

PROTECTING INTELLECTUAL WORKS OF PUBLIC UNIVERSITIES THROUGH PATENT AND COPYRIGHT; IS IT A BETTER APPROACH FOR ACCESS TO KNOWLEDGE?

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PROTECTING INTELLECTUAL WORKS OF PUBLIC UNIVERSITIES THROUGH
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Nurul Barizah*

ABSTRACT¹

This paper discusses the current trend of some developing countries' public universities in their effort to achieve internationally recognised standard by increasing the number of published and patented works. Such intellectual works then protected under intellectual property (IP) regimes, particularly copyright and patent. This paper focuses on whether the protection of such intellectual works resulted from public universities are inline with the philosophical foundation of IP protection, including copyright and patent and in accordance with the main mission of public university. It includes the history of protecting academic works under IP regimes in the developed nations and the current state of development of such protection. It analyses the potential problems raise of such protection from the perspective of access to knowledge, innovation dan research material, as well as public goods. Lastly, This paper also analyses whether protecting of such accademic works is a better approach for accomodating the University's interest in the publication and patent, as well as access to knowledge.

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²³ ¹ This paper presented at the Association of Southeast Asian Institutions of Higher Learning (ASAIHL) 2013 International Conference, conducted at Universitas Airlangga, Surabaya, 30 April- 3 Mei 2013.

“A university should be a place of light, of liberty, and of learning”.

Benyamin Disraeli,
Address to the House of Common, 1873²

1. Introduction

The protection of academic works under intellectual property (IP) regime, particularly by a number of universities in developed countries is not a new emerging issues in the area of intellectual property rights (IPR). However, this issue is still has its relevance as subject of discussion up to now due to an increasing trend of a number of developing countries to develop an IP law and policy for academic works in accordance with those that have been implemented in developed countries, like in the United States. There is a growing concern among the scholars that protecting IPR of academic works to some extent does not easily meet with the foundation of such protection, as well as mission of university. In the area of copyright for example, some argue that copyright of academic works should be eliminated³ in the light of access to knowledge and other societal benefits. While in the area of patent, some also argue that patenting of reasearch materials and tools may inhibit further innovation.⁴ The following sections discuss those issues.

2 Philosophical Foundation and Justification of IP Protection, Particularly Patent and Copyright

In the area of copyright, there is two arguments for justifying protection of copy right. The first is the utilitarian-based teories which emphasis on ways of promoting the creation and dissemination of new cultural and artistic objects. The Second is natural right teories, with

² As quited in John Barlett, Familiar Quotation 502(Emily Morison Beck ed., 15th ed. 1980) inTraci Dreher Quigley, “Commercialization of the State University; Why the Intellectual Property Protection Restoration Act of 2003 is Necessary”, (2004) *152 U. Pa. L. Rev.* 2001-2031.

³ Steven Shavell, “Should Copyright of Academic Workd be Abolished?” (2010) *2 Journal of Legal Analysis* 301-358.

⁴ See in general in Michele Boldrin and David K. Levine, *Against Intellectual Monopoly*, Cambridge University Press, New York, 2008.

a belief that copyright ought to exist because it is proper and correct to do it, without consider regulatory techniques to promote social, cultural and economic goals.⁵

One of the most common utilitarian justification for the protection of copyright is usually referred to an incentive theory. Under this theory, copyright is provided as an incentive for third parties to invest in the creation, production, and dissemination of copyright works that benefit society. This incentive-based argument is based on the fact that the production of copyright works, like books, software, CDs or films are usually very expensive. One way to return the initial investment is to charge very high prices for the initial for a limited number of copies of a particular work. However, this model also has a weaknesses because once objects such as books and films are placed on the market, they can easily be copied. If these works were not protected by copyrights, competitors and consumers could wait until the products was placed on the market where they would reproduce the work without having pay the cost of production.

