTS 305.

²¹⁸ Willis, above n 213, 289.

²¹⁹ *Paris Convention for the Protection of Industrial Property of March 1883*, WIPO (entered into force 26 April or 19 May 1970) (‘*Paris Convention*’) <http://www.wipo.int/treaties/en/text.jsp?file_id=288514> 13 December 2012.

²²⁰ *Patent Cooperation Treaty*, WIPO (entered into force 1 April 2001) (‘*PCT*’) <<http://www.wipo.int/pct/en/treaty/about.htm>> 13 December 2012.

2.6.3. Patent Cooperation Treaty

The Patent Cooperation Treaty ('PCT') was concluded in 1970, amended in 1979 and further modified in 1984 and 2001.²²¹ The PCT is a worldwide procedural protection treaty administrated by the WIPO and makes it possible for an inventor to obtain a simplified and inexpensive form of international patent protection in a large number of membership nations, basically by filing an international patent application (known as PCT patent application).²²²

Libya filed its instrument of accession to the PCT on 15 September 2005. Since Libya's accession to the PCT, the Libyan Office of Industrial Property (LOIP) has registered a total of six international applications filed by individual applicants and Libyan companies in different sectors.²²³

2.6.4. Trade Aspects of Intellectual Property Rights Agreement

The *TRIPS Agreement* is part of World Trade Organisation system, and was signed on 15 April 1994 in Marrakech, Morocco. It came into force on 1 January 1995. The *TRIPS Agreement* establishes a number of general provisions, which provide minimum levels of protection by each member in WTO for intellectual property.²²⁴ For instance, member countries are not obliged to 'implement in their law more extensive protection than is required by this Agreement, provided that such protection does not contravene the provisions of this Agreement'.²²⁵ Provision was created whereby member nations would deal with their own citizens and foreigners equally.²²⁶ Also, *TRIPS* does not absolve members from obligations to each other under the existing the *Paris Conventions*.²²⁷

Most-favoured-nation treatment is also stipulated in the *TRIPS*; practically, in regard to the protection of IP, advantages, favour, privilege or immunity granted by a member to the national of any other country shall immediately and unconditionally be

²²¹ Ibid.

²²² Ibid.

²²³ World Intellectual Property Organization, information by countries at

<http://www.wipo.int/members/en/details.jsp?country_id=108 > 13 December 2012.

²²⁴ The area of intellectual property that the *TRIPS Agreement* covers are: copyright, patent, trademark, industrial designs, lay-out designs and undisclosed information.

²²⁵ *TRIPS Agreement*.

²²⁶ Ibid art 3.

²²⁷ Such as the *Paris Convention* (1967), the *Berne Convention for the Protection of Literary and Artistic Works* (1971), and the *Rome Convention* or the *Treaty on Intellectual Property in Respect of Integrated Circuits*. See, *TRIPS Agreement* art 3.

accorded to the nationals of all other members.²²⁸ A further significant principle is that the protection of IPRs should contribute to the encouragement of innovation and to technology transfer.²²⁹ Specifically, *TRIPS* provides for minimum standards of global enforcement of patent laws. These include patentable subject matter, conditions on patent applicants, revocation and forfeiture and term of protection as well as the contracting rights of patent holder. For example, the protection for invention must be available for at least 20 years from the filing date of a patent application for any invention including for a pharmaceutical product or process.²³⁰ In article 28 (2), it states that the patent owner has the right to assign the patent, or transfer it by succession or to conclude licensing contracts.²³¹ *TRIPS agreement* also regulates the issue of compulsory licences.²³²

In becoming a member in the WTO, the member country undertakes to adhere to the *TRIPS Agreement* and other specific agreements established by the WTO. Although, nowadays, there are more than 150 members in WTO, Libya is still in the position of an observer government.²³³ This means that Libya is not obliged by the minimum standard of IPR protection under the *TRIPS Agreement*. However, the question is, will Libya benefit from the provisions of the *TRIPS Agreement* by adapting and strengthening patent protection system? In other words, what is the possible impact of international patent system such the *TRIPS Agreement* on Libya?

The main objective of the *TRIPS Agreement* is to improve the effectiveness of IPRs protection worldwide and ensure that member nations grant the same rights to nationals and residents of other signatory countries as they grant to their own nationals. Some authors argue that the *TRIPS Agreement* deprives the freedom of member countries to their national patent system by setting minimum levels and strict requirements, which may be lopsided in favour of right owners,²³⁴ by requiring states to modify their national legislation in accordance with the provisions of the Agreement. Some writers therefore state that the *TRIPS Agreement* is just a legal

²²⁸ *TRIPS Agreement* art 4.

²²⁹ *TRIPS Agreement* art 7.

²³⁰ *TRIPS Agreement* art 33, 70.

²³¹ *TRIPS Agreement* art 28 (2).

²³² See *TRIPS Agreement* art 31.

²³³ WTO members agreed on 27 July 2004 to start talks with Libya on its membership bid, bringing the current number of applicant countries to 25. See, Status of accession working party in World Trade Organisation, < http://www.wto.org/english/thewto_e/acc_e/a1_libya_e.htm > 12 January 2013.

²³⁴ Mengistie, above n 132, 19.

system that supports and perpetuates monopolies, and then enables industrial nations to control the global marketplace.²³⁵ However, the *Agreement* does provide developing nations with some room to adapt national policies that favour the public interest, stimulate foreign direct investment (FDI) and disseminate technology, as well as encourage local innovation.²³⁶ Also, members are free to reform their national legal system within more extensive protection of intellectual property than the minimum requirements stipulated by the *TRIPS Agreement*.²³⁷ From the developing countries perspective, the *TRIPS Agreement* is seen as a significant mechanism to attract inflows of advance technology from abroad.²³⁸ While other countries may use weak an IP system as a means to copy and imitate a foreign technology and improve it ‘using reverse engineering, thereby, enhancing indigenise technology capacity’²³⁹ ‘The implementation of TRIPS Agreement now restricts the ability of developing countries to follow this path’.²⁴⁰

In general, the international legal instruments regarding the harmonisation of substantive and procedural patent issues would have a major impact on developing countries in terms of technological progress and change of national legislations. For example, the *PCT* makes accessible patent documents to developing nations, ‘thereby facilitating access to and use of valuable information contained in patent documents’.²⁴¹ This may assist in transferring technology and investment decisions as well as ‘avoiding duplication and wastage of resource in research and development and inventive activities’.²⁴² The objectives in article 7 of the *TRIPS Agreement* also ‘confirm and recognise, in rather unspecific terms, the importance of technology transfer as a benefit of IPRs’.²⁴³

The protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and to the transfer and

²³⁵ Nabil Hashad, ‘GATT and its Impact on the Economy of Arabic countries’ (1996) 42 *Series letters in Industrial Bank of Kuwait* 49.

²³⁶ Jerome H Reichman, ‘Universal Minimum Standards of Intellectual Property Protection Under the TRIPS Component of the WTO Agreement’ (1995) 29(2) *American Bar Association* 350.

²³⁷ Rokiah Alavi, ‘Technology Transfer and Patents: The Impact of TRIPs on Muslim Countries’ (1999) 20(3) *Journal of Economic Cooperation* 24.

²³⁸ Keith Eugene Maskus, *Intellectual Property Rights in the Global Economy* (Institution for International Economic, 2000) 129.

²³⁹ CIPR, above n 130.

²⁴⁰ *Ibid.*

²⁴¹ Mengistie, above n 132, 25.

²⁴² *Ibid.*

²⁴³ Tripathy, above n 115, 80.

dissemination of technology, to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations.²⁴⁴

Additionally, articles 66.2 and 67 impose clear and direct obligations on developing nations with regard to assistance and transferring technology to less developed countries.²⁴⁵ Also, the implementation of the *TRIPS Agreement*, among others, contributes to improving existing national legislation or the adoption of new legislation, and hence the strengthening of IPRs administration and building-up enforcement capacity.²⁴⁶ For instance, developing countries such as Jordan, Egypt, Tunisia, Brazil, Malaysia and Oman, amended their intellectual property legislations during and after the process of becoming a member of the WTO.²⁴⁷ Although the enforcement of the principles under the *TRIPS Agreement* will tend to encourage a great deal of consistency in many areas of patent law, the *Agreement* does not seek to achieve a global harmonisation of national patent laws.

Assuming, however, that there is a risk that a developing country would not benefit from a strong patent system, what options does Libya have? Basically, there are two options: Libya may either be part of the process of the international patent system or stay out of it. To stay out of the evolving international patent system would be a costly option, since developing nations are extremely dependent on developed nations for trade, and not signing up to the *Agreement* may limit access to the markets of developing countries.²⁴⁸ For instance, it has been noted that

A country could not build its economy on technology appropriated from other countries and expect to be admitted to the international trading system on an equal basis. The countries from who the technology is appropriated will be moved to protect its value in their markets by barring exports from the appropriating country²⁴⁹

Experience also reveals that developed nations may impose pressures using regional and bilateral trading agreement that ‘would force countries to put in place a scheme of protection higher than that is provide in a multilateral treaty or force them to join such

²⁴⁴ *TRIPS Agreement*, art 7.

²⁴⁵ *Ibid.*

²⁴⁶ *Ibid.*

²⁴⁷ More information see WIPO Lex, <<http://www.wipo.int/wipolex/en/index.jsp>> 22 January 2013.

²⁴⁸ Mengistie, above n 132, 41.

²⁴⁹ E Kitch, ‘The Patent System: A Design for all Seasons?’ (Paper presented at the WIPO Conference on the International Patent System Geneva, 2002) 8.

a treaty'.²⁵⁰ Towards the end of the 1990s, for example, countries such as Argentina, Malaysia, Brazil, Chile, South Korea, Thailand and Venezuela adopted strong patent protection legislation partly due to external pressures.²⁵¹

Being part of the international patent system could be a good option for Libya if it places the country in a position to influence developments in the international patent system. However, historically, there is limited and inactive contribution by developing nations in the progress of international law making. In the field of intellectual property, studies of international conventions and treaties, including *TRIPS*, show that 'limited participation, poor preparation, and performance, weak negotiation capacity as well as lack of unity, among others, kept developing countries in weak bargaining position'.²⁵² Libya should, therefore, improve its capacity to contribute to be in better position to contribute to negotiations on the international stage before being part of international patent protection system.

2.7. The law governing patent licences

In most developing countries, there is no specific legislation to clarify how IPRs are licensed. In other words, there is no specific legal code regulating licence agreements of intellectual property, and each country has its own approach.²⁵³ The parties involved in a licence agreement can determine their rights and obligations in a detailed written agreement and not all licence agreements can address every legal consequence. Therefore, it is necessary to return to general legal principles to determine terms and conditions of licensing agreement. These legal principles are as follows:

1. Provisions of patent legislation will apply on patent licence if there is any issue related to provisions of stating that a patent may license or assign to the ownership and validity of a patent as long as the provisions contain rights that cannot be excluded by a contract or which can only be excluded by a contract.²⁵⁴ However, some countries, including Brazil, Mexico, India and Egypt, enacted

²⁵⁰ Mengistie, above n 132, 41.

²⁵¹ Keith Eugene Maskus, *Intellectual Property Rights in the Global Economy* (Institution for International Economic, Washington, 2000).

²⁵² Mengistie, above n 132, 41.

²⁵³ Phillip B C Jones, 'Violation of a Patent License Restriction: Breach of Contract or Patent Infringement' (1993) 33 *the Journal of Law and Technology* 1; Dratler above n 1; also see, Erauw, above n 66, 11.

²⁵⁴ See Australian *Patent Act 1990* (Cth) s144 (1).

legislation which regulates technology transfer in general. This legislation contains provisions of which technology should be transferred and prohibits any terms that are unfair.²⁵⁵

2. Contract legislation, such as basic rule validity requirements and provisions on the legal effects of contracts, interpretation, formation and termination of proof issues. These laws also cover provisions ruling specific types of contracts, including sale, exchange and arbitration agreements, which are related to patent licences.²⁵⁶
3. Several cases have concerned specific terms of patent licence contracts, and such terms provide improvement or sublicenses or obligations of licensor to sue infringers.²⁵⁷ In the US, example case law shows that a patent holder has the option to sue under the provisions of the contract law or to sue for patent infringement if a licensee breaches an express or implied negative agreement in a patent license.²⁵⁸

2.7.1. Examples of relevant law to patent licences

Patent licences are at the crossroads of different legal disciplines depending on the country in which they are operating. Although the licensing of patents in Australia is based on freedom of contract, there are a number of laws that may rule the patent licence, including the *Patent Act 1990* (Cth), a *New Tax System (goods and services) Act 1999* (Cth) and the states *Contract Act, Corporations Act 2001* (Cth) and *Competition and Consumer Act 2010* (Cth).²⁵⁹ However, patent licences in France are governed by *Intellectual Property Code No 2006-236 of 2006*.²⁶⁰ Similarly, in Libya, the current law governing patent licences is *Patent Act No 8 of 1959* as well as civil and commercial codes.

²⁵⁵ See William Sprague Barnes, 'Technology Transfer Rules: A Study in Comparative Law' (1979) 3(1) *Boston College International and Comparative Law Review* 1. In Egypt, the contract of technology transfer is regulated in *Trade Act 1999* as a commercial contract.

²⁵⁶ Lorelei Ritchie de Larena, 'License to Sue?' (FSU College of Law, Public Law Research Paper No. 279, 2007) 9.

²⁵⁷ For example, in the case of *E I du Pont v Shell Oil Company*, 498 A2d 1108 (Del 1985), the court prohibited a sequence of transactions that equalled a sublicense.

²⁵⁸ Jones, above n 252, 3.

²⁵⁹ There are types of conduct that are prohibited under the *Competition and Consumer Act 2010* (Cth) eg section 45 (2) provides that 'A corporation shall not: a make a contract or arrangement, or arrive at an understanding, if: the proposed contract, arrangement or understanding contains an exclusionary provision ...'

²⁶⁰ *French Intellectual Property Code No 2006-236 of 2006*.

Additionally, in China, the business of transferring technology (eg patent licence) must be handled through a series of laws in the Chinese legal framework, including the Contract Law of China, the Administration of Import and Export of Technologies (Technology Transfer Regulations), the Administration of Registration of Technology Import and Export Contracts Measures, the Catalogue of Technologies Prohibited or Restricted from Import, antitrust laws and related Supreme Court opinions regarding technology contracts. Similarly, in Japan, the licensing agreements of IP rights are ruled by ‘the Japanese Fair Trade Commission’s (JFTC) Guidelines for Patent and Know-How Licensing Agreement under the *Anti-Monopoly Act 1999*’.²⁶¹

In the European legal framework regarding patent licences, patenting does not exclusively exist under European legislation; patents remain primarily governed by the national laws of the member states.²⁶² However, *European Patent Convention (EPC) of 1973*²⁶³ provides ‘an autonomous legal system according to which European patent are granted. Once granted a European patent become a bundle of nationally-enforceable patents, except for the provision a time-limitation, unified, post-grant opposition procedure.’²⁶⁴

Although there is no particular homogenised approach regarding patent licence agreements, there is a distinction between developed and developing nations in that developed countries, such as Canada, Japan, Australia, the US and some European countries, have enacted more modern legislation to regulate intellectual property,²⁶⁵ technology transfer and antitrust law. This type of legislation is important in order to address deficiencies in the discussion of intellectual property rights. In many developing nations, such as Libya, there are no strong intellectual property laws and technology transfer policies. Although Libya has an old history for intellectual property, this system has not been reformed or improved since the 1950s. The legal framework of IP is not regulated in the country’s Code such as it is in France, but each type of intellectual property is regulated in a separate law, as follow:

1. *Law No 8 of 1959 on Patents and Industrial Designs and Models.*

²⁶¹ Kleyn, above n 40, 140.

²⁶² Ibid.

²⁶³ *Convention on the Grant of European Patents of October 1973* (‘*European Patent Convention*’) This *Convention* is a multiparty treaty instituting the European Patent Organization.

²⁶⁴ Liberman et al, above n 59.

²⁶⁵ Japan and China also have strong legal ground for technology transfer and intellectual property.

2. *Law No 2 of 1962 on Trademark Law.*
3. *Law no 9 for 1968 issuing Copyright Protection Law.*
4. *Law No 76 of 1972 on Publications and Law No 7 of 1984 on Workbooks Prepared for Publication.*

It is difficult to operate in the modern context using only the basic provisions of the intellectual property law and with general rules of civil and commercial legislation to govern transferring technology.

2.8.Summary

This chapter presents the current literature on patent licensing and technology transfer, focusing particularly on the nature of a patent licence. In general, licensing is understood as a form of contract between the owner of patent rights and an interested party who wishes to obtain patented technology. Licensing patent rights is considered an important means for transferring technology to developing countries. In this regard, the argument of the role of a patent system in technology transfer and in the national economy shows that strong patent regimes promote investment and thus enhance national economic growth while also improving technology. This explains why many countries seek to improve their patent legislation to satisfy international standards.

The propensity to patent at the university level has increased in recent years. In general, however, there is no particular homogenised approach regarding patent licence agreements, and this area of licensing is still at the crossroads of different legal disciplines. The issue of university-level patents might arise in developing countries that do not have strong intellectual property laws and technology transfer rules. Indeed, this study specifically aims to extend the knowledge on licensing patent rights by looking at the terms, conditions, rights, obligations and strategies of drafting patent licence agreements with a focus on the Libyan legal framework and how to improve related legislation.

Chapter 3: Licensing of patent rights

3.1 Introduction

Many patentees are reluctant to agree to the terms of a patent licence unless they are sure of gaining some benefits from rights over an improvement or new innovation to their invention.²⁶⁶ In this regard, the advantages of continuous improvement often fostered by competition may be restricted by licensor because of the way in which licensee can exploit the licensed invention.²⁶⁷ However, to draft an effective patent licence agreement, a number of fundamental requirements must be satisfied. First, the party granting the license must own the IPRs or have authority from the owner to grant the license. In other words, ‘one cannot license rights that one neither owns or controls’.²⁶⁸ Further, to grant an effective patent licence agreement, the rights of IPRs must be protected by law, or at least must be entitled for legal protection.²⁶⁹ Second, granting licenses and taking royalties for non-existing or invalid patents, not only produces unenforceable obligation, but also contravenes antitrust laws or creates a tort in liability.²⁷⁰ Third, the licensing agreement should define the rights that it purports to grant. As a result, a licensing agreement does not transfer ownership of the licensed patent rights, it typically provides the licensee only some, but not all, of the rights in the patented invention that accompany ownership.²⁷¹

To avoid future disputes, the licensing agreement thus (with enough precision) should expressly specify what rights are granted. Licensing patent rights and reaching final agreement, involves a number of stages. For example, if someone invents a new machine for filtering water in Libya, what should the inventor do to obtain a patent under the Libyan legal framework? In other words, what are the requirements in Libyan patent law that should be adhered to? If inventions have been licensed to another company, how should licensing agreements be drafted, and which provisions should be dealt with? Are there any restrictive conditions under Libyan law? All of these questions must be addressed. This chapter will examine the process of licensing patent rights under Libya’s legal framework in five sections. The first section provides

²⁶⁶ Nielsen, above n 32.

²⁶⁷ Ibid.

²⁶⁸ Dratler, above n 1, 7.

²⁶⁹ Ibid.

²⁷⁰ Ibid.

²⁷¹ Ibid.

an outline of the patent system by referencing the subject matter of patent licences, the nature of patentable inventions and the criteria for patentability. The following section explains ownership of patents and clarifies the notion of co-ownership and inventorship of university inventions. The third section focuses on the process of how to prepare and draft patent licenses. The position of Libya's legislature towards restrictive terms and conditions that may be included in a licensing agreement are examined in section four. Section five studies the differences and similarities between patent licenses and contracts.