While the natural rights argument states that copyright is a right to recognise a property right in intellectual production because such production come out from the mind of individual author. This argument rejects the idea that copyright is granted for the greater public good, as described by under the landmark decision of *Millar v Taylor*, where it was said that “it is not agreeable to the natural justice that a stranger should reap the pecuniary produce of another’s work”.⁶ At the international level, this natural right theory enshrined at the Universal Declaration of Human Rights, which states that “everyone has the right to protection of the moral and material interests resulting from scientific, literary or artistic production of which (she) or he is the author.”⁷

While in the area of Patents, together with other forms of IPR, are regarded as the main vehicle for economic progress,⁸ and as a result many countries have been attracted to

⁵ Mark J. Davison, Ann L. Monatti, and Leanne Wiseman, *Australian Intellectual Property Law*, (Cambridge, University Press, 2008) 187.

⁶ Ibid.

⁷ Article 27 (2).

⁸ According to Carvalho, social welfare and economic growth depend, in part, on technological innovation, which not only facilitates a more efficient utilisation of scarcely available resources, but also provides access to

introduce a patent system.⁹ The outstanding IP academics, William Cornish and David Llewelyn, state that a patent provides ‘two kind of impetus towards the technical efficiency, and hence the growing wealth, of the community as a whole’.¹⁰ They further state that it can provide information related to invention for the industry and public,¹¹ and through this information a patent encourages inventions and the subsequent innovative works and then will put those inventions to practical use.¹²

Similarly, Australian prominent academics, Jill McKeough, Kathy Bowrey and Philip Griffith highlight the potential benefit of a patent as summarised from the Second Reading Speech on the Patents Amendment Bill 1981 of Australia. It states ⁴¹that:

The main purpose of a patent system is to stimulate industrial invention and innovation by granting limited monopoly rights to inventors and by increasing public availability of information on new technology. Patent procedures must achieve a balance among competing interest while remaining administratively workable.¹³

In the USA, the Constitution had justified the enactment of patent legislation ⁴⁰‘to promote the progress of science and useful arts.’¹⁴ According to Eisenberg, the Court emphasized on the two mechanisms in analysing how patents promote scientific progress.¹⁵ Firstly, ⁹patent monopoly provides an incentive to invest in research to make new inventions. And

²²new resources. See in Nuno Pires de Carvalho, *The TRIPs Regime of Patent Rights* (2nd ed, Kluwer Law International, the Hague 2005)1.

⁹ See generally in William Cornish and David Llewelyn, *Intellectual Property; Patent, Copyrights, Trade Marks and Allied Rights* (6th ed, Sweet & Maxwell, London, 2007) 120.

¹⁰ *Ibid* 134.

¹¹ *Ibid*.

¹² *Ibid*.

¹³Jill McKeough, Kathy Bowrey and Philip Griffith, *Intellectual Property; Commentary and Materials* (4th ed, Lawbook Co, Pyrmont, NSW, 2007) 313. Furthermore, they states that:

The essence of the patent system is to encourage entrepreneurs to develop and commercialise new technology...Since a patent confers a limited monopoly over the use of the patented technology, the patent owner has the opportunity to make a profit from it, gaining a return on investment in innovation. The international character of the patent system makes a patent a useful tool in penetrating export markets.

¹⁴ The US Constitution, Art I, § 8, cl 8.

¹⁵ Rebecca S. Eisenberg, ‘Patent and the Progress of Science; Exclusive Rights and Experimental Use’ in David Vaver III (ed), *Intellectual Property Rights; Critical Concepts in Law* (Routledge, London, 2006) 84-144, 87.

secondly, a patent system promotes disclosure of new inventions and thereby broadens the public storehouse of knowledge.¹⁶

Societal benefits are the fundamental premise of the patent system.¹⁷ Roger Blair and Thomas Cotter argue that:

The society benefits when people conceive of new inventions; develop and commercialise new products incorporating those inventions (a process referred to as innovation, as distinct from invention); and publicly disclose information about their invention, so the others may learn from and improve upon those inventions.¹⁸

Similarly, Graham Dutfield recognises that the existence of IPR is primarily to benefit society,¹⁹ as IPR especially patents - are means for economic advancement that should contribute to the enrichment of society.²⁰ However, this social benefit of patents can only be achieved if the claimed invention is fully disclosed to the public during the registration processes.

Despite those benefits, initially, the patent system also embodies principles of equity. Cornish and Llewelyn state that at various periods, patents have played a role as instruments of justice to the inventor.²¹ They maintain that the 'social contract'²² between the patentee and the inventor to disclose an invention to the public and in return to the exclusive monopoly granted to the inventor in the limited period of time, which exhibits a

¹⁶ *Ibid.*

¹⁷ Roger D. Blair and Thomas F. Cotter, *Intellectual Property Economic and Legal Dimensions of Rights and Remedies* (Cambridge University Press, Cambridge, New York, 2005) 13.

¹⁸ *Ibid.*

¹⁹ Graham Dutfield, *Intellectual Property Rights and the Life Science Industries, A Twentieth Century History* (Ashgate, England and USA, 2003) 27.

²⁰ *Ibid.*, as Dutfield states that :

This societal enrichment is provided by patent through the widest possibility availability of new and useful goods, services and technical information that derive from inventive activity, and the highest possible level of economic activity based on production, circulation and further development of such goods, services and information.

²¹ William Cornish and David Llewelyn, above n 9, 132.

²² Meir Perez Pugatch (ed), *The Intellectual Property Debate; Perspective from Law, Economics and Political Economy* (Cheltenham, UK; Northampton, MA; Edward Elgar, 2006) 4.

principle of equity.²³ This social contract lies in the administration process for granting patents.²⁴ The adoption of the social contract theory into the patent system was conducted by French economists like De-Bouffler and Louis Wolowski.²⁵ In essence they argue that:

The patent system constitutes a genuine contract between society and the inventor. If society grants him a temporary guaranty, he discloses the secret which he could have guarded; quid pro quo, this is the very principle of equity.²⁶

3. Mission of Public University and the Move toward “Enterprise University”

According to Burton A. Weisbrod (et.al), the term of “mission” is commonly used for a higher education in which its meaning is simply assumed.²⁷ Weisbord also states that the concept and the mission in higher education have been written extensively by historians and philosophers of education.²⁸ The majority of higher education’s mission whether in the developed or developing nations is to reach three social missions, that are: teaching, research and public service. These missions also embraced by the American higher education today²⁹ as well by the majority of developing countries’ universities.

Teaching undergraduates has been traditionally and continues to be, a primary goal of most universities, even research universities. This research universities have the potential to contribute the achievement of a second element of the social mission of higher education, through performing basic research. This advances knowledge which is traditionally disseminated via publications for others to build upon, currently transferred

²³ William Cornish and David Llewelyn, above n 9, 132.

²⁴ Mark J. Davison, Ann L. Monotti, and Leanne Wiseman, *Australian Intellectual Property Law* (Cambridge University Press, Melbourne, 2008) 10, states that:

The registration process is meant to produce a social contract between the patentee and society by ensuring the full disclosure of the invention in return for which the patentee receive exclusive property rights in respect of their patent for a limited period of time. Upon the expiration patent, the invention becomes available for all to use and exploit for free.

²⁵ Meir Perez Pugath (ed), above n 22, 4.

²⁶ *Ibid.*

²⁷ Weisbrod, Burton A, Jeffrey P. Ballou, Evelyn D. Asch, *Mission and Money; Understanding the University*, (Cambridge University Press, New York, 2008) 2.

²⁸ See for example, Scott, John D, “The Mission of the University; Medieveal to Post Modern Transformation,” (2006) *Journal of Higher Education*, 77 (1);1-39.

²⁹ Weisbrod, above n. 27.

through patent, known as “technology transfer” and licensing it to private firms which has capacity to convert the knowledge into practice for the benefit of human life.