3.2.The subject matter of the patent licence

3.2.1. The patentable invention

The patented invention is the subject-matter of the patent licence agreement.²⁷² A patent is granted by 'the Crown and confers private property rights in the form of a monopoly for the invention of products, methods and processes in all field of technology'.²⁷³ For example, a patented invention could be related to pharmaceutical products, engineering products and processes, medical and micro-organisms, therapeutic devices or technology related to computers.²⁷⁴

3.2.1.1.The nature of patentable invention

Although article 8 of the *Libyan Patent Law* states that 'the patent entitles nobody but its owner the right of exploiting the invention by all means',²⁷⁵ it does not provide further clarification as to the nature of this exclusive right of exploitation. Article 811 of the *Libyan Civil Code* establishes the right of property that entitles the owner of a thing, within the limits of the law, to use and to exploit and to dispose of the subject matter of the right.²⁷⁶ The rights contained in the context of the patentable invention are the rights of the patent owners who received them after legally being granted a patent by the provisions of law. Thus, the legal nature of the patent is a revealing right because the patentee received a patent on an invention that already existed before the patent was granted. The exclusive rights that are granted to a patent owner are those of

²⁷² Vahrenwald, above n 25,109.

²⁷³ Mark J Davison, et al, *Australian Intellectual Property Law* (Cambridge University Press, 2008) 377.

²⁷⁴ *Ibid.*

²⁷⁵ *Libyan Patent Law No 8 of 1959*, art 8.

²⁷⁶ *Libyan Civil Code 1953*, art 811.

personal property.²⁷⁷ In general, the subject matter of the property may be real or chattels. Chattels include tangible items such as cars, computers and so forth as well as and intangible things such as patents, copyrights, trademarks and so forth. Patentable inventions may be distinguished as incorporeal chattels.²⁷⁸ Patents, therefore, are an intellectual property right authorised by the government to the person who invented technology that is new, inventive and capable of industrial application.

3.2.1.2. Patentable invention and know-how

The Commission of the European Community defined know-how as ‘a body of technical information that is secret, substantial and identified in any appropriate form’.²⁷⁹ This information may include tangible materials such as specifications of production, designs, drawing, planning, recipes, technical products or written instructions for operating the process or analytical means for checking and controlling the product; intangible information involves the training of employees in engineering and consultant services and skills, technical information such as test data and test results and information for how processes work, including the details of workshop practices and important inspection practices and so forth.²⁸⁰

In order to distinguish between patentable invention and know-how, a patent is considered to be ‘a higher order of know-how’.²⁸¹ Inventions represent an ability to perceive and provide new ‘combinations of facts or ideas.’²⁸² Patented inventions are ‘in fact that which may be recognised by or registered with governmental authority’.²⁸³ On the other hand, know-how is considered to be the ‘combinations of

²⁷⁷ In Australia, the patent is referred to as personal property. See, Australian *Patent Act* (Cth) s13 (2). In general, the intellectual property rights are personal property. See Swinson, above n 14.

²⁷⁸ Vahrenwald, above n 25, 47.

²⁷⁹ Commission Regulation (EEC) No 556/89 of 1988 on the application of art 85(3) of the *Treaty* to certain categories of know-how licensing agreements, art 1 (7) 2.

²⁸⁰ J Gibson Semmes, ‘Protection of Inventions and Know-How in the Common Market’ (1972) 37(2) *Law and Contemporary Problems Duke University School of Law* 351. See also, Robert S Tancer and Bashar Nejdawi, ‘Patent and Know-How Licensing: The Us and the European Community in 1992’ (1991) 32(6) *The International Executive* 36, 39. And see, Stephen P Ladas, ‘Legal Protection of Know-How’ (1963) 7 *Patent, Trademark and Copyright Journal of Research and Education*, 398.

²⁸¹ Semmes, above n 280, 351.

²⁸² *Ibid.*

²⁸³ *Ibid.*

facts or ideas' that are not covered by the patent system because of the lack of a patentability requirement, although it is necessary to operate an invention.²⁸⁴.

Although know-how is recognised as property and may be licensed, it is often more difficult to render it the subject-matter of a licence agreement.²⁸⁵ Thus, it is usually licensed in connection with patentable technology.²⁸⁶ This is because patents deal with technology that is disclosed, whereas know-how technology is protected by itself.²⁸⁷ Therefore, more care must be exercised to protect know-how than to protect patented inventions. Licensing agreements for know-how are contracts whereby the licensor agrees to communicate the secret information with the licensee for exploitation in the licensed territory.²⁸⁸ This agreement often provides that licensees shall keep the 'know-how' not only during the time of enforcement of the agreement but also after its termination.²⁸⁹ However, if know-how meets the criteria of patentability, it may be patented.

3.2.2. The requirement for a patentable invention

Patents give an exclusive right to the patent holder to use, manufacture or sell an invention in a particular country for a period of time. To successively obtain this exclusive right under the Libyan patent system, substantive and formal requirement must be achieved.

3.2.2.1. Substantive requirements in the invention

To patent an invention in Libya, the invention must be an innovation and this innovation must be new and capable of industrial application (useful). The invention also must be legal and not prohibited by law.

²⁸⁴ C Ben Huber, 'Patented Technology: Issues in Drafting a License' (2003) 32(9) *The Colorado Lawyer* 98. In the United States, "know-how technology is distinguished from patented technology as it is not subject to the protection offered by the patent system' See Tancer and Nejdawi, above n 283.

²⁸⁵ In both the US and Europe, know-how is considered as property, see Tancer and Nejdawi, above n 283.

²⁸⁶ Huber, above n 284, 98.

²⁸⁷ Erauw, above no 66, 8.

²⁸⁸ Commission Regulation (EEC) No. 556/89 of 1988, on the application of art 85(3) of the *Treaty* to certain categories of know-how licensing agreements. Article 1 (7) 5.

²⁸⁹ Antonio Braggion, 'Protection of Know-How under Italian Law' (1989) 17(9) *International Business Law* at 418.

1. The existence of the innovation (inventiveness)

The ordinary meaning of the word invention involves not just a product or process, but also some inherently new and inventive character.²⁹⁰ An invention is defined as ‘any innovative idea relating to a product, a method of manufacture, or an application of a known method of manufacture leading to a practical solution to a technological problem’.²⁹¹ In the case of *University of Western Australia v Gray*, the Australian Federal Court determine an invention to include ‘any manner of new manufacture the subject of letters patent and grant of privilege within section 6 of the Statute of Monopolies, and includes an alleged invention’.²⁹²

Thus, the essence of innovation is that there is some type of human intervention.²⁹³ It also must include a practical product or process, not just information about the natural world.²⁹⁴ In this sense, discoveries regarding nature or scientific theories are not considered to be innovations. Although important, they only discover that something exists, but inventions exploit these findings in the field of industry or create something new based on them.²⁹⁵ In addition, the mere improvement of something that already exists is not an innovation, because an invention is something that was previously unknown and is therefore new. The invention may be a new industrial product, new method or industrial process or an application of new methods for known industrial approaches or methods.²⁹⁶

To prove the presence of innovation, there are a number of factors that should exist.²⁹⁷ These are as follows:

- a) There must be a creative idea;
- b) The idea should be related to an area of technology and should be industrially applicable;

²⁹⁰ William van Caenegem, *Intellectual and Industrial Property in Australia* (Butterworths: Victoria, 1st ed, 2009) 183.

²⁹¹ *Pertaining to the Industrial Regulation and Protection of Patents, Industrial Drawings, And Designs* United Arab Emirates 2006 Law no (31) art 1.

²⁹² *University of Western Australia v Gray* 20 [2008] FCA 498 96.

²⁹³ Davison et al, above n 273.

²⁹⁴ *Kirin-Amgen Inc v Hoechst Marion Roussel Limited* [2004] UKHL 46, 77.

²⁹⁵ Samiha Qalyoobi, *Industrial Property* (Dar Nahda Al Arabiah, 5th ed’ 2005) 91.

²⁹⁶ *Libyan Patent Law No 8 of 1959* art 1.

²⁹⁷ Salah Zainuddin, *Explanation of Industrial and Commercial Legislation* (International Scientific Community, 2003) 36.

- c) The idea must focus on the product or on the manufacturing method, or both; and
- d) It should contribute to the solution of problems regarding technical areas.

2. Novelty

The essence of the patent system is to encourage new inventions and protect existing ones; therefore, no person can grant anyone monopoly over an invention that is already known.²⁹⁸ Libya's patent system will only grant a patent for an invention that is novel.²⁹⁹ The novelty of an innovation means that the invention is unknown and not being used or exploited before the filing of the patent application. If an invention's concept has been previously known to the public, it would be possible for any person to exploit the invention without any legal consequences. The purpose of the novelty requirement is to ensure that patent rights will not be issued if an invention is based on processes already known by the public.³⁰⁰ Although novelty is an essential requirement for granting patent rights, this condition is only proven in a passive way.³⁰¹ Everything shall be deemed new if it has not existed in previous cases of industries that have been known to the public, by publication or used in any way before filling the patent application.³⁰²

In Australia, the courts have applied a test to determine whether an innovation is novel or not. This test is the 'reverse infringement' test.³⁰³ In general, 'one can ask oneself whether the alleged anticipation would, if the patent were valid, constitute an infringement'.³⁰⁴ The Libya patent system adapts the principle of relative novelty: the invention is not deemed as novel if it has been published in a Libyan newspaper before applying for a patent. Hence, article 1(b) of *Libyan Patent Law* provides that:

The invention shall not be deemed new in whole or partially in the following two cases:

1. If it has ever been used in public in Libya within the past 50 years as of the application date of the patent, or if its description or drawing had appeared in a publication published in Libya, or if the published description or drawing was so apparently obvious that people of skill may exploit it.

²⁹⁸ Caenegem, above n 289, 186.

²⁹⁹ *Libyan Patent Law No 8 of 1959*, art 1.

³⁰⁰ Sean B Seymore, 'Rethinking Novelty in Patent Law' (2010) 60(4) *Duke Law Journal* 930.

³⁰¹ *Ibid.*

³⁰² *Ibid* 25.

³⁰³ *Meyers Taylor Pty Ltd v Vicarr Industries Ltd* [1977] HCA 19; (1977) 137 CLR 228, 20.

³⁰⁴ *Ibid* and see, *Harwood v Great Northern Railway Co* (1865) 11 HLC 654, 681.

2. If ever a patent was issued in Libya within 50 years as of the application date of a patent vis a vis an invention or a part of it for a non-inventor, or to whom its rights were devolved or if a third party had requested a patent for the same invention or a part thereof in the foresaid period.

The current issue concerning Libyan patent law is that the examiners examine the novelty of an invention in terms of its newness in Libya without examining the novelty of an invention in foreign countries. For instance, if someone copies an invention from elsewhere, the patent would be granted if the invention is new and has not been published in a document in Libya. In Australia, the subject of a patent application will lack novelty if the invention has already been made publicly available in a document anywhere within or outside of Australia before the priority date of the application.³⁰⁵ Similarly, *US Patent Law* provides that a person shall be entitled to a patent unless ‘the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent.’³⁰⁶ Therefore, Libyan patent law should adopt a standard of universal novelty as is the rule in Australia and the US, on the basis that information transfer is so rapid, and ‘the availability of, and access to, international data banks is so extensive’.³⁰⁷

3. Capable of industrial application

The capability of industrial application standards is also mentioned in article 27 of the *TRIPS Agreement*, which is probably deemed by members to be synonymous with the term ‘useful’.³⁰⁸ This requirement means that the result of the exploitation of an invention must benefit the industry to be patentable.³⁰⁹ Industry should be understood in a broad sense to include inventions in agriculture and the extractive industries such as mining. If someone invents a chemical substance that is claimed to be effective in eliminating the influenza virus when in fact it does not have any appreciable benefits, it may be considered invalid for lack of usefulness. Also, the discovery of gravity or the theory of relativity, though important, would not qualify for patents because they

³⁰⁵ *Australian Patent Act 1990* (Cth) s 7(a). See also, Sam Richetson, Megan Richardson and Mark Davison, *Intellectual Property: Cases, Materials and Commentary* (LexisNexis Butterworths, 4th ed, 2009) 704.

³⁰⁶ *US Patent Law 2007* s 102 (a) 35.

³⁰⁷ Richetson, et al, above n 304, 726.

³⁰⁸ *TRIPS Agreement*. Also, in the *Agreement of Australian-USA Free Trade Agreement 2004* (‘*AUSFTA*’), the term useful is stated to be synonymous with ‘capable of industrial application’. See Davison, et al, above n 273, 456.

³⁰⁹ *Libyan Patent Law No 8 of 1959* art 1(a).

are not viable for industrial application. However, if it has been discovered that an invention works on the basis of such theory and can be applied to industry, the invention may be patentable.³¹⁰ In addition, the reason for excluding such theories from patentability goes back to the fact that granting a patent on important theories would lead to monopolisation by their inventors for long period of time, during which time others could not take advantage of the important theories without the consent of the inventors, which would have negative effects on technical and scientific development.³¹¹

4. Not excluded from patentability

Under the *Libyan Patent Law*, an invention should be patentable if it is novel and capable of industrial application. However, article 2 b (1), (2) provides that the patent shall not be granted for the following:

- a) Inventions in which exploitations may result in breach of morals or public order.
- b) Chemical inventions related to foodstuff, drugs or pharmaceutical formulas unless these products are made through special methods or chemical processes, where in the latter case, the patent shall be granted to the method of production rather than to the products themselves.³¹²

The invention must be legitimate and not contrary to public order or morality to be patentable³¹³ because the protection of the community is a priority greater than the protection of the inventor who invents something detrimental to society. For example, inventions designed to break automatic teller machines (ATMs) or to counterfeit money, or a gambling machine or any type of invention that may harm the environment would not be granted patents in Libya. The law also excludes chemical inventions related to food, drug and pharmaceutical formulas from the scope of patentability. However, if these inventions use special methods or processes in production, the methods can be patentable.³¹⁴ The question of whether methods of

³¹⁰ Ahmed Tareq Bacer al Beshtawi, *Licensing Contract to Exploit Patent* (LLM Thesis, The University of An-Najah, 2011) 26.

³¹¹ Samir Jamil Hussein Fatlawi, *The Exploitation of the Patent* (Dar Al Horya for Printing, 1976) 153.

³¹² *Libyan Patent Law* No 8 of 1959 article 2 b (1), (2).

³¹³ Article 27 (a) of *TRIPS Agreement* allows for exclusion from patentability on the grounds of public order and morality.

³¹⁴ *Libyan Patent Law 1959* art 2 b (1), (2).

medical treatment, plants, animals and biological processes (are patentable or not) are addressed by *Libyan Patent Law*. Article 27 (3) (a) (b) of the *TRIPS Agreement* provides for members to exclude diagnostic, therapeutic and surgical processes as well as ‘plants and animals other than micro-organisms, and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes’.³¹⁵ In general, the *Libyan Patent Law* does not expressly prohibit these inventions unless they are contrary to public order or morality or Sharia law. Methods of diagnosis, therapy and surgery may be patented under *Libyan Patent Law*.

3.2.2.2. Formal requirements for patent

In addition to the substantive requirements for patenting, there are a number of formal requirements that an inventor must comply with to complete the process of patenting an invention.

1. Submitting a patent application

The *Libyan Patent Law* gives the right to any Libyan person, including a body of persons whether incorporated or not, to apply for a patent.³¹⁶ Foreigners also can apply for a patent if they reside in Libya or have industrial or commercial corporations in it or if they are affiliated with a country that treats Libya reciprocally.³¹⁷ Foreign companies or associations that are established in Libya or in countries of reciprocity have the right to apply for patents.³¹⁸ The inventor or the individual to whom rights are devolved to should submit a patent application to the Patent and Trademark Office (LPTO).³¹⁹ Since Libya is a member of the *PCT*, the inventors can file the international application and submit it to LPTO.³²⁰ The inventor must attach a detailed description of the invention including the method exploited and clearly describe the new elements for which the applicant asks for protection, and should enclose a drawing of the invention, if necessary.³²¹ Furthermore, the patent

³¹⁵ *TRIPS Agreement* 1994 art 27 (3) (a) (b). Also, *Australian Patent Act 1990* (Cth) s 18 (2), (3), which excludes these inventions.

³¹⁶ *Libyan Patent Law No 8 of 1959*, art 4 (1).

³¹⁷ *Libyan Patent Law No 8 of 1959* art 4 (2).

³¹⁸ *Libyan Patent Law No 8 of 1959* art 4 (3).

³¹⁹ *Libyan Patent Law No 8 of 1959* art 13. The submission is to Office of Industrial and Commercial Property Protection at the Ministry of National Economy.

³²⁰ *PCT* was put into force in Libya 15 September 2005.

³²¹ *Libyan Patent Law No 8 of 1959* art 14.

application shall not include more than one invention.³²² The applicant of the invention has the right to submit an application anytime in order to amend the invention's specifications or drawings unless this amendment does not affect the core of the invention.³²³ Procedures pertaining to patent applications shall be followed in this regard.³²⁴

Consequent to filing an application for a patent, there are several effects, including the following:

a) The right of preference

This right arises from the date of filling the completed legal requirements and submission for registration. The first inventor who submitted the application would have the right of priority.³²⁵ For example, if several inventors independently invent a particular invention at the same time, the priority will be given to the inventor who filed the first application and submitted it to the registrar. The reasons for this rule are that it leads to stability of the legal situation in the case of multiple inventors, as well as encourages the inventor to accelerate the registration of the invention.³²⁶

b) Validity of the legal protection

The legal effects resulting from granting the patent begin as of the application date of the patent and not from the date a patent is granted.³²⁷ Therefore, the applicant has the right to take all legal action in response to any act of infringement of the invention. The applicant also has the right to exploit the invention from the date of filling the patent application, although the Patent and Trademark Office shall not bear any responsibility if the application has been refused for any reason under Libyan Patent Law.³²⁸

2. Examination

In Libya, the examination of a patent application requires the examiner to report on the following matters:

³²² Libyan Patent Law No 8 of 1959 art 13.

³²³ Libyan Patent Law No 8 of 1959 art 24.

³²⁴ Libyan Patent Law No 8 of 1959 art 24.

³²⁵ Fatlawi, above n 310, 160.

³²⁶ Reem Al Saud Cyan, *Patents in the Pharmaceutical Industry Legal Regulation of the Licensing Agreement in the Light of World Trade Organization (WTO)* (Dar Al Tagafa for publishing and distribution, 2008) 211.

³²⁷ Libyan Patent Law No 8 of 1959, art 10 (a).

³²⁸ Libyan Patent Law No 8 of 1959 art 15.

- a) Whether the application is submitted as per the formal requirements in article 13 of patent law;³²⁹
- b) Whether the invention is creative, innovative, new and capable of industrial application;
- c) Whether the specifications and drawings of the invention are in a manner that allows the owners of an industry to execute it and that this has been attested to by a specialised technical expert.³³⁰

However, the examiners are entitled to ask an applicant to carry out the amendments deemed necessary within the period defined by the implementing regulations of this law.³³¹

If the examiners find all of these requirements have been satisfied, the register shall declare a provisional acceptance of the application by publishing it in the official journal so as to give the right to any person to present a notification in writing to the register within the designated timeline of the implementing regulations contesting the issuance of the patent including the reasons for contest.³³² If there is no objection from third parties, the register will issue a patent and it will be valid for a period of fifteen years. The owner has the right to renew it once for a maximum period of five years.³³³

3.2.2.3. Properties of patent rights

The patent right is an incorporeal chattel, a temporary right and is not subject to prescription as well as capability to disposition, mortgage and seizure.