A special important to state-owned universities is a third social goal, that is public service. According to Weisbrod (et.al), it includes educating students not merely to increase their earning power but to be more successful contributors to society as citizens, and it includes recognizing a responsibility for bringing benefits to the larger community.³⁰

However, during the last two decades, some universities in developed countries, followed by some of them in developing countries, including Indonesia have been moved to be as “Enterprise University”. This new institutional type constitute a new phrase in the history of university. Marginson and Considine prefer to use the term “Enterprise University” rather than “academic capitalism”, “entrepreneurial university”, or “corporate univeristy” although all those other terms have the same in characters, that is “one dimentional institution solely dominated by profit-seeking, an organisational culture totally reduced to the business form”.³¹

Furthermore Marginson and Considine argue that ‘enterprise’ capture both economic and academic dimensions and the manner in which research and scholarship survive but are now subjected to new competition and demonstrable performance. In addition to this, they argue:

Enterprice is as much as about generating institutional prestige as about income. In the Enterprise University, the economic and academic dimensions are both subordinated to something else. Money is a key objective, but it is also the means to a more fundamental mission: to advance the prestige and competitiveness of the university as an end in itself. At the same time, academic identities, in their variations, are subordinated to the mission, marketing and strategic development of the institution and its leaders.³²

³⁰ *Ibid*, 3.

³¹ Simon Marginson and Mark Considine, *The Enterprise University; Power, Governance and Reivention in Australia*, (Cambridge University Press, Cambridge, UK, 2000) 4-5.

³² *Ibid*, 5.

One of the important character of enterprise university is establishment of IP and Transfer Technology Offices. These Offices expanded to develop patents and licence them for commercial purpose, and the universities are confronted by the question on how manage the resulting patents. Like businesses, the universities would like to bring as much profit as possible to advance their mission. However, in practice, the tension with the mission often disharmony as making knowledge available to all collides with the search for revenue from patents which usually require restrictive licensing and allowing the licensee to set the price of the product freely to control market.

There are some examples of that, the University of Minessota rejected student pressures to use its patent control on an anti-AIDS drug to have the licensee reduce its retail price in Africa.³³ Similarly, Harvard University rejected pressure to divest its investments in mutual funds and held securities in companies not upholding certain preffered labour standarts in factories in Asia.³⁴

Similar to patent, in the area of copyright, the cost of expensive copyright-protected materials and computer software, the barriers in gaining access to texts and other teaching materials (via in internet or in the traditional hard copy format) also become subjects of concern of many scholars.³⁵ Since the universities and its academics tend to protect their intellectual works through copyright, there have been a question about access to knowledge.³⁶ This question has already become a big issue since 1960s before the conclusion of the Berne Convention, in which developing countries acquire rights to translate books and materials in to their own national languages and to acquire lincences and reprint rights to publish books that were originally published elsewhere, or not distributed in Asia or Africa. Gaining consessions of both demands would not only assist transfer of knowledge, but in practice, make such materials much more accessible to

³³ Weisbrod, Burton A, Jeffrey P. Ballou, Evelyn D. Asch, n. 27, 287-288.

³⁴ *Ibid.*

³⁵ Alan Story, "Don't Ignote Copyright, the "Sleeping Giant" on the TRIPs and International Education Agenda", in Peter Drahos and Ruth Mayne (eds), *Global Intellectual Property Rights; Knowledge, Access and Development*, (Plagrave and Oxfam, New York, 2002) 125-143

³⁶ *Ibid.*

students and teacher. Unfortunately, such concessions can not be concluded even after seven years long campaign to add an appendix to the Bern Convention.³⁷

4. The History of Protecting Academic Works under IP Regimes in the Developed Nations

The history of protecting academic works under IP regimes can not be divorced from the history of patenting publicly funded research in the United States. From 1960s to 1970s there was a very clear institutional boundaries between commercial and non commercial research. However, it did not prevent the movement of valuable information, ideas, and scientists between commercial and non commercial research institution. Non commercial –curiosity driven research focused on fundamental science and filed very few patents. The funding of this research was driven by peer-competition on the basis of scientific merit and reputation of individual researcher.³⁸ This approach is inline with the current state of research policy have been developed in developing countries including Indonesia. The result of fundamental research become part of public domain through scientific scholarship and publications as the social norm promoted sharing of research materials.³⁹ In the United States, the Federal Government also promoted research to researchers at academic and non profit institution for the purpose of dissemination of discoveries and the ownership of the result was the property of the funding agencies. However, due to the differences of the policy on ownership and licensing among a number of government agencies, the commercialization of the government-funded invention was very few. This fact also have also been occur in Indonesia up to now.