1. Patent is an incorporeal chattel

Patents are considered intangible portables with financial and economic value.³³⁴ Thus, the owner of a patent has a moral right to seek the grant the invention to him as well as financial rights resulting from investing and exploiting his or her patent rights.

³²⁹ Article 13 provides that the application is submitted by the inventor or by whom rights are devolved upon to the Patent and Trademark Office ... 'the application shall be submitted as per the circumstances and conditions defined by the Implementing Regulations of this law. The patent application shall not include more than one invention'.

³³⁰ *Libyan Patent Law No 8 of 1959*, art 16.

³³¹ *Libyan Patent Law No 8 of 1959* art 17.

³³² *Libyan Patent Law No 8 of 1959* art 19.

³³³ *Libyan Patent Law No 8 of 1959* art 10 (a).

³³⁴ Fatlawi, above n 310, 49.

2. Temporary right

Patent right gives the patentee the right to exploit the patentable invention for a period of time after which the invention becomes available to the public. There are several reasons that the patent should be temporary.³³⁵ If the right to exploit a patent were granted to an inventor forever, this would have negative effects on the development of society. Therefore, the law should balance between the rights of the inventor and the rights of the public. Also, the nature of patent rights does not require them to be held for long periods of time. For instance, the essential elements of a novelty would not be available for a long time.³³⁶ Patent rights are temporary to encourage inventors to invent new technology or to improve upon existing technology.³³⁷ The right of the patent is the right to exploit the patented invention, while the moral right of owning the invention is a personal right, which is a permanent right.³³⁸

3. Viability to disposition, mortgage and seizure

Patent law allows the patent owner to exploit the patent, whether to sell, license, mortgage or abdicate.³³⁹ The patent is a part of the financial disclosure to the owner because it is a chattel that has economic value.³⁴⁰ Hence, creditors may seize patents pertinent to their debtors as determined in procedural law with respect to seizing chattels or garnishment.³⁴¹ However, the subject matter of such dispositions is the financial right, not the moral right of the inventor to own the invention. This right is a personal right and it is prohibited from being the subject matter of any legal disposal.³⁴²

4. Prescription

Patent owners sometimes abuse the right to exploit a patent that they did not utilise and which they did not transfer to others to exploit. This negatively affects the development of society and denies the public these inventions. Therefore, the *Libyan Patent Law* states that if an invention has not been utilised within a period of three

³³⁵ Ibid 41.

³³⁶ Al Beshtawi, above n 309, 36.

³³⁷ Ibid 41.

³³⁸ Cyan, above n 325.

³³⁹ *Libyan Patent Law No 8 of 1959*, art 8. 'The patent entitles nobody but its owner the right of exploiting the invention by all means'.

³⁴⁰ Al Beshtawi, above n 309, 38.

³⁴¹ *Libyan Patent Law No 8 of 1959*. art 26.

³⁴² Fatlawi, above n 310, 52.

years, the patent shall be cancelled and the invention will become accessible to all.³⁴³ In addition, the government may grant a compulsory license to exploit the invention due to reasons related to public interest.³⁴⁴

3.3. Ownership of patent rights

3.3.1. The notion of patent ownership

The notion of ownership after being granted a patent is relatively clear since the patentee, that is, ‘the person for the time being entered in the register as the grantee or proprietor a patent’,³⁴⁵ is the absolute owner of the patent rights.³⁴⁶ The patent can also be granted to more than one nominated person jointly, which will result in co-ownership of a patent.³⁴⁷ More importantly, however, is the question of who owns the rights of a patentable technology before it is granted and during filing of an application.³⁴⁸ Basically, the inventor to whom rights are devolved owns the rights to an invention before and after being granted a patent.³⁴⁹ Yet, the term inventor is not defined in the *Libyan Patent Law*. Looking to other jurisdictions, in section 7(3) of the *British Patents Act 1977* (UK), the word ‘inventor’ refers to the ‘actual deviser of the invention’.³⁵⁰ The Federal Court of Australia defined the inventor as the person who ‘performed the intellectual property and practical work involved in the development of the invention’.³⁵¹ Under US case law, an inventor is the person with ‘intellectual domination’ of the process of making the invention, not only a person who assists in its reduction to practice.³⁵²

³⁴³ *Libyan Patent Law No 8 of 1959*, art 28. However, art 29 provides that ‘if the reason of non-exploitation of the invention was due to compelling circumstances, he may be granted an extended period of not more than two years in order to utilise it perfectly’.

³⁴⁴ *Ibid* art 30.

³⁴⁵ *Australian Patent Act 1990* (Cth), sch 1.

³⁴⁶ Caenegem, above n 289, 205.

³⁴⁷ *Ibid*.

³⁴⁸ *Ibid*.

³⁴⁹ *Libyan Patent Law No 8 of 1959*, art 5. In s 15 of *Australian Patent Act 1990* (Cth), a patent for invention can only be granted to the inventor or to the person who would, on the grant of a patent for the invention, be entitled to have the patent assigned to him or her; or the person who derives title to the invention from the inventor or a person mentioned above; or his or her legal representative.

³⁵⁰ See *British Patents Act 1977* (UK) s 7 (3), as further amendment by the *Copyright, Designs and Patent Act 1988* (UK).

³⁵¹ *Stack v Davies Shephard* (2001) 108 FCR 422 51 IPR 513. The inventor was the person who made the discovery; that is, the idea for it originated in his own mind; see *Jones v Pearce* (1831) 1 WPC 121, 124.

³⁵² *Morse v Porter*, 155 USPQ 280, 283 (Bd Pat Inter 1965). See also *New England Braiding Co v A W Chesterton Co*, 970 F 2d 878, 883, 23 USPQ2d 1622, 1626 (1992).

Nevertheless, the actual inventor is not always the person who owns the invention even before being granted a patent because the employer can own an invention created by employees as a result of the contractual terms or the duty of work. Of course, this must be done without ignoring the name of the inventor.³⁵³ Identifying the inventor is also important in the case of joint inventors. For example, if one of the inventors of an invention were found to be not entitled to the patent, what would the decision be? There is no provision that applies to this issue under the *Libyan Patent Law 1959*, and the courts have not faced this issue. For the purposes of article 5 of *Libyan Patent Law*, an application would fail if any of the applicants were not an inventor.³⁵⁴ However, in common law jurisdictions, the patent itself may be invalidated even if the other inventors are not entitled.³⁵⁵

3.3.2. Co-ownership of patent

The co-ownership of patent rights may arise in several situations. It may appear when there are two or more inventors who are eligible to own patents that they created.³⁵⁶ If there were, for example, more than one researcher and each created an invention contributing to a patentable technology, those inventors will be co-owners of any patent that is granted upon their combined application.³⁵⁷ Also, if a patentee assigns the rights of patent to two or more persons, the latter will be co-owners of the patent rights. The patentee could become co-owner of patent rights, if the portion of the patent rights is assigned to another party.³⁵⁸ The co-owners of patent rights are each entitled to an equal undivided share in the patentable technology.³⁵⁹ In this case, each co-owner has the right to exercise the exclusive rights of the patent and retain the benefit without the consent of the others. However, the question with this issue is whether or not the consent of co-owners is needed to transfer patent rights. Under the *Australia Patent Act 1990*, the consent of the other co-owners is required to grant a

³⁵³ *Libyan Patent Law No 8 of 1959*, art 6.

³⁵⁴ Therefore, this is an issue under the existing *Libyan Patent Law* and the legislature or court should find the appropriate solution to it.

³⁵⁵ See Australian case of *Conor Medsystems Inc v University of British Columbia* [2006] 2 FCA 32; (2006) 68 IPR 217, 223. Also the Australian Federal Court states that ‘an application would fail if any of the applicants is not a person for the purposes of section 15(1) of *Patent Act 1990* (Cth)’

University of British Columbia v Conor Medsystems Inc [2006] FCAFC 154, 44.

³⁵⁶ Davison, et al, above n 273.

³⁵⁷ Ibid.

³⁵⁸ Ibid.

³⁵⁹ *Libyan Patent Law No 8 of 1959*, art 8; and of Australian Patent Act 1990 (Cth), s 16(1) (b).

licence or assignment or mortgage of a share in the patent.³⁶⁰ Unlike in Australia, each co-owner of a US patent has the right to transfer the patent without consent of the others unless there is an agreement between them that they do so. Section 262 provides that:

In the absence of any agreement to the contrary, each of the joint owners of a patent may make, use, offer to sell, or sell the patented invention within the United States, or import the patented invention into the United States, without the consent of and without accounting to the other owners.³⁶¹

However, the situation under Libya's legal framework would be partially different, because there is no express provision under patent law regulating the issue of patent co-ownership, so the general rule of co-ownership in the *Civil Code* would be applied. The general rules provide that every co-owner has the right to own and exploit the sharing property, without harming or damaging other co-owners rights.³⁶² Nevertheless, article 836 provides that 'in the absence of an agreement to the contrary, the management of a property held in common belong jointly to all the owners in common.'³⁶³

Patents are personal property and are quite difficult to exploit without infringing other co-owners' rights, especially in terms of transferring the patent right, even by licence or assignment. The co-owners actually have the right to benefit from the patented invention in a way that does not harm others' rights under the Libyan system. For the purpose of article 836 of the *Civil Code*, however, the transfer of patents should require consent of the co-owners, unless they have an agreement otherwise. Granting a valid licence or assignment to a third party without permission from the other co-owners has unavoidable consequences; the patent in this case would be infringed vis-à-vis the other co-owners. Hence, the consent of co-owners is necessary for the transfer of patent rights and the potential licensee needs to perform due diligence to determine if there are any co-owners.

³⁶⁰ Australian *Patent Act 1990* (Cth) Section 16(1) (a). See also, Davison, et al, above n 273.

³⁶¹ *Patent Act 35 USC 2007*, s 835.

³⁶² Libyan *Civil Code 1954*, art 835.

³⁶³ Libyan *Civil Code 1954*, art 836.

3.3.3. Employee inventions

An employee's inventions under the Libyan legal framework are regulated by both patent law and by the general rules of the *Civil Code*. Article 6 of the *Libyan Patent Law* expressly provides that:

The owner of the work shall be entitled to all rights resulting from the inventions made by the employee while carrying out the task charged with ... In all circumstances, the name of the inventor shall be mentioned in the patent and the inventor shall have a wage for it. If it was not agreed upon this wage, he shall have the right to get a fair compensation from the person who charged him with disclosing the invention or from the owner of the work.³⁶⁴

This article is clearly regulating cases where the duty of the employee is to invent. One can argue that a question of ownership arises if the duty of work is not to invent and the employee created a new invention during work. The rights of the employer with regards to inventions created by an employee will depend, therefore, upon many factors under the general rules in the Libyan *Civil Code*. Employers, therefore, have the right to own an employee's invention if

1. The nature of the work that the employee has undertaken to carry out requires that they give their time to invention;
2. The situation in which the invention is made includes circumstances in which the employee invented the technology using the employer's facilities and during the time of work, and the invention is important to the employer's business; or
3. The employer has expressly stipulated in the contract that he or she will have the right to inventions discovered by the employee.³⁶⁵

If the invention is of serious economic importance, the employee may, in cases falling within the previous paragraph, demand a special remuneration to be fixed in accordance with the principles of equity. Taking into account an estimation of such compensation, the extent of help supplied by the employer and the facilities of the employer that were used by the employee for the purpose of the invention.³⁶⁶

³⁶⁴ However, if a dispute erupted between the owner of the work and the worker or the employee on the definition of works that the labourer or employee is charged with, the owner of the work, the labourer or the employee may resort to the competent court to consider the dispute. See Libyan *Civil Code* 1954, art 6.

³⁶⁵ Libyan *Civil Code* 1954, art 687 (1) and (2).

³⁶⁶ Libyan *Civil Code* 1954, art 687 (3).

Therefore, the worker has the right to own an invention resulting from the employment relationship under the general principles if one of those factors has not been achieved. It is significant to note that the fact that a worker created a new invention by using an employer's facilities, or invented the invention during work hours, does not necessarily lead to the ownership of the technology by the employer.³⁶⁷ The invention must be in the scope of the employment contract and the employer must have enabled the employee to use his or her resources.

According to general common law in Australia,³⁶⁸ there are also a number of factors used to determine whether an employee's inventions are the property of the employer or not. These include:

1. The nature of the invention;
2. The duties which the employee is engaged to perform;
3. The position that the employee occupies in the employer's operations; and
4. The circumstance in which it is made, including whether the invention was made during the employer's time, whether there is a relationship of confidence, whether the invention will be useful to the employer's business and whether the employee was responding to the employer's instructions in making a decision on the facts of the particular case at hand.³⁶⁹

In the United States,³⁷⁰ the employer is able to assert ownership over an employee's inventions where the employee assigns to the employer any inventions they create or where the worker's duty was to invent.³⁷¹

3.3.4. Ownership of university inventions

Libyan universities can rely on the above principles regarding employee inventions to claim ownership of inventions created by their staff members. In general, claiming ownership of staff inventions is dependent on the contract governing the employment

³⁶⁷ Davison, et al, above n 273.

³⁶⁸ However, the employer can claim the ownership of an invention made by an employee under s 15(1) (b) and(c) of the Australian *Patent Act* 1990 where the employer 'would, on the grant of a patent for the invention, be entitled to have the patent assigned to the person; or (c) derives title to the invention from the inventor or a person mentioned in paragraph. See *Spencer industrial Pty Ltd v Collins* [2003] FCA, 10. And see Davison, et al, above n 273.

³⁶⁹ Davison, et al, above n 273.

³⁷⁰ 'In Canada an invention by an employee is the property of the employee except where the employee is engaged to invent and creates an invention in the course of his or her duties'. See *University of Western Australia v Gray* (No 20) [2008] FCA 498, 140.

³⁷¹ Christie, et al, above n 194.

relationship and the nature of staff duty. Staff members can be owners of their inventions unless there are terms or conditions stipulating otherwise. The duty of employees is considered on a case by case basis in which, if the staff's duty to invent, the university can claim ownership of inventions created by staff, but if staff members are engaged in exclusive research and create inventions based on their research, then the owner should be the inventor (the staff members).

According to common law principles in Australia, universities staff may be able to claim the ownership of inventions that created during their course of employment. In the case of *University of Western Australia (UWA) v Gray*, the respondent was appointed by UWA in 1985. He was required by his terms of appointment to teach, to conduct examinations and to undertake...and generally stimulate research among the staff and students.³⁷² In the following years, Dr Gray was the inventor of various inventions in relation to microsphere technologies for targeted cancer treatment and a series of patent applications were filed. UWA claim the ownership of Dr Gray's invention.³⁷³ The Federal Court refused UWA's claim to ownership of microsphere technologies held in the name of its former professor of Surgery, Dr Bruce Gray.³⁷⁴ The Court found that in relation to Gray's employment as a professor of surgery:

- There was no "duty to invent" and the conditions required for the implication of a term at law were not satisfied;
- In absence of implication of terms in law, there was no independent fiduciary obligation of a kind and scope that made Gray as an employee accountable to UWA for the inventions, applications for patents or patents;
- On the evidence, UWA University had abandoned its patent committee mechanism (a feature of the contract between Gray and the University) and the term incorporating the patent regulations did not avail university.³⁷⁵

The question with regards to this issue is whether the universities can claim the ownership of inventions created by students. The relationship between universities and students is not, of course, an employment relationship. Therefore, Libyan students own their creations unless the universities have statutes and policies regulating this

³⁷² *University of Western Australia v Gray* [2006] FCA 686.

³⁷³ *Ibid.*

³⁷⁴ *University of Western Australia (UWA) v Gray* [2008] FCA 49.

³⁷⁵ *University of Western Australia v Gray* [2009] FCAFC 116.

issue.³⁷⁶ In Australia, students have the full right to own any invention they might create during the period of their studies. There are, however, a number of situations in which universities may assert ownership or may negotiate an ownership contract with students. These situations include if students:

1. Use a substantial amount of university resources;
2. Use university owned IPs;
3. Use a specific project that requires funding from the university or a third party engaged by the university; or
4. They contribute to a university run research project.³⁷⁷

In the US, the principles of regulating the ownership of inventions in an academic context are somewhat different to the framework used in Libya and Australia. The rights of universities, academic staff and students to own inventions are affected by a number of factors including:³⁷⁸ the general principle in common law mentioned above, the IP policies of the university and the *Bayh-Dole Act of 1980*, which provides the rights to universities and other institutions to retain title to any innovations made using public funding.³⁷⁹

In general, whether the owners of inventions are universities, inventors, employers, employees or students, the technology should be patentable before licensing or assignment as to be the subject matter of the licence agreement. To commercialise patentable technology through a licensing agreement, the prospective patentees and licensees should prepare and draft a license agreement.

3.4. Preparing and drafting a patent licence

Patent licenses should be designed to perfectly implement the exploitation of the patented invention.³⁸⁰ In the sense of contracting, the parties of a patent licence make their own conditions, in which they agree on their rights and obligations compatible

³⁷⁶ However, there are no rules under Libyan universities polies regulating this issue.

³⁷⁷ Christie, et al, above n 194, 6.

³⁷⁸ Ibid 20.

³⁷⁹ Ibid.

³⁸⁰ Carl Shapiro, 'Patent Licensing and R & D Rivalry' (1985) 75(2) *The American Economic Review* 26.

with contract law and patent law.³⁸¹ Thus, in negotiating and drafting any legally effective agreement the parties should:

1. Understand the applicable statutes and general laws,
2. Negotiate within the bounds of the law,
3. Agree on something, and
4. Ensure the agreement meets the minimum criteria for a contract including that it is comprehensible.³⁸²

As a result of recognising that a patent licence is a contract, the legal requirements (such as the legal capacity of parties, their intention to enter into an agreement and an offer and acceptance and valid consideration) are necessary for concluding, binding and enforcing any contract under the Libyan legal framework.³⁸³ In addition to general legal requirements, there are other specific conditions that must be available in drafting a patent licence. These include the validity of the patent (availability of all the objective requirements and meeting of all the necessary legal procedures), the ownership of patentable technology and other conditions related to technical information. To verify these specific conditions and to draft a good licence agreement, the parties should exercise due diligence and follow certain strategies and policies.

3.4.1. Strategies for drafting patent licences

3.4.1.1. Due diligence

Due diligence is an essential step prior to entering into any kind of business contract such as a license agreement.³⁸⁴ For potential licensees or licensors to be better informed, they should engage in an exercise of due diligence to gather as much information as possible. What information is significant depends upon a number of factors and is only determinable on case-by-case basis.³⁸⁵ Nevertheless, information that may be important to the due diligence exercise often includes the ownership of the patentable technology, effectiveness of the technology and ‘existing customer installations’.³⁸⁶ For example, the licensee must verify who owns the technology and, if the invention is co-owned, the licensees may need to read the agreement between

³⁸¹ Calvert, above n 117, 10.

³⁸² Ibid.

³⁸³ Libyan *Civil Code 1953* ss 89, 109, 133 and 137.

³⁸⁴ WIPO, (2005), above n 9, 21.

³⁸⁵ Ibid.

³⁸⁶ Calvert, above n 117, 48.

the co-owners.³⁸⁷ Also, the potential licensee must verify if there is any third party claiming rights over the patentable invention and whether ‘other intellectual property rights need to be acquired to fully implement the technology in question.’³⁸⁸ Especially in an exclusive licence, it is necessary for potential licensees to review the patent holders’ patent application to determine what they actually cover and whether the patent owner(s) will effectively be able to prevent other competitors from exploiting the patented technology.³⁸⁹ In other words, the process of due diligence must confirm that the patentee(s) has the correct entitlement to license the patent. This process is important on a practical level when dealing with universities and other academic institutions, where ownership can be quite complicated.

In addition, the licensee should balance the benefit that the technology offers in the short, medium and long term, and determine how ‘the prospective licensor demonstrates this by inspection of current users or other means’.³⁹⁰ Also, the potential licensee should determine what expertise and resources are needed to use and exploit the patentable technology as expected.³⁹¹ If the due diligence has been exercised competently, negotiations are likely to be more straightforward.

3.4.1.2.Negotiation

Negotiation is the exchange of offers, bargains, correspondence, reports and commercial and technical details between the parties to conclude the deal and clarify the rights and obligations resulting from the agreement through the best legal formulas available to achieve both parties’ interests.³⁹² Thus, the purpose of the negotiation stage is to agree on the technical and scientific details of the patentable technology, and to discuss the financial and legal information required for drafting the patent licence. To obtain good results, negotiations should be prepared step by step. Parties should identify their interests, remain flexible, ask open-ended questions and use the best alternatives available.³⁹³

³⁸⁷ Ibid.

³⁸⁸ WIPO, (2005), above n 9, 22

³⁸⁹ Peter J Kinsella, ‘Four Keys to Successful Technology In-licensing’ (2009) *Intellectual Asset Management* 37.

³⁹⁰ Calvert, above n 117, 48.

³⁹¹ Ibid.

³⁹² Mahmoud Hamdi Baroud, ‘The Legal Value of the Agreements that Permeate the Negotiation Stage Before Final Contract in the Area of International Trade Contracts’ (2005) 13(2) *Islamic University Journal* 127.

³⁹³ Calvert, above n 117, 53.

1. Strategies in licence negotiating

Each patent licence is different, especially at the international level where legal systems and business practices are different. Thus, the licensing policies and strategies that arise during negotiations vary and must be approached on a case by case basis.³⁹⁴ However, there are certain basic strategies and requirements in licensing negotiation that should be practiced in any licence agreement.³⁹⁵

Before entering into an agreement regarding the licensing of patentable technology, the determination of an appropriate team for conducting the negotiation's terms on the side of both the potential licensor and licensee is of the utmost important.³⁹⁶ This is because the licensing of a patent involves a variety of fields, including technical, economic, financial and legal, all of which require the expertise of consultants, such as a lawyer – especially for legal questions that may arise.³⁹⁷ Professional negotiators will do a great deal planning and gathering of information before beginning the process of negotiation, using the opening minutes of the first meeting to build the relationship and re-plan and address any issues the other party might have.³⁹⁸ Once each side has had its turn, it is important to summarise and follow up with whatsoever was agreed upon after the meeting.³⁹⁹

Typically, the important question is how are the licensing agreement terms negotiated?⁴⁰⁰ The key to negotiating a patent licence is to use a win-win approach that leads both parties to walk away from the agreement happy. Maintaining a good relationship between both sides is essential. To achieve such a win-win result, both potential parties 'must be mindful of the fact that each party has something of value that they will be bringing to the relationship'.⁴⁰¹ Understanding this value is the key to

³⁹⁴ Masayasn Ishida, *Technology Transfer and Licensing* (Japan Patent Office: Asia Pacific Industrial Property Center, 2011) 28.

³⁹⁵ Several negotiation strategies that may apply in any international business negotiation, as follows: '1) plan the negotiation 2) adopt a win-win approach 3) maintain high aspirations 4) use language that is simple and accessible 5) ask lots of questions, then listen with your eyes and ears 6) build solid relationships 7) maintain personal integrity 8) converse concessions 9) be patient 10) be culturally literate and adapt to the negotiating strategies of the host country environment.' See, Frank L Acuff, *How to Negotiate Anything with Anyone Anywhere Around the World* (Amacom, 3rd ed, 2008) 39.

³⁹⁶ Goddar, et al, above n 43, 2.

³⁹⁷ Ibid.

³⁹⁸ Calvert, above n 117, 59.

³⁹⁹ Ibid.

⁴⁰⁰ Newman, above n 38, 258.

⁴⁰¹ WIPO, (2005), above 9, 82.

a successful negotiation, which lies in understanding the wishes and expectation of both parties upon entering into licensing agreement.⁴⁰²

The negotiators should also begin by addressing the important terms of the licensing agreement and avoiding wasting time with unnecessary negotiations. For example, after agreeing the subject matter that is being licensed, the first terms to be discussed should be the financial terms.⁴⁰³ These terms are often the most argumentative elements and often require time to reach agreement upon; therefore, ‘the royalty rate will be negotiated before, e.g., the Books and Records section of the license agreement’.⁴⁰⁴ Furthermore, the right to any improvements should be determined with careful thought because it is considered a term that could be a contentious issue if it was not negotiated during drafting of the licence agreement.⁴⁰⁵

The parties must always check the negotiation results and adjust them according to objective indexes of strategies and regulation.⁴⁰⁶ For instance, negotiations are most likely to result in failure to reach agreement if one or both parties insist on sticking to unfair terms favouring themselves during discussion.⁴⁰⁷ The important point, therefore, is to conclude that patent licence agreements should be particularly based upon appropriate strategies and policies of all concerned parties, and fair terms and conditions.⁴⁰⁸

2. Guarantees of the negotiation stage

Sometimes the potential licensee requests access to confidential information related to technical knowledge in order to decide whether or not to obtain a licence. The issue of maintaining confidential information is an important one. Of course, the licensor should deal in good faith with the licensee; on the other hand, the licensor must be cautious to ensure confidentiality.

In practice, licensors typically provide certain results of the project rather than revealing detailed information.⁴⁰⁹ However, this may not always be a practical

⁴⁰² Ibid.

⁴⁰³ Newman, above n 38, 258.

⁴⁰⁴ Ibid.

⁴⁰⁵ Ibid.

⁴⁰⁶ Ishida, above n 390.

⁴⁰⁷ Ibid.

⁴⁰⁸ Ibid 29.

⁴⁰⁹ Al Beshtawi, above n 309, 56.

solution that satisfies the licensee who may want to make sure of the details related to the technology and its efficacy. To overcome this issue, the negotiators may use the following guarantees:⁴¹⁰

(a) Written undertaking

The licensor may request a written pledge from a potential licensee who commits to maintaining the confidentiality of the technical details and not disclose them to third parties or help others to use them. Parties may also sign confidentiality agreements before starting negotiations to avoid any issues related to confidential information.⁴¹¹ This agreement should clearly contain the information that will be disclosed and the restrictions on use and disclosure.⁴¹² ‘If at a later stage the parties enter into a non-binding letter of intent or Heads of Agreement, the earlier confidentiality agreement would be referred to as binding or would be superseded by new binding provisions in the letter of intent’.⁴¹³

(b) Financial undertaking

In this case, the potential licensee will pay an amount of money to be briefed on technical information related to the patentable invention.⁴¹⁴ This money is considered a guarantee of non-disclosure of such secret during the negotiation.⁴¹⁵ If the negotiators sign a final agreement, the amount of money will be deducted from the price of the licensed technology. In the case of failure of the negotiation, two choices will be faced: either the money must be returned, or the money will be considered as the price of access to classified information.⁴¹⁶ Of course, this would be left to the negotiators to determine.

3.4.2. Heads of Agreements

After negotiating the terms and conditions of the proposed agreement, the parties may prepare a Heads of Agreement document to outline and clarify the intentions and expectations of the parties during the negotiation.⁴¹⁷ Preparing a Heads of Agreement

⁴¹⁰ Ibid at 57.

⁴¹¹ Calvert, above n 117, 63.

⁴¹² Ibid.

⁴¹³ Ibid.

⁴¹⁴ Al Beshtawi, above n 309.

⁴¹⁵ Ibid.

⁴¹⁶ Ibid.

⁴¹⁷ WIPO, (2005), above n 9, 95.

is an important approach because it is not a typical term sheet but may comprise every article that will appear in the final licence agreement.⁴¹⁸ These may, typically, include:

1. What is being licensed under the licence agreement which covers the subject matter of the licence agreement (patentable technology), and clarifies if the license is granted as an exclusive or nonexclusive licence; which geographic areas are covered by the license (territory); and explains if the licensee has the right to grant sublicenses, specific products and processes that may fall under the patent licence, and know-how '(beyond the actual patents and patent applications, materials, trade secrets and/or other know-how that is included in the licence)'.⁴¹⁹
2. The payment in return for the license: this covers the royalty's rate, financial consideration, minimum payment, the sublicense payments and other financial payments related to commercialisation due under the license.⁴²⁰
3. The legal framework of the agreement: this includes the duration of licence, termination conditions by licensor or licensee, patent infringement, the applicable law, dispute resolution and reporting '(obligations the licensee has to report on its progress)'.⁴²¹

3.4.3. Drafting the patent licence

Drafting the patent licence is the most important stage of the agreement because it is the substance of what has been agreed upon, embodies the rights and obligations of the concerned parties, and clarifies the technical matters relating to the subject of the contract. This agreement will govern the relationship between parties and all that arises from this relationship in future. Therefore, it is important to ensure that every word of the agreement has been written in a clear manner, using phrases and terminologies agreed upon by and understandable to all parties. In addition, competency in strategic thinking and planning is a prerequisite for drafting licensing, 'if appropriate to stretch boundaries or see over the horizon in the search for competitive advantage.'⁴²² In this instance, a legal expert is essentially needed to formulate the agreement. In Libya, the writing and registration of a patent licence agreement and technology transfer contract are not prerequisites for the validity of

⁴¹⁸ Newman, above n 38, 260.

⁴¹⁹ Ibid.

⁴²⁰ Ibid.

⁴²¹ Ibid.

⁴²² Noric Dilanchian, 'Drafting Effective IP Licensing: An Australian Case Study' (2012) *The Licensing Journal* 3.

these contracts but are, nevertheless, generally required to determine the rights and obligation of parties and enable action against a third party.⁴²³ In Egypt, however, a contract of technology transfer must result in a written document; otherwise the agreement is not deemed valid.⁴²⁴

In general, patent acts throughout the world do not specify any formalities needed for drafting patent licences to be valid and enforceable. In other words, there is no standard form of patent licence agreement that parties must follow. However, there is consensus that several fundamental clauses must be covered in the licensing agreement. These clauses include:

3.4.3.1. Definitions

A key part of any licence agreement is an early section that provides a definition for any specific terms used in the following parts of the agreement. Carefully negotiation and drafting this definition section is an important aid to understanding and interpreting all of the remaining operative parts of the licence agreement.⁴²⁵ This is particularly true in international patent licence agreements, because the translation will differ from one from language to another, which may lead to disputes over the interpretation of the terms. Common terms particularly defined in licence agreements are: parties; confidential information; net sales; and licensed intellectual property such as defined patent rights. For example, ‘patent’ means Libyan patent [application] serial number XX for [insert the title of the invention]. It may also define terms including know-how, territory, warranty period, the licensed products, the licensed process and so forth.⁴²⁶

3.4.3.2. Grant of rights

1. Defining the subject matter of a licence

⁴²³ The patent licence agreement is a consensual contract and, by way of analogy to general rules in civil law, there are no rules that provide that the parties must write a patent licence contract and technology transfer contract. See Mohammed Ali al-Badawi, *The general theory of obligations* (the National Library, Tripoli, Vol 1, 1999) 36.

⁴²⁴ *Egypt Trade Law no 17 of 1999*, art 74 (1).

⁴²⁵ Melvin F Jager, *Licensing Law Handbook* (Clark Boardman Gallagher, 2011-2012 ed, 2011)

⁴²⁶ See, WIPO, *Sample of Non-Exclusive License Agreement- Harvard College, United States of America* (2002) <<http://www.wipo.int/tk/en/databases/contracts/texts/harvardnonexlic.html>>; and Calvert, above n 117, 92.

Each licensing agreement must specify the rights that are licensed to the licensee and the rights that are received to the licensor.⁴²⁷ For a licensing patent, this would be the right to make, use and sell a patented invention or use a patented process.⁴²⁸ A patentee sometimes wants to license only the right to manufacture the patented technology, but not the right to sell the patented technology independently.⁴²⁹ For example, the manufacturer, Foxconn, has the right to sell electronic products such as iPods, iPhones, PlayStations and so forth without the right to sell the patents for these products. The licensee may wish only to have some rights licensed, particularly if the licensee does not wish to use for all parts of the patent. In this stage of the negotiations, the licensee can benefit from licensing fewer rights to reduce the cost the license.⁴³⁰ However, a patent licence agreement usually contains the right to ‘make, use, or sell’ the subject matter of the license.⁴³¹

2. Scope of license

In transferring patent rights by license, the involved parties should determine the scope of the patent license.⁴³² For example, they should specify if the license is ‘exclusive’ or ‘non-exclusive’, or if it is limited to a definite territory,⁴³³ or if there are any boundaries on the use of the licensed patent rights such as limitations on the right to sub-license or rights retained by the licensor.⁴³⁴ In addition, there is usually essential patented information related to the invention, and it is important for the licensee to fully exploit all of the technology that is not covered by the patent licence. In this regard, the parties must negotiate the scope of this information to avoid any unpredictable consequences.⁴³⁵

3.4.3.3. Payment and related terms

Payment is an essential clause for a licensor and an appropriate strategy is determined by getting “either an early lump-sum payment, a compensation based on the later

⁴²⁷ Apke, above n 47; see also, Gordon V Smith and Russell L Parr, *Intellectual Property: Licensing and Joint Venture Profit Strategies* (John Wiley & Sons, 3rd ed, 2004) 260.

⁴²⁸ WIPO, (2005), above n 9, 47.

⁴²⁹ Huber, above n 284, 100.

⁴³⁰ Ibid.

⁴³¹ Smith and Parr, above n 423.

⁴³² Newman, above n 38, 258; See also, Ethan Horwitz, ‘Patent and Technology Licensing’ (2007) 24(10) *Computer and Internet Lawyer* 28.

⁴³³ Apke, above n 47, 8.

⁴³⁴ Australian Law Reform Commission (ALRC), ‘Genes and Ingenuity: Gene Patenting and Human Health’ (Report 99, 2004) 523.

⁴³⁵ Horwitz, above n 428, 29.

success of the invention (royalties) or both.”⁴³⁶ Additionally, the parties of a licence agreement should define when and how payment is to be made to the patent holder.⁴³⁷

3.4.3.4.Warranties and representation

Warranties and representation are common elements in a licence agreement.⁴³⁸ For the objective of a licence that provides the licensee with legal access to a licensor’s technology, the licensee should obtain warranties that pertain to the technology, while the holder owns all rights related to the licensed technology.⁴³⁹

3.4.3.5.Duration and termination

The duration of a patent license is an important clause that should be considered by all involved parties.⁴⁴⁰ However, specifically with regard to duration, patent licences are typically limited to the life of the granted patent.⁴⁴¹ Termination of a licensing agreement is dependent upon the agreement of all parties. Parties may agree to terminate an agreement if certain events have taken place, such as if the licensee has not made a payment by due date or if the confidential information becomes public knowledge, unless such events have occurred as a result of the licensee’s conduct.⁴⁴²

3.4.3.6.Right to sublicense

The parties to a licensing agreement must agree about the issue of whether the licensee has the right to grant sublicenses. Generally, the right to sublicense is important for both the licensor and the licensee for different reasons. It may be a significant additional source of income, ‘practically if the licensee may not be able to reach the entire territory covered in the licence agreement by its own’.⁴⁴³ The licensee can be a part of a company group and its affiliates may be in a better position to exploit the licensed technology.⁴⁴⁴ The licensee is not entitled to grant sublicense for any reason, unless stipulated otherwise. The licensor sometimes imposes certain limitations, such as ‘limiting the sublicenses to affiliates of the licensee or companies

⁴³⁶ Erauw, above no 66, 26.

⁴³⁷ Ibid 105.

⁴³⁸ Smith and Parr, above n 423, 262; see also an example of ‘Technology license agreement (2002) 14(5) *Intellectual Property & Technology Law Journal* 13.

⁴³⁹ Huber, above n 284, 106.

⁴⁴⁰ Horwitz, above n 428, 32.

⁴⁴¹ Huber, above n 284, 102; Horwitz, above n 428, 32. See also, Apke, above n 47, 11.

⁴⁴² Huber, above n 284, 102.

⁴⁴³ European Commission, ‘Fact Sheet: Commercialising Intellectual Property: Licence Agreements’ (EACI, European Intellectual Property Right Helpdesk, April 2013) 8.

⁴⁴⁴ Ibid.

per-approved by licensor'.⁴⁴⁵ Also, the parties should negotiate whether or not the sublicense comes to an end when the Head Licence is terminated or expires for any reason.⁴⁴⁶

3.4.3.7. Applicable law and jurisdiction

In licensing agreements, there is usually an expressly-agreed term that clarifies the applicable law on any future disputes or any interpretation related to the agreement.⁴⁴⁷ Typically, parties choose the law that is associated with the contract, such the law under which the contract will be implemented, the law of the parties' country, the place where the contract is concluded or the law of the place of arbitration.⁴⁴⁸ The parties to an agreement may sometimes choose a law that has no relationship to themselves, as long as there is a reasonable basis for the choice.⁴⁴⁹ The issue may be complicated in cases where the parties do not determine the law that shall govern their agreement.

Since there are no specific provisions under the Libyan' legal frameworks that apply to any relationship regarding technology transfer or licensing agreements, the general rules of the *Civil Code* will be applicable. Article 19 of the *Civil Code* regarding the conflict of law as to place in contractual obligations provides that:⁴⁵⁰

Contractual obligations are governed by the law of the domicile when such domicile is common to contracting parties and in the absence of a common domicile by law of place where the contract was concluded. These provisions are applicable unless the parties agree, or the circumstances indicate that it is intended to apply another law.

In principle, this article gives the parties of a contract the right to choose any law that they favour. If the parties fail to include the applicable law in a contract, the applicable law in this case would be the law of the place where the contract was concluded. In contrast, the *Egyptian Trade Law* regarding the provisions of technology transfer will apply in any contract to be used in Egypt, whether such transfer is international or domestic, and in both cases there is no criterion regarding

⁴⁴⁵ Ibid.

⁴⁴⁶ WIPO (2005), above n 9, 51.

⁴⁴⁷ See, WIPO (2002) above n 422.

⁴⁴⁸ Al Beshtawi, above n 309, 69.

⁴⁴⁹ Giovanna Modiano, 'International Patent Licensing Agreements and Conflict of Laws' (1980) 2(1) *Northwestern Journal of International Law & Business* 18.

⁴⁵⁰ The Libyan Civil Code 1953, art 19.

the nationality of the parties to the agreement or their places of residence.⁴⁵¹ The reason behind this position would be to provide the utmost protection for importers of technology and guard them from arbitrary conditions that may be imposed by suppliers.

In addition, the parties often agree on how to settle any potential disputes in the future. Sometimes, they resort to arbitration or choose nominated jurisdictions in an agreement. In the absence of such terms, Libyan courts will adjudicate in disputes arising from foreign investors, if certain conditions are met. These include:

1. If he or she is resident in Libya or has an agent with the right to appear in front of Libya's courts;
2. If the case involves funds existing in Libya;
3. If the lawsuit is linked to another case listed in Libyan courts.⁴⁵²

These general conditions will apply in any situation, including a contract of technology transfer, unless the parties agreed on another jurisdiction with the right to settle future dispute related to agreement.

3.5. Restrictive conditions in licensing contracts

In addition to the terms of payments, warranty and duration, licensing as a contract may contain other terms and conditions that parties have agreed upon. However, licensors sometimes exploit the licensee's need for technology and impose conditions such as purchase of materials from specific suppliers, limitations on exports, grand-back conditions that require the licensee to transfer improvements made during exploitation of the subject matter of the licence back to the licensor free of charge and other conditions related to products limits and quality and controls on pricing.⁴⁵³ These conditions may be void if they are generally included in technology transfer contracts or in licensing agreements specifically.

⁴⁵¹ Egyptian *Trade Law No 17 of 1999*, art 72 (1) (2) provides that '(1) The provisions of this Chapter shall apply to each contract for transfer of technology to be used in the Arab Republic of Egypt, whether such transfer is international, lying across the regional borders of Egypt, or inland. No criterion in both cases shall be observed as regards the nationality of the parties to the agreement or their places of residence. (2) The provisions of this chapter shall apply to each agreement on transfer of technology to be concluded by virtue of a separate contract or within another contract'.

⁴⁵² Libyan Code of Civil and Commercial Procedure 1953, art 3.

⁴⁵³ Kwaku Atuahene-Gima and Paul Patterson, 'Managerial Perceptions of Technology Licensing as an Alternative to Internal R&D in New Product Development: An Empirical Investigation' (1993) 23(4) *R&D Management* 229.

The *TRIPS Agreement* does not prevent members from specifying, in their national legislation, conditions that may have negative effects on trade and may obstruct the transfer and dissemination of technology.⁴⁵⁴ Article 40 identifies, as an example, a list of conditions that could be prohibited, including the following:

1. Exclusive grant-back conditions that require the transferee to transfer improvements exclusively to the transferor.
2. Restricting the transferee's capability to challenge the validity of intellectual property rights claimed over the technology supplied.
3. Conditions that require coercive package licensing such as obligating the licensee to obtain several licences despite wanting to obtain just one licence.⁴⁵⁵

Furthermore, section 144 of the Australian *Patent Act 1990* prohibits several conditions if they are included in the license or sale agreement. Such conditions include restricting a licensee from exploiting a product or processes (patented or not) provided by other competitors than the licensor, or requiring the buyer or licensee to acquire a product not protected by patent from the seller or licensor.⁴⁵⁶ In addition, the Australian *Competition and Consumer Act 2010* sets out various anti-competitive behaviour provisions as they may relate to conditions and terms in patent licences.⁴⁵⁷

The *Egyptian Trade Law 1999* also provides a number of provisions that regulate technology transfer, including the provisions of restrictive conditions in technology transfer contracts. These provisions may apply to licensing contracts as an important means of transferring technology. Article 75 provides that any condition included in technology transfer contracts may be void if it restricts the transferee from using, exploiting and improving the technology. This applies in particular to conditions compelling the importer by order of the following:

1. Accepting the improvements introduced by the transferor to the technology, and paying their value.
2. Banning the transferee from inserting any improvements or modifications to technology to fit local circumstances or conditions of the importer's business, as well as prohibiting him from accessing similar technology benefitting the licensee's business.

⁴⁵⁴ *TRIPS Agreement*, art 40.

⁴⁵⁵ *Ibid.*

⁴⁵⁶ This as an example of such void conditions included in sec 144 of *Australia Patent Act 1990* (Cth).

⁴⁵⁷ *Competition and Consumer Act 2010* (Cth) s 51 (3) a (i) (ii) (iii).

3. Using specified trademarks to distinguish goods from the transferred technology.
4. Restricting the size, price of productions and methods of distribution and export.
5. Participation by the transferor in management of transferee's manufacture.
6. Restricting the transferee from using personnel, goods or services specified by transferor.
7. Restricting the transferee from selling productions to the supplier or specified persons.⁴⁵⁸

Although Libya issued a new commercial law in 2010, it does not include a contract for technology transfer as in Egypt's *Trade Act*.⁴⁵⁹ Unlike the Australian *Patent Act*, Libyan Patent Law does not provide for prohibiting such conditions as those mentioned above. In general, the Libyan provisions for anti-competition⁴⁶⁰ ban certain semblances of control, such as identifying price of production, imposing unequal conditions⁴⁶¹ and participating in the management of the production process.⁴⁶² However, judges may rely on these provisions to void conditions in licensing agreements, while other conditions may not be covered by anti-competition provisions. For example, if the licensor imposes a condition related to using a specific trademark in the licence agreement, this condition would be valid under Libya's legal framework. While Libyan law is not as clear on this point as Australian and Egyptian laws are, the Libyan legislator must specify the void conditions in contracts of technology transfer to protect the transferees from exploitation by transferors.

3.6. The patent license and special contracts

In the Libyan civil law jurisdiction, the distinction between patent license agreement and other kinds of contracts is important for the reason that the patent licence is not recognised as a nominated contract, which means that it is not regulated by legislators. If the patent licence is similar to a leasing contract, as an example, the rules of the latter may apply for the patent licence agreement if the parties did not negotiate on certain essential points in the agreement.

⁴⁵⁸ Egyptian *Trade Law No 17 of 1999* art 75.

⁴⁵⁹ The reason for that may be because Libyan legislators wants to regulate technology transfer in separate laws in future; hopefully, the near future.

⁴⁶⁰ See articles 1284- 1291 of the Law No 23 of Economic Activity 2010. The name of this law was Commercial law.

⁴⁶¹ However, the Libyan legislator does not explain what meant by (unequal condition). In this case, judges should explain this expression. Because of this law is new, there is no case until now related to this section.

⁴⁶² Article 1288 of the Law No 23 of Economic Activity 2010.

3.6.1. The contract of sale

The patent licence is a contract where the patentee grants the rights to make use of or sell the patentable invention to the licensee for a period of time. In this sense, there is a difference between a patent licence and a contract of sale, resulting from the fact that the patent licence agreement does not transfer the ownership of the patented invention.⁴⁶³ However, in practice, it is sometimes difficult to verify the differences between the contracts because a patent is an incorporeal right and ‘the payment in the patent licence agreement may assume the form of a lump sum, and that the licensee himself may, under certain prerequisites, act against infringers’,⁴⁶⁴ especially if the licensees have an exclusive patent licence. By transferring ownership, however, the buyer has no further right on the subject matter of the contract, whereas in an exclusive licence agreement, the ownership of licensor still exists. Also, the licensee cannot sublicense unless there is a term in the licensing agreement entitling him or her to sublicense.⁴⁶⁵

3.6.2. The leasing contract

Scholars consider the patent licence to be similar to a leasing contract.⁴⁶⁶ The position of licensor is indeed analogous to the position of lessor, because, in both contracts, the owner grants permission to another party to use the subject matter of the contract without transfer of the ownership. In addition, the annulment does not have retroactive effect in both contracts.⁴⁶⁷ At first glance, there is no doubt that the rules of the leasing contract contained in Libyan *Civil Code* would be applicable to patent licence contract by a way of analogy.⁴⁶⁸

⁴⁶³ Vahrenwald, above n 25, 119.

⁴⁶⁴ Ibid.

⁴⁶⁵ Huber, above n 284, 102.

⁴⁶⁶ See Qalyoobi, above n 294, 261; and Vahrenwald, above n 25, 191.

⁴⁶⁷ Al Beshtawi, above n 309, 50.

⁴⁶⁸ The judge may apply some but not all the provisions of leasing contract by way of analogy. As discussed, Libyan law distinguishes between ‘nominate’ and ‘innominate’ contracts. The purpose in the differentiation may be indicated briefly as follows: if the parties conclude a nominate contract, like the contract of lease, without making up their minds as to certain points, the judge will, for the purpose of the construction of the terms of the contract, refer to the non-mandatory or mandatory rules established for this contractual type by the legislators. The construction of the terms of an innominate contract is more delicate, because the judge will have to classify the innominate contractual type, for example whether the contract is a patent licence or a know-how contract, and if the parties did not agree upon the terms of the contract in detail, the judge may have recourse to those mandatory and non-mandatory terms of the nominate contract which appear to have the closest similarity, in order to achieve the appropriate construction of the agreement. See, Vahrenwald, above n 25, 118.

However, there are important differences between patent licence agreements and contracts of leasing that are determined by the subject matter of the patent licence. For example, in a non-exclusive patent license, the patentee may license the patentable invention to more than one licensee, while the lessor commits to enabling the lessee to use the subject matter of a leasing contract alone without anyone else interfering. A second difference particularly concerns the obligation of exploitation; one of the most important obligations of the licensee is to exploit the patentable invention, as the consequent failure to perform exploitation would cancel a patent. In a leasing contract, however, the lessee is not generally committed to use the subject matter of the contract as long as the rent is paid.⁴⁶⁹ Despite the similarities between patent licence agreements and leasing contracts, the rules applicable to the leasing contract cannot 'automatically' be applied; the rules relating to the leasing contract are applicable to the licence contract only if there exists a parallel between the subject-matters of the contracts and the interests of the parties.⁴⁷⁰

3.6.3. The patent pool

A patent pool is 'an agreement between two or more patent holders to license their respective patents to one another or to third parties, on a non-exclusive basis'.⁴⁷¹ Historically, the first patent pool was in the US in 1856. The patent related to the 'sewing machine' which was held by five manufacturers (Grover, Baker, Singer, and Wheeler & Wilson) and rather than suing each other for patent infringement, they pooled their patent.⁴⁷² In addition to the sewing machine, there are other examples of patent pools such as with movie projectors, beds, aircraft and inventions related to the telecommunication industry.⁴⁷³ In recent times, patents involved in communication systems have been an important subject of patent pooling because there are many patents applicants making claims on very particular aspects of the overall communication system.

⁴⁶⁹ Ibid.

⁴⁷⁰ Vahrenwald, above n 25, 64.

⁴⁷¹ Australian Law Reform Commission, "Gene Patenting and Human Health- 23 Licensing Patent Rights" (2004) discussion paper 68 at 535. See also, Jeanne Clark, et al, "Patent Pools: A Solution to the Problem of Access in Biotechnology Patents?" (2000) *US Patent and Trademark Office* 4.

⁴⁷² Ibid.

⁴⁷³ For example, products manufactured in compliance with the DVD-ROM and DVD-Video formats is patent pool was formed in 1999, by Toshiba Corporation, Hitachi, Ltd., Matsushita Electric Industrial Co., Ltd., Mitsubishi Electric Corporation, Time Warner Inc., and Victor Company of Japan, Ltd. For." See Jeanne Clark, et al, "Patent Pools: A Solution to the Problem of Access in Biotechnology Patents?" (2000) *US Patent and Trademark Office* 5.

The notion of a pooling patent is to help patentees band together to share access to patentable inventions with the aim of a more effective exploitation of the combination of various technologies. Involving oneself in a patent pool agreement does not typically transfer ownership of the patent rights.⁴⁷⁴ There are a number of benefits and drawbacks resulting from patent pools. Pooling of patent rights may help to amalgamate complementary technologies; reduce several aspects of licensing agreement costs,⁴⁷⁵ ‘clear blocking positions’, ‘avoid costly infringement litigation; and promote the dissemination of technology’.⁴⁷⁶ However, critics have claimed that the patent pools have several anti-competitive effects, which may inflate the costs of competitively priced goods. The debate is based on the supposition that while a patent may be considered to be legally blocking, it actually covers competitive alternatives to a certain technology and, therefore, the outcome of pooling patents will be expanded monopoly pricing.⁴⁷⁷ Also, the pooling of patent rights has been criticised as a shield for invalid patents.⁴⁷⁸

3.7. Summary

This chapter examined the Libyan framework regarding the licensing of patent right by explaining the substantive and procedural requirements of patenting an invention. Generally, to patent an invention in Libya, there shall be an innovation and this innovation must be new and capable of industrial application (useful). The invention also must be legal and not prohibited by law. The Libyan Patent and Trademark Office grants a patent by examining those requirements, and the patent holder has exclusive right to exploit patentable technology for a period of fifteen years. Thus, the patented invention is an incorporeal chattel, a temporary right, and is not subject to prescription as well as capability to disposition, mortgage and seizure.

The legal requirements include: the legal capacity of parties, their intention to enter into an agreement, and an offer and acceptance. Valid consideration is necessary for

⁴⁷⁴ Australian Law Reform Commission, ‘Gene Patenting and Human Health - 23 Licensing Patent Rights (Discussion Paper 68, 2004) 535.

⁴⁷⁵ “Patent pools can reduce or eliminate the need for litigation over patent rights because such disputes can be easily settled, or avoided, through the creation of a patent pool. A reduction in patent litigation would save businesses time and money, and also avoid the uncertainty of patent rights caused by litigation.” see Jeanne Clark, et al, *Patent Pools: A Solution to the Problem of Access in Biotechnology Patents?* (US Patent and Trademark Office, 2000), 8.

⁴⁷⁶ Ibid 8–10 and see *Australian Law Reform Commission*, above n 469, 12.

⁴⁷⁷ Ibid.

⁴⁷⁸ Ibid.

concluding, binding and enforcing any contract under the Libyan legal framework. There are also other specific conditions that must be available in drafting a patent licence. These include the validity of the patent (availability of all the objective requirements and meeting of all the necessary legal procedures), the ownership of patented invention and other conditions related to technical information. Due diligence and strategies of negotiation are necessary to verify these specific conditions and to draft terms of payments, warranty, duration, and terms that parties have agreed upon. Parties must avoid some conditions that will void entitlement if they are included in patent licence agreements, although the current Libyan framework is inadequate to include these prohibited conditions. Thus, comprehensively negotiating and drafting the terms regarding a patent licence is important to determine the rights and obligations of parties, since there is an absence of provisions in Libyan legal framework that identifies the rights and obligations of the parties.

Chapter 4: The effects of patent licence and the termination of contractual relationship

4.1.Introduction

The patent licence contract creates offset obligations between the parties. The license agreement is the main source of these obligations based on the rule of ‘a contract makes the law between parties’. As a general rule, all of the terms contained in an agreement bind parties, regardless whether they read them or understand them, unless there is fraud.⁴⁷⁹ Thus, the patent holder is expected to take all necessary actions to convey the patentable invention and allow the licensee to manufacture the licensed technology. The licensee, on the other hand, is expected to pay royalties and exploit the licensed technology. In practice, this may be an area where many disputes eventuate. The parties must agree on terms and conditions to rule such agreements because of the absence of special regulations governing such agreements.

The question arises: what happens if there is no contractual clause defining the relevant condition and the scope of the licensed right of use. To take one example (in the light of a clause regarding warranty), the patentee should warrant the effectiveness of patent right and there is no any actions that may disturb the enjoyment of exploiting the licensed invention. This would require an exploration of this issue under the relevant contract law governing the patent licence agreement at issue: this can prove to be complex in the absence of a specific solution governing such a contract. The absence of a regulatory solution is also evident in the issue of whether, and under what conditions, a licensee has standing to sue third party infringer. This is the issue under Libyan law with the absence of provisions that rule on the contract of technology transfer. In Libya, contracting parties also are generally obliged to contract in good faith according to the country’s laws, and principles governing usage and equity.⁴⁸⁰

Regarding the termination of a patent licence: the parties determine when and how the agreement will terminate but usually the license agreement comes to an end if its

⁴⁷⁹ *Toll (FGCT) Pty Ltd v Alphapharm Pty Ltd* [2004] HCA 52; 219 CLR 165, 43. However, judges referred to three possible circumstances in which ‘the party who signed the document might not have been bound by its terms. The first was if the document signed was not a contract but merely a memorandum of a previous contract which did not include the relevant term. The second was a case of *non est factum*. The third was a case of misrepresentation’. See *Toll (FGCT) Pty Ltd v Alphapharm Pty Ltd*, 56.

⁴⁸⁰ Libyan Civil Code 1959 art 148 (2).

duration clause is reached. However, what happens if the parties had not determined the termination time of a licence agreement? In some circumstances, the patent licence is terminated by giving reasonable notice.⁴⁸¹ There are other reasons leading to the termination of a patent licence, including when the other party breaches the terms and conditions of licence (rescission), or when the a party wrongfully purports to terminate the contract⁴⁸² or due to the occurrence of something unexpected that makes the implementing of the obligations in a contract impossible. The termination of the contractual relationship between parties of patent licence has a variety of legal consequences which should be explained. This chapter will examine the scope of the patent licence obligations under Libyan law, by outlining the typical obligations of a licensor in section one and obligations of licensee in section two. The following section explains the issue regarding enhancement and improvement of licensed technology and illustrates the boundary of the parties' obligations to communicate such improvement. The fourth section focuses on the transferability of patent licences and whether the parties to patent licenses are able to transfer their rights and obligations to a third party. The fifth section examines the possibility of the licensee to institute proceeding of infringement, and whether the licensee has the right to terminate the contract if the licensor did not take an action to protect the licensed technology from infringement. The final section outlines the reasons and impacts of terminating patent licence agreement.

4.2. Typical obligation of a licensor

4.2.1. The obligation of delivery

The meaning of the obligation of delivery refers to the fact that the licensors have to render the subject matter of the agreement at the disposition of their contractual partner.⁴⁸³ According to contract law, the obligation of delivering the subject matter of the contract to another party is a principle duty by the owner of that subject matter whether this contract is a contract for sale, a licensing agreement, or contract of lease.⁴⁸⁴ For a patent licence agreement, the primary commitment for the patent holder is to deliver the patentable technology of the agreement to the licensee and enable him to exploit and benefit from that technology during the period of contract. In addition

⁴⁸¹ Calvert, above n 117, 159-60.

⁴⁸² Ibid.

⁴⁸³ Vahrenwald, above n 25, 135.

⁴⁸⁴ *Libyan Civil Code* 1953 arts 417 and 563.

to delivering the patentable invention, a patent licence usually contains another clause which obliges the licensor to supply, on a one-off basis or on a continuous basis, useful technical assistance to practice and operate the licensed patent rights.⁴⁸⁵

In the absence of a particular contractual stipulation regarding these technical assistances or other useful information, the question is whether the licensor is obliged to provide to the licensee such methods so as to better achieve the purpose of manufacturing the patented invention. Of course, the licensing agreement is the main source that determines the rights and obligations of both parties, although terms may be implied in a contract through statutes or by courts.⁴⁸⁶ In Libya, judges may rely on general rules of contracting or commercial custom to solve this issue. These rules, in fact, are related to the obligation of delivery in the case of the contract in general and the contract of lease. For example, the lessor, in a contract of lease, has to ‘derive the thing’ comprised of its accessories to enable the lessee to benefit from it.⁴⁸⁷ By analogy to that rule, courts may oblige a licensor to deliver any assistance material that would enable the licensee to competently exploit the patent invention. According to the principle that contracts must be implemented in good faith and from the nature of things, the licensor should be impose upon to deliver and explain any useful information to enable better use of the licensed technology.⁴⁸⁸

However, the court, in common law, may determine the meaning of implied terms by reference to the case of other documents.⁴⁸⁹ For example, the courts in England and Canada provide that:

Where words or clauses are missing from a contract, to give effect to the reasonable expectations of the parties, terms may be implied, but only where and as necessary on the basis that those terms must be what the contract means, and those terms may be derived from custom and usage, fact, law or legislation, always with the goal of ensuring a sensible commercial result.⁴⁹⁰

⁴⁸⁵ See, *A Model Patent License Agreement*

<http://wiki.creativecommons.org/Model_Patent_License>.

⁴⁸⁶ For example, ‘unfair contract terms’ is the terms that implied by law in *Australia Competition and Consumer Act 2010* (Cth) sch 2 ss 24-27.

⁴⁸⁷ *Libyan Civil Code 1953* art 563.

⁴⁸⁸ Vahrenwald, above n 25, 136.

⁴⁸⁹ Thorley et al, above n 12.

⁴⁹⁰ M H Ogilvie, ‘Reconsidering the Interpretation and Implication Rules in the Law of Contract: An English-Canadian Comparison and a Proposal for a New Unified Rule’ (2013) 28(187) *Banking & Finance Law Review* 187.

The Courts have no jurisdiction to imply terms unless ‘on considering the terms of the contract in a reasonable and businesslike manner, an implication necessarily arises that the parties must have intended that the suggested stipulation should exist’.⁴⁹¹ The interpretation of the obligation related to a patent licence agreement is not always clearly established – especially the obligation of delivery – because the subject of this obligation is usually secret information. According to common law legal analysis, courts are not likely to imply terms which oblige the patentee to provide additional information to another party, even if the patentable technology cannot be operated adequately without such assistances, where the parties fail to expressly draft them in the licence agreement.⁴⁹² However, if the licensor had undertaken to ensure that the licensed technology will operate as expected during the period of licensing, the question becomes how the licensor will ensure such an outcome without providing the necessary technical assistances. In this case, a judge may require the licensor to deliver any information that is needed for ensuring the licensed technology will be capable of being properly manufactured.

In contrast, the Egyptian *Trade law 1999* provides special terms that shall be apply to any contract that contains technology transfer. One of these terms is that:

The supplier shall submit to the importer the information, data, and other technical documents as required for assimilation of technology, and also the necessary technical services to be requested by the importer for the operation of the technology, particularly expertise and training.⁴⁹³

The licensor, thus, is obliged by this article to provide technical assistances to another party to manufacture a patentable invention even if the parties did not expressly provide for it in licence agreement. Libyan legislators may benefit from the Egypt approach regarding the obligation of delivery in technology transfer contract and stipulate such provision in future technology transfer law.

4.2.2. The obligation of warranty

The obligation of warranty is one of the most important obligations of the licensor in a contract of transferring technology in general.⁴⁹⁴ The legal basis of this obligation is

⁴⁹¹ Thorley et al, above n 12, 398.

⁴⁹² Vahrenwald, above n 25, 82.

⁴⁹³ Egyptian Trade Law No 17 of 1999, art 77 (1).

⁴⁹⁴ Hossam al-Saghir, ‘Licensing Intellectual Property and Technology Transfer’ (Paper presented at the WIPO National Seminar on Intellectual Property for the members of the Shura Council,

derived from the obligation of a licensor to deliver something that is not owned by anyone except the licensor and/or no one has the rights upon it and enables the licensee to enjoy quiet possession of the licensed technology.⁴⁹⁵ This possession will be disturbed when someone infringes a patent. Because the main purpose of the licence agreement is to provide the licensee with legal access to the patent holder's technology, the licensee should obtain a warranty that the patentee owns all rights related to the licensed technology.⁴⁹⁶ The licensee usually negotiates a clause including performance guarantees, defence and reparation against third party's patent infringement actions and implementation of licensed technology against a third party.⁴⁹⁷ But what is the legal position under Libyan law if there is no negotiation or agreement regarding the obligation of warranties by a licensor?

In other words, are there any implied warranties that may apply on the licensor's obligation of warranties in patent licence? There are no express provisions in Libyan law regulating the obligations of warranty whether in a licence agreement or in a contract of technology transfer in general. However, the implied obligation of warranty according to Libyan law is based upon the application of the general rules regarding the leasing contract or the contract of sale by way of analogy to a licence agreement;⁴⁹⁸ the licensor's obligation is to deliver a patented invention to the licensee without any defects, otherwise the licensor will be handed something that is not identical to what has been agreed upon. Achieving the results from the exploitation of a patent is associated with the validity of the patent itself. The patent holders should be bound to warrant against hidden defects of the patentable technology, and to warrant undisturbed enjoyment of exploiting the licensed invention.

4.2.2.1. The warranty in the case of hidden defects

The prevailing doctrine in civil law jurisdictions tends to state that the licensor is obligated by an implicit obligation of warranty against legal and technical hidden

Organized by WIPO In collaboration with Ministry of Commerce and Industry And the Shura Council Oman 24 March 2004) 8.

⁴⁹⁵ Al Beshtawi, above n 309, 81.

⁴⁹⁶ Huber, above n 284, 106.

⁴⁹⁷ Brian G Brunsvold, 'Negotiation Techniques for Warranty and Enforcement Clauses in International Licensing Agreements' (1981) 14(2) *Vanderbilt Journal Of Transnational Law* 282.

⁴⁹⁸ *Libyan Civil Code 1954* arts 428-42 and 570-85. See Anes Attia Soleman, *Legal Warranties for Technology Transfer* (Dar Alnahda Al Arabia, 1969) 572.

defects of the licensed patentable technology.⁴⁹⁹ The legal defects related to the legal status of patent rights, include the validity of patents, registration of patents and absence of mortgages or pledges of third parties on the patent rights, while the technical defects concern the applicability and practical usefulness of the patented invention and ensure that the patented technology will work as expected.⁵⁰⁰ Despite the fact that Libyan courts have not faced these issue, the legal basis of this implied warranty may be found by analogy with leasing contract in article 575 of the Libyan *Civil Code* which establishes, in subsection 1, ‘subject to any agreement to the contrary, the lessor warrants the lessee against all defects which prevent or appreciably diminish the enjoyment of the property ...’,⁵⁰¹ and subsection 2 of article 576, which states that ‘if the defect caused any damage to the lessee, the lessor shall be liable to pay compensation, unless the lessor can establish that he was not aware of the defect’.⁵⁰² According to article 576 (1) of the Libyan *Civil Law*, if the licensed technology is found to have a defect, the licensee may claim termination of the agreement or reduction of the royalties.⁵⁰³

The justification for the obligation to warrant for the absence of hidden defects in the leasing contract ‘lies in the fact that the lessor is in a better position than the lessee insofar as the relation to the leased thing is concerned’.⁵⁰⁴ One may argue that the difficulty of applying the rules regarding leasing contracts to the licence patent is because the position of the patentee is no better than the position of the licensee. Granting a patent requires a process of examination which is unlikely to impute a mistake of the patent office to the patent owner.⁵⁰⁵ Nevertheless, Prevailing doctrine and jurisprudence in civil law countries such as France, Libya and Egypt, apply the concept of warranty against hidden defects to the patent licence by relying of general rules of leasing contract.⁵⁰⁶

⁴⁹⁹ Vahrenwald, above n 25, 151.

⁵⁰⁰ Ibid.

⁵⁰¹ Libya *Civil Code* 1954 art 575 (1).

⁵⁰² Ibid art 576 (2).

⁵⁰³ Ibid art 576 (1).

⁵⁰⁴ Vahrenwald, above n 25, 151.

⁵⁰⁵ Ibid.

⁵⁰⁶ See *ibid*; and Al-Saghir, above n 489. See also Al Beshtawi, above n 309, 82. There is no decision by Libyan courts regarding this issue, but I think the Libyan courts will not hesitate to take the same decision of the French courts in the absence of contractual terms or express provisions regulating the warranty in patent license.

4.2.2.2. The warranty in the case of disturbing the enjoyment of the licensed invention

With regard to the warranty against disturbing the licensee's right of enjoyment for exploiting the patented invention, the licensor should deliver the licensed invention to the other party without any hindrances whether, and this is due to facts caused by licensor himself or by third parties. Examples regarding the case of disturbance by a licensor are when a patentee attempts to enjoin an exclusive licensee from exploiting the licensed technology, or where the licensor does not communicate an improvement to the patented invention.⁵⁰⁷ The disturbance also concerns where there is an action of patent infringement proceeding by third parties.⁵⁰⁸ Usually, the licence agreement contains such warranties which bind the patent holder to warrant the enjoyment of a licensee to benefit from a licensed technology. In the absence of those warranties, article 570 (1) (2) of the Libyan *Civil Code* might be applied by way of analogy to the patent licence. These rules state that:

1. The lessor shall abstain from doing anything which may disturb the lessee in his enjoyment of the leased property, and shall not make any alternations to the property or its accessories that diminish such enjoyment.
2. The lessor not only warrants the lessee against his own acts and against those of his servants but also against any disturbance or damage based on a lawful claim by other lessees or by any successor in title of the lessor.⁵⁰⁹

In Libya, the licensor, therefore, must warrant a lack of disturbance to the licensee's rights to exploit the subject-matter of patent licence whether this warranty is included in licence agreement or not.

An important question is whether the licensor, by contract, can exclude any warranties in licensing agreement. Generally, the variation of warranty in patent licence is possible under Libyan law by way of analogy with other nominated contracts under the *Civil Code*. For example, article 577 of the Libyan *Civil Code* stipulates that 'any agreement excluding or limiting the warranty against disturbance or defects is void if the lessor has fraudulently hidden the cause of such warranty.'⁵¹⁰ Thus, the

⁵⁰⁷ Vahrenwald, above n 25.

⁵⁰⁸ Ibid.

⁵⁰⁹ Libyan *Civil Code* 1954 art 570 (1), (2).

⁵¹⁰ See Libyan *Civil Code* art 577. Also art 442 states that 'the contracting parties, by specification or agreement, increase, restrict or abolish the warranty. Nevertheless, any clause abolishing or

contracting parties in a licence agreement can exclude any terms of warranty unless the licensor was intentionally concealing the defects of licensed invention. However, article 435 (1) of the Libyan *Civil Code* provides that any agreement is void if the contracting parties agreed that the seller does not warrant any entitlement arising by his or her act.⁵¹¹ The parties cannot, thus, agree to exclude the licensor himself from a warranty not to disturb the licensee's capacity to exploit patented rights, because such a warranty is mandatory in contracts and may apply to a patent licence.

4.3. Typical obligation of a licensee

Delivering the patentable technology to the licensee and warranting that technology to work as expected offsets an obligation of the licensee to pay compensation and to exploit licensed technology.

4.3.1. The obligation to pay royalties

A royalty is an amount of money reserved by the licensor of a patent right and is payable proportionate to the exploitation made of the right by the licensee.⁵¹² The licensee must pay the price of the technology to the licensor as agreed upon in the licence agreement. This amount is usually determined according to a number of factors. For example, the licensor estimates the price of licensed technology based on his or her effort to discover that technology and based on the returns of manufacturing technology.⁵¹³ The licensee estimates the price of the technology based on the benefit that will return from the exploitation of such technology through the license period.⁵¹⁴ Licensing agreements usually provide for some methods of royalty payments.⁵¹⁵ For example, the parties may stipulate a payment of a lump sum or royalty compensation or other type of payments.

4.3.1.1. Lump sum licence fees

A lump sum payment may be paid up-front or in instalments, and it is usually exacted where the technology can be conveyed at one time and quickly accommodated by the licensee, or where the patentee has endured significant research and development and

restricting the warranty is void if the venter intentionally and fraudulently conceals the defects of thing sold².

⁵¹¹ Libyan *Civil Code 1954* art 570 (1).

⁵¹² Black, above n 41, 1496.

⁵¹³ Al Beshtawi, above n 309, 83.

⁵¹⁴ Ibid.

⁵¹⁵ Apke, above n 47, 9.

may be reluctant to share its knowledge without some guarantee in advance that 'it will receive appropriate reimbursement for a share of the development costs'.⁵¹⁶

4.3.1.2. Royalty payments

A royalty is a payment to the patent owner, which reflects the exploitative value of the technology by the licensee and is often made on the basis of sales royalties or fixed royalties depending on the subject matter being licensed, the relevant industry and the respective leverage between parties.⁵¹⁷ The most commonly encountered forms of compensation in patent licences are those based on sale of products, gross receipts, net sale or profits.⁵¹⁸ The rates of this royalty method are often graduated to increase or decrease over the volume of product sold or produced, and the royalties are usually less in the early years of the license agreement as an incentive to the licensee.⁵¹⁹ To reach a win-win status in a license agreement, parties usually agree that the royalty rates are to be variable. For instance, a royalty rate of 10 per cent might reduce to 7.5 per cent after the sale of one million units, then to 5 per cent after five million units.⁵²⁰ Also, the licensee may require paying the licensor an annual minimum royalty. Hence the sum of US\$75,000 might be payable for year two of the license, increasing to US\$100,000 for year three and US\$125,000 for each year thereafter.⁵²¹

The price of technology may not always be a royalty or lump sum payment method but it can be a product of licensed technology or another patentable technology. As an article 82 (1) of Egyptian *Trade Law 1999* provides that:

The charges may be a total amount payable altogether or in several instalments. They may also be a share in the capital invested in operating the technology or a portion of the yield of this operation. The charges may as well be in the form of a certain quantity of the commodity in which the technology is used for its production, or a primary material the importer produces and undertakes to export to the supplier.⁵²²

The payment may take the form of a certain quantity of products of licensed technology. In this case, the licensee provides identifying percentage of goods to the

⁵¹⁶ Ibid.

⁵¹⁷ Huber, above n 284, 104.

⁵¹⁸ Philip Mendes, 'Royalty Terms in Licences' (WIPO, Special Feature: Valuation and Acquisition of IPR, 2003) 33.

⁵¹⁹ Apke, above n 47, 9.

⁵²⁰ WIPO, (2005), above n 9, 58.

⁵²¹ Ibid.

⁵²² Egypt *Trade Law No 17 1999* art 82 (1).

licensor to be rather kind for the exploiting the licensed technology.⁵²³ The payment of technology may also take a method of swap with another technology such as in cross licence agreement.⁵²⁴ In this regard, each party will have the right to use another party's technology without paying royalties to each other. In general, Libyan law does not restrict parties to a patent licence agreement that follows special types of payments unless the subject-matter of the contract is contrary to public policy or morality.⁵²⁵ For example, licensors cannot transfer technology for alcohol or other prohibited drugs as payment. Also, if the object of an obligation is a sum of money, the licensee is bound only to the extent of the actual figure specified in the licence agreement regardless of the increase or decline in the value of such money at the date of payment.⁵²⁶ Whatever methods used as payment, parties to a licence agreement must identify the price of the technology in the agreement or how the price is to be set (such as by agreement to determine price by a third person).⁵²⁷ If the price is not determined or is incapable of being set, the license agreement is void.⁵²⁸

4.3.2. Licensee's obligation to exploit the patented invention and maintain confidentiality of the technical information

Licensing agreements give licensees the right to exploit the licensed technology within the limits set by the agreement. At the same time, the licensee is responsible to work a patented invention in good faith to produce the goods that provide, often, the royalty incomes.⁵²⁹ In the case of an exclusive license, the licensee must be reasonably diligent in exploiting the licensed technology;⁵³⁰ most legislation requires that the patented technology must be exploited within a certain period of time. Otherwise it must be cancelled or a compulsory licence will be granted to others.⁵³¹

According to Libyan law, licensees, whether exclusive or non-exclusive, are obliged to exploit the patented technology. This is not only inferred from the fact that, in the absence of adequate exploitation, the patent owner is exposed to the risk of a compulsory licence, but also from the requirement to serve the public interest in

⁵²³ Al Beshtawi, above n 309, 85.

⁵²⁴ See chapter 2, section 2.2.3.3. Cross licence.

⁵²⁵ *Libyan Civil Code 1954* art 135.

⁵²⁶ *Ibid* art 134.

⁵²⁷ Al-Badawi, above n 419, 143.

⁵²⁸ *Libyan Civil Code 1954* art 133 (1).

⁵²⁹ Al-Saghir, above n 489..

⁵³⁰ Gordon W Hueshen, 'Patents: Exclusive Licenses: Licensor and Licensee Relationship: Licensee's Obligations' (1951) 49(5) *The Michigan Law Review* 740.

⁵³¹ For example, *Libyan Patent Law no 8 of 1959* art 28-30.

exploiting the patented technology⁵³² and from the duty to perform agreements in good faith.⁵³³ Civil legal doctrine makes a differentiation between the obligation to achieve a result and the obligation to use due diligence.⁵³⁴ The obligation of exploiting patented technology is an obligation to use due diligence, which means that ‘in the absence of a special clause establishing the scope of this obligation, the exploitation must be serious and effective with regard to quantity as well as to quality’.⁵³⁵ Unless there are ‘insurmountable difficulties’ such as technical or commercial issues in the industrial practicality of the technology, the licensee may be free from the obligation of exploiting licensed technology.⁵³⁶ For example, the technology is not exploitable, if ‘it can only be put to practice in a laboratory and at a price which prohibits access to the market’.⁵³⁷ Hence, the exploitation of technology must be industrially and commercially possible. If the difficulties of exploiting the licensed invention are due to a mistake of licensee, the obligation to exploit does not elapse and the court may oblige the licensee to compensate the licensor in accordance with the contractual responsibility.⁵³⁸

The licensee also should keep confidential the technical information that he obtained due to contract. So, the licensee is obligated not to disclose any information whether related to the patent documents, methods regarding manufacturing the patented invention or know-how information, and, in addition, other information that is considered confidential which may harm the patentee if it is revealed.⁵³⁹ The legal basis of this obligation in Libyan law is inferred from the fact that the contract must be executed in good faith,⁵⁴⁰ and patent information must not be disclosed to competitors to take advantage of.

By comparison, article 83 (1) of the Egyptian *Trade Law* expressly provides that, in a technology transfer contract, the transferee must maintain the confidentiality of the transferred technology he or she obtains, and of the improvements introduced to it.

⁵³² Vahrenwald, above n 25, 168.

⁵³³ Libyan *Civil Code* 1959 art 148 (1).

⁵³⁴ Vahrenwald, above n 25, 168.

⁵³⁵ Ibid.

⁵³⁶ Libyan *Civil Code* 1959 art 161 states that ‘when an obligation arising out of a bi-lateral contract is extinguished by reason of impossibility of performance, correlative obligations are also extinguished and the contract is rescinded ipso facto.’

⁵³⁷ Ibid.

⁵³⁸ Al-Badawi, above n 419, 226.

⁵³⁹ Al Beshtawi, above n 309, 86.

⁵⁴⁰ Libyan *Civil Code* 1959 art 148 (1).

The importer may be ‘accountable for the damage occurring from divulging this secrecy whether it takes place in the stage of contract negotiations or after’.⁵⁴¹ Thus, in formulating this obligation, it is preferable for the parties to accurately identify the information that is considered as confidential and, usually, each party negotiates to expand the scope of what is considered secret or narrow according to his interests.⁵⁴² For example, the patentee, typically, seeks to establish a broad meaning of what should be secret so as to restrict the provision of as much confidential information as possible, while the licensee seeks to narrow the scope of secrecy. The obligation of exploitation and maintaining the confidentiality of technical information is not only for the original patented invention, but also extend to the improvements of the patented technology which have been provided to the licensee.

4.4.Improvement and enhancement of licensed technology

A patent licence not only grants rights to a licensee in relation to the patent rights in its state of development as at the date of the license, but may also contain the right to obtain developments by the patentee or licensee (sub-licensee or third party) to the patented technology after the grant of the license.⁵⁴³ Both the patentee and licensee may be interested in benefitting from improvements that may occur to improve manufacturing and production.⁵⁴⁴ Licensors, on the other hand, will typically wish to deliver future enhancement to another party or parties to ‘maximise the licensee’s ability to commercialise, and in turn to maximise the royalties and other remuneration that the licensor expects from commercialisation’.⁵⁴⁵ If access to future improvements is significant, a patent licence should include an improvement clause.⁵⁴⁶ Though clearly determining improvements is significant in a licence agreement, it is not always done. Unknown improvements are difficult to specify and put into words.⁵⁴⁷ Also, licence agreements do not always provide an explanation of what ‘improvement’ means, and there is no agreed-upon meaning of what constitutes an

⁵⁴¹ Egyptian Trade Law No 17 of 1999 art 83 (1).

⁵⁴² Al Beshtawi, above n 309, 87.

⁵⁴³ Mendes, above n 513.

⁵⁴⁴ Ibid.

⁵⁴⁵ Ibid. see also, Kenneth J Dow and Traci Dreher Quigley, ‘Improvements for Handling Improvement Clauses in IP licenses: An Analytical Framework’ (2004) 20(3) *Santa Clara Computer & High Technology Law Journal* 586.

⁵⁴⁶ Timothy J Engling, ‘Improvements in Patent Licensing’ (1996) 78 *Journal of the Patent & Trademark Office Society* 739.

⁵⁴⁷ Ibid 742.

improvement.⁵⁴⁸ Nevertheless, what might improvement of technology mean and what is the boundary of improvement that should be discussed between parties?

4.4.1. The term ‘improvement’

A patent improvement is an ‘addition to, or modification of, a previous invention or discovery, intended or claimed to increase its utility or value’ or enhance its appearance.⁵⁴⁹ In the context of licenced patent rights, the word ‘improvement’ refers to any development that would enhance efficiency, usability, performance or other characteristic of the original invention.⁵⁵⁰ The definition of improvement can also be limited to articles or processes which would be an infringement of the patented invention; ‘in other cases it may be desired to secure any further inventions relating to the particular art’.⁵⁵¹ In the English case of *Davis v Curtis & Harvey Ltd*, the court determined an improvement as any development that falls within the scope of the patentable technology in the licensing agreement and which, consequently, infringe the protected technology.⁵⁵² However, the High Court of England articulated that it is not necessary for improvement to be limited to something that was an infringement of the original patented technology, and therefore, an improvement is:

Any part does constitute an improvement, if it can be adapted to this machine, and it would make it cheaper and more effective or in any way easier or more useful or valuable or in any other way make it a preferable article in commerce.⁵⁵³

The definition of improvement in an agreement should be understood broadly to include the commercial and technical sense.⁵⁵⁴ This, however, does not mean that improvement is to be construed as widely as to include a new invention.⁵⁵⁵ Therefore,

⁵⁴⁸ Erik Ohlsson, *Improvements in Licensed Technology* (Master Thesis, the university of Lund, 2006) 15.

⁵⁴⁹ Black, above n 41, 890.

⁵⁵⁰ Al Beshtawi, above n 309, 79.

⁵⁵¹ Thorley, et al, above n 12, 554.

⁵⁵² *Davis v Curtis & Harvey Ltd* (1903) 20 RPC 561.

⁵⁵³ *Linotype & Machinery Ltd v Hopkins* (1910) 27 RPC 109 at 113.

⁵⁵⁴ *New South Innovations Pty Ltd v Dr Wieslaw Kaczmarek* [2010] APO 2 at 26. See also *Buchanan v Alba Diagnostics Ltd* [2004] UKHL 5.

⁵⁵⁵ *Fermiscan Pty Ltd v James* [2009] NSWCA 355, 73. However, others suggest that ‘improvement shall mean any invention, idea, trade secret, know-how, or derivative work that is in some manner dependent upon or that includes any portion or uses any portion of licensed technology, whether patentable, copyrightable, or otherwise protectable as intellectual property that is subsequently acquired or developed by the licensee during the term of this agreement.’ See, Horwitz, above n 428, 31.

an improvement is a 'new product or component or process which encompasses the claims of the first invention and thereby substitutes for them'.⁵⁵⁶

There are a number of factors that may identify the boundaries of improvement regarding licensed technology. These may be summarised as follow:

1. The improvement must be limited to the technology as defined by the claim of licensed patent;
2. It should not affect the essential character of that invention.⁵⁵⁷ For instance, if a pencil was a licensed invention, an eraser upon the opposite end of the pencil head would more likely be considered as an improvement rather than the development of a fountain pen which would be a separate improvement to the pencil;⁵⁵⁸
3. It should contain a new value that did not exist before, which made the manufacture of the technology less expensive and/or more effective; and
4. The improvement should be created after granting a licence and synchronised with the duration of agreement.

4.4.2. The obligation of parties to communicate improvements

In the case of a patent licence agreement, there are two types of improvement-granting clauses: a grant-forward and a grant-back.⁵⁵⁹ The clause of grant-forward often includes the obligation of a licensor to transfer patents improvement and the right of the licensee to manufacture, exploit and sell that improvement.⁵⁶⁰ Generally, changes and improvements by a licensor should be communicated to the licensee. The licensee sometimes requires the right to obtain a license for such improvements in accordance with the conditions of the original licence agreement.⁵⁶¹ On the other hand, a grant-back clause occurs when a licensee transfers any future developments on the licensed technology to the licensor.⁵⁶² The licensee should report changes and improvements of the licensed technology to the licensor. If the licensor contributed to the improvement, the 'licensor has the right to be named as a joint inventor, and to exploit

⁵⁵⁶ *Fermiscan Pty Ltd v James* [2009] NSWCA 355 at 72.

⁵⁵⁷ Engling, above n 541.

⁵⁵⁸ *Ibid.*

⁵⁵⁹ *Ibid* 740.

⁵⁶⁰ *Ibid.*

⁵⁶¹ World Intellectual Property Organisation and International Trade Centre, "Exchanging Value: Negotiation Technology Licensing Agreements, 2005 at 53.

⁵⁶² Engling, above n 541, 740.

and utilize the improvement by taking a license thereunder'.⁵⁶³ The obligation of an exclusive grant-back clause provides that the licensee has to communicate all future improvements to the patentee who may then take out a patent on that improvement.⁵⁶⁴ This may be viewed as anti-competitive commercial behaviour. Thus, the *TRIPS Agreement* prohibits exclusive grant-back terms in any contract related to technology transfer.⁵⁶⁵

Improvements may be created by others who have no contractual relationship with the parties of the licensed technology. The third party may require a patent for that improvement, although he or she sometimes cannot practice that technology without infringing the original invention. For example:

Suppose that Admiral Motors obtains a patent on an internal combustion engine for use in automobiles. Later, Betty Beta purchases an automobile marketed by Admiral Motors that embodies the patented invention. Beta experiments with her new car and develops a dramatically improved fuel injector useable only in the patented Admiral Motors engine. Even if Beta patents her improved fuel injector, she cannot practice that technology without infringing Alpha's basic patent.⁵⁶⁶

In this case, the patent of Admiral Motors blocked Beta's ability to exploit its patented technology. Admiral Motors cannot oblige Bate to deliver its improvement because there is no contracting relationship between them. Thus, Bate cannot use her invention unless she licenses the patent to another party or until Admiral Motors' patent expires.⁵⁶⁷

Generally, in Libya, there are no regulations or statutes ruling the rights to improvement on technologies. Ownership and the rights to improvements remain with the party that created them, unless a licence agreement provides otherwise. The parties to a licence agreement should clearly define the clause of future improvement related to a licensed technology. However, in the absence of a stipulation in the contract between the parties regarding communicating improvement, the implied obligation may be applied according to the good faith in which the contract had been agreed, and

⁵⁶³ World Intellectual Property Organisation and International Trade Centre, "Exchanging Value: Negotiation Technology Licensing Agreements, 2005 at 53.

⁵⁶⁴ Ibid.

⁵⁶⁵ See restrictive conditions in the licensing contracts in chapter three and article 40 of TRIPS agreement.

⁵⁶⁶ US Federal Trade Commission, *To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy* (2003) <<http://www.ftc.gov/>>.

⁵⁶⁷ Ibid.

in accordance with the principle of equity and usage, and in view of the nature of the contract.⁵⁶⁸ According to the general principles of unfair competition,⁵⁶⁹ the licensor should transfer the improvement on technology to the licensee because the licensor created improvements that increase the efficiency and quality of the underlying invention, or created a better product, which would result in increased consumers preference for the improved product at the expense of the originally licensed product.⁵⁷⁰

By contrast, Egypt's *Trade Law* expressly provides that the supplier is obliged to disclose any improvements in the transferred technology during the duration of contract, and convey these improvements to the importer (licensee)⁵⁷¹ regardless whether the license agreement stipulates this or not. On the other hand, Egypt's *Trade Law* does not oblige the licensee to communicate improvements to the licensed technology during the contractual relationship unless it is stipulated in the licence agreement otherwise. The licensee may obtain a patent on the improvement if the improved invention meets the necessary requirements for granting a patent and as long as it does not infringe the original patent.

4.5. The transferability of rights and obligations pertaining to patent licence

The identity of a party to the agreement may change in a number of ways.⁵⁷² For instance, one of the parties to the agreement might simply wish to make an outright transfer of the rights under the agreement, or one of the parties may change by corporate dissolution or merger.⁵⁷³ Contracting parties usually attempt to include anti-assignment clauses in their agreement to ensure the integrity of their contractual relationships.⁵⁷⁴ Generally, transferring the rights and obligations pertaining to a patent licence is uncommon because such an action by one party could be disadvantageous to another party if, for example, the licensee assigns its rights to

⁵⁶⁸ Libyan *Civil Code 1953* art 148 (2).

⁵⁶⁹ Libyan *Economic Activity Law no 23 of 2010* arts 1285-1991.

⁵⁷⁰ Al Beshtawi, above n 309, 80.

⁵⁷¹ Egypt *Trade Law No 17 of 1999* art 77 (2).

⁵⁷² Quinn and Weide, above n 40.

⁵⁷³ *Ibid.*

⁵⁷⁴ However, 'historically, corporate mergers do not violate contractual anti-assignment clauses because there is not a transfer of assets, and therefore nothing is assigned' see Jessica L Braeger, 'Anti-assignment Clauses, Mergers, and the Myth about Federal Preemption of Application of State Contract Law to Patent License Agreements' (2001) 50 *Drake Law Review* 640. See also, Epstein and Frank, above n 72, 99.

exploit the patented technology to one of the patentee's major competitors.⁵⁷⁵ Case law in US holds that the rights under a patent licence are personal and not transferable⁵⁷⁶ except if the licence agreement permits assignment, if the licence agreement passes by succession or if the parties to agreement ratify the assignment.⁵⁷⁷ In this regard, the statement of a 'personal rights or contract' means that a contract cannot be assigned without the consent of parties.⁵⁷⁸

The issue of assignability of a patent licence may be examined from two angles under Libyan law. There is no obligation that prohibits patentees from assigning their patent rights during the licensing agreement, and the transferability of patent rights may be inferred for article 603 of the Libyan *Civil Code* by way of an analogy to rules guiding leases which implicitly allowed the lessee to transfer the leased property.⁵⁷⁹ The licensor may rely on general rules regarding transferability of rights. For example, general provision of the *Civil Code* provides that

A creditor may assign his right to a third party, provided that his claim is not impossible of assignment by reason of a provision of law, or an agreement between the parties or on account of its nature. The assignment is valid without the consent of the debtor.⁵⁸⁰

At first glance, the licensor may be able to transfer a patent right without the consent of the licensee. However, the licensor entered into an agreement with the licensee for a number of reasons, including personal, financial and technical, as explained above. Transferring patent rights to another licensor would endanger the benefits gained from a relationship with the original licensee. In addition to any personal relationship between parties, there are circumstances that motivated the parties to conclude the agreement in the way they did; 'the legal relationship stems from the technical and the financial point of view'.⁵⁸¹ Financially, 'the licensee has an interest in strong protection through the licensor'. Technically, the patentee's obligation to deliver the technology, keep the trade secret, make improvements and provide technical

⁵⁷⁵ Quinn and Weide, above n 40.

⁵⁷⁶ *Troy Iron & Nail Factory v Corning* 55 US 193 (1852).

⁵⁷⁷ Daniel A Wilson, 'Patent License Assignment: Preemption, Gap Filling, and Default Rules' (1997) 77 (4) *Boston University Law Review* 897.

⁵⁷⁸ Hilary E Pearson, 'Assignability of Patent Licenses – a State or Federal Question' (1987) 69 (6) *Journal of Patent and Trademark Office Society* 315.

⁵⁷⁹ Article 603 of Libyan *Civil Code 1959* provides that 'in the case of a voluntary or forced transfer of the ownership of the leased property to a third party, the new owner is only bound by the lease if it has been given an established date prior to the act entailing the transfer of ownership'.

⁵⁸⁰ *Ibid* art 290.

⁵⁸¹ Vahrenwald, above n 25, 149.

assistance, and his technical qualifications to exploit.⁵⁸² The patentable technology will have been ‘a decisive factor in the licensor’s determination to conclude the contract, not least with the view to assuring the optimum exploitation by the contractual partner.’⁵⁸³ The licensor may assign the patent rights to one of the licensee’s competitors. Hence, it is necessary for the licensor to notice and agree with licensee before transfer the patent rights.

On the other hand, the licensee, in the absence of express written provisions, is not able to transfer or sub-license the rights and obligation in relation to the patent license to a third party. If he does so, it may be considered as an infringement of the agreement⁵⁸⁴ because of the duties imposed upon the licensee to maintain confidentially of the technical information. Also, according to the article 302 of *Libyan Civil Code*, the licensee is not able to transfer the obligation of paying the royalty to another party without the consent from the licensor.⁵⁸⁵ In other words, the patent licence is not transferable to other parties unless the agreement contains words that show that it was intended to be transferable or there is a later consent between parties to enable transfers.

4.6. Infringement of the licensed patented technology

Infringement generally means an ‘act that interferes with one of the exclusive rights of a patent, copyright, or trademark owner’.⁵⁸⁶ The infringement of patent rights may occur when a third party is exploiting the protected invention without a license or when a third party claims that the licensee is exploiting patent rights in respect of which the third party has obtained protection.⁵⁸⁷ It is debatable whether the patentee is, in addition, obliged to protect the licensee against infringements of the patentable technology by a third party. This question may not arise in the case of an exclusive licence because the licensee usually has the statutory right to bring proceedings in respect of a patent infringement. For example, section 67(1) of the UK *Patents Act 1977* states that ‘the holder of an exclusive licence shall have the same right as the proprietor of the patent to bring proceedings in respect of any infringement of the

⁵⁸² Ibid.

⁵⁸³ Ibid.

⁵⁸⁴ Ibid 174.

⁵⁸⁵ *Libyan Civil Code 1959* art 302 of provides that ‘an assignment of debt is not effective as against the creditor unless ratified by the creditor’.

⁵⁸⁶ Bryan A Garner, *Black’s law dictionary* (West Publishing Company, 17th ed, 1999) 785.

⁵⁸⁷ WIPO, (2005), above n 9, 65.

patent'.⁵⁸⁸ Also, the French *Intellectual Property Code* provides the right to the exclusive licensee to institute an infringement action after service of notice and unless otherwise agreed in the licensing agreement.⁵⁸⁹ The Libyan *Patent Law* does not expressly provide the right to the licensee to bring proceeding against an infringer but there is no provision that prevents the licensee from suing for infringement. If there is any infringement for licensed technology, the licensee has to forthwith give notice to the licensor.⁵⁹⁰ The exclusive licensee may institute an infringement action and the patentee enters into the infringement action to support the licensee.⁵⁹¹

However, the issue of the obligation to protect from infringement may arise with the case of a non-exclusive license because the licensee usually has no right to bring proceedings against infringer and he or she may encounter the risk that they have to pay royalties, while the infringer obtains the technology for free, especially if the patent holder did not take any action to protect the licensed technology from infringement.⁵⁹² The patentee is bound to protect the patent invention from infringement by third persons. This obligation may be deduced from the licensor's warranty for the undisturbed enjoyment of exploiting the patented technology.⁵⁹³ Licensees may also avoid this case by stipulating in the licence agreement that the licensee will be entitled to stop paying royalties in a case in which the patent holder does not take action against an infringer of the patent rights.⁵⁹⁴ Also, the licensee may terminate the agreement because the licensor breached his obligation to protect the licensed technology from infringement.

⁵⁸⁸ *The Patent Act 1977* (UK) c37 s 67 (1).

⁵⁸⁹ See *French Intellectual Property Code No 2006-236 of 2006* art L615-2.

⁵⁹⁰ See *Libyan Civil Code 1959* art 571 (1) by way of analogy to the patent license. It provides that 'if a third party claims to have rights incompatible with those derived by the lessee from the agreement of lease, the lessee shall forthwith give notice to the lessor of such a claim and shall be entitled to demand that he be dismissed from the case, in which event the proceeding will be taken solely against the lessor'.

⁵⁹¹ *Libyan Civil and Commercial Procedure Code 1953* art 140-145.

⁵⁹² Vahrenwald, above n 25, 89.

⁵⁹³ See above section 4.2.2.2 the warranty in the case of disturbing the enjoyment of the licensed invention.

⁵⁹⁴ Vahrenwald, above n 25, 89 and see WIPO, (2005), above n 9, 65.

4.7.The termination of the patent licence relationship

4.7.1. Reason for terminating a patent licence

4.7.1.1.Terminating a patent license at the end of its life

Time is an important element in a patent licence and often there is a clause in the agreement which determines the starting date and ending date, or links to the duration of the patent protection. For example, contracting parties may agree that the duration of the licence agreement is to be ten years or until the last of the licensed patent rights expire.⁵⁹⁵ In all cases, the duration of a licence agreement is not exceed the period of patent protection because there is no advantage to pay royalties for exploiting an invention that is not protected and at the same time is available for free.⁵⁹⁶

4.7.1.2.Rescission and nullification of the licence agreement

In the case of a breach of the contract, according to article 159 of the Libyan *Civil Code*, a party may ‘after serving a formal summons on the debtor, demand the performance of the contract or its rescission’.⁵⁹⁷ In other words, the rescission of a contract means a declaration by the court on a demand by the licensor or licensee, in the case of the breach of a contractual obligation of a party to the agreement.⁵⁹⁸ The rescission of the licence agreement may occur, for example, in the case of failure to make payments when due, bankruptcy or insolvency. Also, the licensor may seek to terminate the agreement if the licensee licenses a patent with a clause in the agreement that prevents the sublicense.⁵⁹⁹ However, in the case of an exclusive license, the licensor may have the right to terminate the licence agreement or to convert the licence from exclusive to non-exclusive if the licensee fails to make a minimum payment.⁶⁰⁰

However, the grounds for nullifying the licence agreement may be founded in the general law of the contract, ‘such as lack of the object or of cause that is to say a fault in the formation of the agreement’.⁶⁰¹ If the subject matter is invalid, the contract will be considered invalid because it has neither the subject matter nor a cause. The most common example for the annulment of a patent licence is the declaration of invalidity

⁵⁹⁵ WIPO, (2005), above n 9, 79.

⁵⁹⁶ Al Beshtawi, above n 309, 90.

⁵⁹⁷ Libyan *Civil Code 1959* art 159.

⁵⁹⁸ Al-Badawi, above n 419, 219-226.

⁵⁹⁹ Ibid 91.

⁶⁰⁰ Huber, above n 284, 102.

⁶⁰¹ Vahrenwald, above n 25, 132.

of the patent. Sometimes, a patent right, although approved, is not valid,⁶⁰² for example, if the invention claimed is not novel and non-obvious.⁶⁰³ Under Libyan law, nullifying a patent right recognises the invalidity of the licence agreement because the subject-matter of the licence agreement, namely the invention protected by a patent, is a fundamental pillar in the agreement.⁶⁰⁴

4.7.1.3.Cancellation of the patent licence

During the exploitation of patent rights, a licensee or licensee may cancel the agreement by giving written notice within an agreed period.⁶⁰⁵ Sometimes, the patent licence is cancelled because there are unforeseen circumstances that make the implementation of the licence agreement impossible. In this regard, the agreement will be revoked without any notice or excuses because the obligations of the parties have elapsed due to the impossibility of implementation and there is no option to creditor between the enforcement and termination the patent licence.⁶⁰⁶ The legal justification of this statement is in article 161 of Libyan Civil Law, provides that ‘when an obligation arising out a bi-lateral contract is extinguished by reason of impossibility of performance correlative obligations are also extinguished and the contract is rescinded ipso facto.’⁶⁰⁷ An example of unforeseen circumstance may be found in article 30 of Libyan *Patent Law*, in the case of granting a compulsory license to government due to reasons related to public interest or national defence.⁶⁰⁸ Thus, a compulsory license may be granted in Libya even if the patentee has licensed the patented invention.

4.7.2. The impact of terminating a patent licence

Generally, if the contract is terminated, the existing relationship between parties will also elapse. However, in view of the nature of a patent licence that requires the trust and cooperation between parties, there are a number of effects resulting from the termination of such contract. For example, the termination does not release the licensee from his obligation to keep the know-how and technical information

⁶⁰² Australian *Patent Act* (Cth) s 20(1).

⁶⁰³ Swinson, above n 14.

⁶⁰⁴ Libyan *Civil Code 1959* arts 138-144.

⁶⁰⁵ Epstein and Politano, above n 73, 25.

⁶⁰⁶ Al Beshtawi, above n 309, 93-94.

⁶⁰⁷ Libyan *Civil Code 1959* art 161.

⁶⁰⁸ Libyan *Patent Law No 8 of 1959* art 30.

confidential, especially if the original patent right has not expired.⁶⁰⁹ The licensee also must return to the licensor all the elements of agreement, such as licensed patent, and all confidential information and material that the licensee used to exploit the patent, as well as pay the licensor all amounts due. If the agreement included the use of a trademark,⁶¹⁰ the licensee is bound to stop exploiting the trademark and stop representing itself as the distributor of the licensor in addition to ceasing use and distribution of products and software associated with the licence except the ones ordered by customers before the agreement was terminated.⁶¹¹

It may be pertinent to ask here, whether the licensee is entitled to use the goods that he had produced during the period of the contractual relationship if the licence agreement has terminated but the patent rights are still in force. The license agreement usually provides a statement ruling on the disposition of licensed products upon termination, which sometimes allows the licensee to market and sell the products for a period of time.⁶¹² If the agreement did not specify how licenced stock should be disposed of, the licensee must market such goods during the period of time calculated based on the rate of sales that were achieved during the duration of the contract.⁶¹³ Although this ruling is debatable; some authorities argue that, in principle, the licensee should return the licensed products because the patent right in the question is not exhausted, 'since the licensee has not put the articles on the market during the subsistence of the licence'.⁶¹⁴ Thus, it seems preferable for the parties to expressly regulate, whether and to which terms the licensee should market the goods built up during the period of the license after the termination of the agreement.

The termination of a license agreement should not affect a sub-license agreement as long as the licensee had the right to sub-license in original agreement and the sublicense agreement does not exceed the scope of the license agreement. Thus, 'any sublicense not then in default shall continue in full force and effect except that the licensor shall be substituted in place of the sub-licensor'.⁶¹⁵ The duties and obligations

⁶⁰⁹ See above section 4.3.2. Licensee's obligation to exploit the patented invention and maintain confidentiality of the technical information.

⁶¹⁰ Epstein and Politano, above n 72, 27.

⁶¹¹ Calvert, above n 117, 167.

⁶¹² Al Beshtawi, above n 309, 93.

⁶¹³ Doaa Tariq Bakr Bishtawi, *The Franchise Contract and its Consequences* (LLM Thesis, the University of An-Najah, 2008) 119.

⁶¹⁴ Vahrenwald, above n 25, 134.

⁶¹⁵ Horwitz, above n 428, 25.

of the licensor comprised in the sub-license agreement should not exceed those of the license agreement.⁶¹⁶

In Libyan law, the invalidity and revocation of a contract generally has a retroactive effect and the parties to contract are 'reinstated to their former position'.⁶¹⁷ This means that the contract is considered to be non-existent not only for the future but also for the past, as if it never existed; the legal status of the parties return to that existing before the contract was agreed. If reinstatement of the contact is impossible, the court may award damages.⁶¹⁸

However, 'duration contracts', such as lease contracts and labour contracts, do not have a retroactive effect because what has been implemented before rescission or annulment cannot be returned;⁶¹⁹ for example, return of benefits using a leased home or hired car for the period prior to the annulment cannot be returned.

The question arises whether patent license agreements have a retrospective effect in cases of invalidity or rescission, and whether the licensor should return the royalties to the licensee. In principal, it seems not, because the patent licence agreement is a type of 'duration contracts' and time is an important factor in exploiting the patentable invention, which impossible to be return.⁶²⁰ In fact, if the licensee draws an advantage from the exploitation of the licensed technology before annulment or rescission, royalties will have been paid and, of course, will not have to be paid back. However, if the licensee did not benefit from the patent licence agreement, the licensor (and according to the principle of good faith and fair dealing) will have to pay back the royalties.

4.8.Summary

Patent licences have effects not only during the process of exploitation of the patented invention, but also after termination of the patent license agreement. While exploiting the licensed technology, for example, the licensor must provide technical assistance that may help licensee to better exploit the patent rights and the licensor should warrant the capacity of the licensee to benefit from exploiting the patent rights

⁶¹⁶ Ibid.

⁶¹⁷ *Libyan Civil Code 1959* arts 142 (1) and 162.

⁶¹⁸ Ibid art 162.

⁶¹⁹ Al-Badawi, above n 419, 168.

⁶²⁰ Al Beshtawi, above n 309, 92.

without interference. The licensee, however must pay for the use of the patent rights, whether by through a lump sum, with royalties or another patentable technology. For the purposes of patent rights, licensees also have to exploit the licensed technology to avoid the licence becoming a compulsory license and to benefit society. In addition, the licensee is bound to keep confidential the know-how and any technical information during the patent licence period and after its terminating, especially if the patent rights have not expired. Both parties should inform each other of improvement to the original patented invention.

Almost of these rights and obligations may be a subject of future disputes between parties. Therefore, it is necessary to carefully draft the terms and conditions of license agreement to include all possible contingencies. If such disputes occur in Libya, with its lack of a legal framework regarding contracts of technology transfer, judges would struggle to find the legal norms to support their decisions because of the uniqueness of the nature of patent licenses; sometimes it is difficult to apply the general rules of the *Civil Code*. The Libyan approach to the transfer of technology could benefit from the provisions of technology transfer in Egyptian *Trade Law*.

Chapter 5: Conclusion

5.1.Introduction

This study examining the different aspects of exploiting patented technology shows that the patent licence is a technology transfer contract, based on the transfer of technology from one entity to another through licensing so as to exploit patent rights. This licence is an innominate contractual type under Libyan law, which means that it does not have special rules set in the civil or commercial codes. This study also addressed the types of patent licences and describes the attributes and characteristics of each one. The subject matter has been discussed by reviewing various doctrinal perspectives and concluded that the subject matter of a patent licence agreement is a patented invention that meets the legal requirements. The formal and substantive requirements that must be met to obtain a patent have been clarified in this study. Overall this thesis sets out to describe the nature and operations of the patent licence as means of technology transfer. Also, it explains the legal framework of preparing and implementing a patent licence under Libyan law by examining the rights and obligations of the parties to the patent licence.

5.2.Summary of the observations made in the thesis

The role of patents in technological progress and economic development through licensing is well recognised. At present, the debate is on whether a strong or weak patent protection system helps to stimulate invention activity, promote technology transfer and foreign direct investment. Despite the theoretical debate on the role of patents and patent licenses and their effect on transferring technology, it is hard to arrive at a definitive conclusion on whether strong patent systems positively or negatively affect technology transfer and investment. This is because there is no comprehensive data or a case study that reveals the improvement or lack of improvement in the flow of technology and investment to a developing nation by comparing the situation of the country before and after adapting or reforming their patent system to fit with international patent system standards. This would make an excellent research project post-reformation of the Libyan system.

Patent protection in Libya can be obtained by filing an application submitted to the Libyan Patent and Trademark Office. To successfully obtain a patent, the subject matter must satisfy the requirement of novelty and non-obviousness, and must be

capable of industrial application (useful) and not be excluded from patentability. Fulfilling these requirements and the grant of a patent right by the Patent and Trademark Office, gives the patentee an exclusive right to use, manufacture, license, and sell an invention in the country for a period of time. Since Libyan universities are underfunded, there are a limited number of patents granted by the Libyan Patent Office.

Licensing agreements must contain the general conditions of contract (consent between parties, object and cause). In Libya, the legal nature of a patent licence is usually compared to a lease contract. This study concluded that, despite the suggested similarity between a patent licence and a lease contract, a patent licencing agreement has its own legal nature, and it is subject to the provisions of contract law, to the provisions for technology transfer and to the rules relating to intellectual property rights. Generally, Libyan law does not impose particular requirements to the form of drafting a patent licence agreement, but recommends a written agreement, which specifies the obligations of the parties and helps to avoid future disputes. In Egypt, contracts of technology transfer must be in writing, otherwise the contract is invalid.

The difference in the approaches of Libya and that of common law jurisdictions is obvious in the construction of the terms of a contract. For instance, in the absence of contractual terms, Libyan judges refer to the mandatory and non-mandatory terms in the general provisions of the Libyan *Civil Code*, and sale and lease contracts analogous to the patent licence; judges in common law jurisdictions are not easily inclined to construe the contractual terms by the implication of terms or conditions, since the legal operation of the implication of terms is more limited in application.

The patent licence creates offsetting obligations between parties. The patentee is expected to take all necessary actions to convey the patented technology and allow the licensee to manufacture the licensed technology. The licensee, on the other hand, is expected to pay royalties and exploit the licensed technology. However, the required terms in a patent licence agreement differs between legal systems. For instance, in the case of the obligation to deliver the patented technology, the Libyan and French legal doctrines assume that the requirement to pass on technical assistance and technological improvements is implicit. This is based on the principle of implementing a contract in good faith and the statutory definition of the term

‘delivery’ in the civil codes. In common law, in the absence of an express stipulation, the licensor is not bound to communicate information beyond the documentation relating to the patented technology. Also, the implied obligation of warranty is complex in Libya because licence agreements are considered analogous to sale or lease contracts. Breach of these obligations may lead to termination of the patent licence agreement and the rescission of patent licence does not have retroactive effect. However, the impact of terminating a patent licence is different to termination of other types of contracts because the licensee sometimes is obliged to maintain confidential information even after terminating the patent licence agreement.

5.3.Recommendations and alternative approach

Developing countries should not overlook what is most important: the goal of encouraging the transfer of appropriate technology; or supporting the local capacity to develop available technology, and hence export such developments. In this regard, Libya needs to search for new contractual mechanisms, or adopt a more flexible legal framework to regulate technology transfer. Current laws are not able to support technological development, and reduce the gap between developed and developing countries. In the short term, adapting the Egyptian approach concerning technology transfer is appropriate for Libya. Both Libya and Egypt are civil law countries and, historically, the legal framework of Libya derived from the Egyptian legal approach.

Although adopting the Egyptian provisions relating to technology transfer would be an improvement for Libya, the Egyptian provisions will inadequately deal with all matters regarding a patent licence agreement. For example, the Egyptian approach does not regulate issues of transferability of rights, and obligations and grant of sub-licences.

A number of recommendations are pertinent to take into account special requirements of patent licence agreements. These should be taken into account by Libyan legislator in the process of improving the Libyan patent system to make it more comprehensive and more effective.

1. Firstly, transferring technology should not be seen solely as reaping the effects of the integration of the technology into the national economy but should enable access to the technological expertise behind the technology;

2. The reason behind technology transfer is to build and support technological capacity, and not only to facilitate the flow of better technology at lower prices;
3. Work on self-development of technological capabilities through the selection of appropriate technology, and work on adaptation and development so as to achieve technological independence;
4. Lack of local expertise and knowledge is an issue facing technology transfer. This is due to the fact that people in developing countries are unable to absorb transferred technology, making the licensing agreement insufficient to achieve the economic goals of the developing country. So, it is important to add conditions to an agreement to ensure that there is also a transfer technical assistance, such as the training of local staff in the management and utilisation of the licensed technology.
5. In Libya, the patent system needs to be accompanied by comprehensive policies that stimulate technical changes and dynamic competition. Significant among such initiatives are programs to improve human capital and technical skills, ensure flexible factor markets, and liberalise restrictions on international trade and investment.

To achieve these recommendations, developing countries, including Libya, must support and encourage scientific research and development both nationally and internationally. Also, such countries should take advantage of what is available. For example, opening the door for competition between corporations that export technology to markets in order to reach the best terms and lowest price can also take advantage of resources to strengthen the ability to negotiate. The author hopes that the new government will take into account these recommendations and work to improve the intellectual property law as whole, and better regulate technology transfer and licensing.

5.4.Future research

This thesis is the first study of its kind to explain the current Libyan legal framework in the field of patent license and technology transfer. However, this study generally relied upon analysing legal doctrine without comprehensively reviewing Libyan court decisions. This is because Libyan courts have not adjudicated on these kinds of contract and the Libyan Patent and Trademark Office (LPTO) has inadequate facilities to collect data. Possible suggestions for further research evolving this thesis include a

compilation of case studies and data regarding the role of patent licences in technology transfer in Libya, especially if the Libya government takes further steps to be a part of the international patent protection system. New decisions of Libyan courts concerning patent licences and enacting technology transfer provisions are necessary for further studies. In addition, future research can also look at the Libyan approach on the compulsory patent licences. Generally, much work needs to be done in the areas of intellectual property rights in Libya.

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ANNEXES

A. Sample of Patent Licence Agreement

Please see an example of Patent License Agreement, in The University of Texas System at <www.utsystem.edu/ogc/IntellectualProperty/stdagmts/Patent%20License%20Agreement.DOCX> access 14 August 2013.

B. Model of Voluntary Patent License Provisions

See Arnold Vahrenwald, *Patent Licence Contracts in English, French and Italian Law* (PHD Thesis, The University of Saarbrücken, 1995) 240-245.

C. Model of Technology Transfer Provisions⁶²¹

Article: 1

1. The provisions of this Chapter shall apply to each contract for transfer of technology to be used in Libya, whether such transfer is international, lying across the regional borders of Libya, or inland. No criterion in both cases shall be observed as regards the nationality of the parties to the agreement or their places of residence.
2. The provisions of this chapter shall apply to each agreement on transfer of technology to be concluded by virtue of a separate contract or within another contract.

Article: 2

The transfer of technology contract is an agreement in which the (supplier of technology) undertakes to transfer, against payment, technical know — how to the (importer of technology) to use it in a special technical way, for the production or development of a specific commodity, the installation or operation of machines or equipment, or for the provision of services. The mere sale, purchase, lease, or rental of commodities or trademarks shall not be considered a transfer of technology, unless this is set forth as part of, or is connected with the transfer- of - technology contract.

Article: 3

1. The Technology Transfer Contract shall be concluded in writing; otherwise it shall be null and invalid.
2. The Contract shall comprise a statement of knowledge elements and ancillaries to be transferred to the importer of the technology. Mentioning this statement may be accompanied with the feasibility studies, instructions, designs, engineering drawings, charts, pictures, computer software and other know — how defining documents, in appendices to be attached to and to be an inseparable part of the contract.

Article: 4

Any condition prescribed in the Technology Transfer Contract, which is liable to restrict the freedom of the importer in using, developing, acquainting with or announcing about the production, may be invalidated. This shall in particular apply to the conditions binding the importer with one of the following requirements:

- a. Accepting the improvements introduced by the importer to the technology, and paying their value.
- b. Prohibiting the introduction of improvements or modifications to the technology to suit the local conditions or the conditions of the importer's establishment. Also, prohibiting the acquisition of another technology similar to or competing with the technology subject of the contract.

⁶²¹ These provisions are adopted from *Egyptian Trade Law No 17 of 1999* Chapter-1 "Transfer of Technology" article 72- 87.

- c. Using specific trademarks to distinguish the commodities for which the technology was used in their production.
- d. Limiting the volume of production, its price, the method of its distribution or its export.
- e. Participation of the supplier in running the establishment of the importer, or his interference in choosing the permanent workers in it.
- f. Purchase of the raw materials, equipment, machines, apparatuses, or spare parts for operating the technology, from the supplier alone, or from the establishments exclusively specified by the supplier.
- g. Restricting the sale of the production, or the delegation for its sale, exclusively to the supplier or the persons defined thereby.

The forgoing shall apply unless any of these conditions is prescribed in the technology transfer contract, with aim of protecting the consumer of the product, or safeguarding a serious and legal interest of the technology supplier.

Article 5:

The supplier of technology shall disclose the following to the importer, in the contract, or during the negotiations preceding its conclusion:

- a. The risks that might occur from using the technology and in particular those connected with the environment, public health, or the safety of lives or property and funds. He shall demonstrate to him the methods he knows to avoid these risks.
- b. Judiciary actions and other obstruction that might impede the use of technology-related rights, particularly those connected with letters patent.
- c. Provisions of the local law concerning the authorization for the export of technology

Article 6:

1. The supplier shall submit to the importer the information, data, and other technical documents as required for assimilation of technology, and also the necessary technical services to be requested by the importer for the operation of the technology, particularly expertise and training.
2. The supplier shall inform the importer of the improvements he might introduce to the technology during the validity period of the contract, and shall transfer these improvements to the importer if the latter requests him to do so.

Article 7:

The supplier, during the validity of the contract, shall provide the importer, upon the latter's request, the spare parts he produces which are required for the machines or equipment used in operating his establishment. If the supplier does not produce these parts in his own factory, he shall advise the importer of the sources where they are available.

Article 8:

The importer, in operating the technology, shall employ workers with a measure of technical skill, and have recourse to technical experts whenever necessary, providing the selection of these workers or experts shall be among Libyan residing in Libya or living abroad, whenever this is possible.

Article 9:

The importer shall inform the supplier of the provisions of national legislations connected with the import of technology.

Article 10:

The importer shall not assign the technology he has obtained to a third party, except with the approval of the supplier.

Article 11:

1. The importer shall pay the charges for the technology and the improvements introduced to it, at all the times and places as agreed.
2. The charges may be a total amount payable altogether or in several instalments. They may also be a share in the capital invested in operating the technology or a portion of the yield of this operation. The charges may as well be in the form of a certain quantity of the commodity in which the technology is used for its production, or a primary material the importer produces and undertakes to export to the supplier.

Article 12:

1. The importer shall maintain the confidentiality and secrecy of the technology he obtains and of the improvements introduced to it. He shall be accountable for the damage occurring from divulging this secrecy whether it takes place in the stage of negotiating contract negotiations or later after.
2. The supplier shall maintain the secrecy of the improvements introduced by the importer and transferred thereby to the supplier by virtue of a condition prescribed in the contract. The supplier shall be liable for compensating the harm caused from divulging this secrecy.

Article 13:

Agreement may be reached that the importer of technology shall alone have the right of using it and trading in the production providing this right shall be limited to a specified geographical area, and to determined period of time to be agreed upon by *the* two parties.

Article 14:

1. The supplier shall guarantee the conformity of the technology and the documents attached to it, to the Conditions prescribed in the contract, he shall *also* guarantee the production of the commodity, or he performance of the services agreed upon

according to the specifications prescribed in the contract, unless otherwise agreed upon in writing

2. Each of the supplier and the importer shall separately and not jointly be liable for the harm caused to the persons, funds, and property from using the technology or the commodity produced by applying that technology.

Article 15:

Either party to the technology transfer contract may, after the lapse of five years from the date of its conclusion, request its termination or the reconsideration of its terms by amending them to suit the general existing economic conditions. Submitting this request may be repeated whenever five years have elapsed unless another period is agreed upon.

Article 16:

1. The Libyan courts shall have the jurisdiction of deciding disputes arising from the technology transfer contract referred to in article 72 of this law. Agreement may be reached on settling the dispute amicably or via arbitration to be held in Libya according to the provisions of the Libyan law.
2. In all cases, deciding the subject of dispute shall be according to the provisions of the Libyan law, and all agreement to the contract otherwise shall be null and invalid.