In addition to this,⁴⁷ there was no incentive for industry to invest in non commercial research and because of that industry reluctant to commercialise government-owned invention, as the federal government retaining the IPR.⁴⁰ As a result, the Bayh-Dole Act passed by the Congress with the main objective to promote the development of

³⁷ *Ibid*, 137.

³⁸ Rachael A. Ream, "Non Profit Commercialization Under Bayh-Dole and the Academic Anticommons", (2008) 58 *Case Western Reserve Law Review* 1343, 1353.

³⁹ *Ibid*.

⁴⁰ *Ibid*.

commercialisation of the result of academic and non profit research. Under this Act, the universities has a capacity to grant exclusives licences, and it also encouraged to patent the invention from research arising from fedeaally-funded research and development.⁴¹

After the Bayh-Dole Act of 1980 passed, major research universities and research institution created technology transfer offices to promote the patenting of the research result. This offices has a number of function, such as patenting and licensing of invention, building relationship with industry partners and negotiating the exchange of reserach materials and research tools.⁴² Because of that, economist characterised the Bayh-DoleAct as “possibly the most inspired peice of legislation tro be enaceted in America over the past half-century”, and suggested that it “helped to reserve America’s precipitous slide into industrial irrelevance.”⁴³

As a result, a number of patents, licences, and start-up companies coming out from the University Technology-Transfer Offices continues to increase annually. This Act has also provided a strong incentive for university-industry research collaboration to work together in the commercialization of new technologies for the benefit of public and has promoted transfer of technology from universities to industry and, at the end, to public. Consequently, fundamental research is no longer passed directly into the public domain, otherwise, the non commercial research institution often patenting the invention as the Act provides incentive for such patent.⁴⁴

The US approach above in 2000s has been followed by the European academias. As a result, some countries like Denmark, Germany, Austria, and Norway, reformed their laws to provide more and less similar approach to the US Bayh Dole Act, that is to grant ownership to IPR on invention derived from publicly funded research to the employers, and the rest of the European countries are also considering similar reforms.⁴⁵

⁴¹ Nicola Baldini, (2008) 75 (2) *Scientometrics*, 289-311, 289.

⁴² Racheal A. Ream, above n.38, 1355.

⁴³ The Economist, 2002:3, as cited by Nicole Baldini, above n 41, 290.

⁴⁴ Racheal A. Ream, above n. 38, 1359.

⁴⁵ Nicole Baldini, above n. 41, 290.

5. Intellectual Property Rights and Access to Knowledge, Innovation and Research Material

In the context of copyright and access to knowledge, Steven Shavell critically analyses that academic copyright should be eliminated on the basis that free availability of academic work will provide social benefits.⁴⁶ Shavell argues as follows:

If copyright of academic works were ended, social benefit would be enjoyed with works that would still be published but that would otherwise have been copyrighted, and also with some of the works that would be published only because of the absence of copyright. In the absence of copyright, all these articles and books would presumably become instantly available on the internet for individuals to download freely. Also, print copies would often be produced and would sell for approximately production cost, due to competitive pressures.⁴⁷

Accordingly, without copyright, many new academic books would quickly become available as moderately priced hardbacks or as inexpensive paperbacks. Furthermore, teaching materials drawing on published works would become easy for academics to assemble because permissions for use would not have to be secured or royalties paid.⁴⁸

Interestingly, although Shavell argues that eliminating of academic copyrights is one of good solution for public benefits, after examining the effects of eliminating it and the factors determining whether that change would be socially desirable. In addition to this, he states that universities should subsidise the publication fees.

While in the context of patent, after the existence of Bayh-Dole Act, the patenting of fundamental research or 'upstream' inventions has increased, particularly in the area of biotechnology. These upstream inventions include drug development by using genes, proteins, and experimental animal systems, which are very frequently used as tools or building blocks for the future inventions or discoveries. The increased patenting of such

⁴⁶ Steven Shavell, above n. 3, 326.

⁴⁷ *Ibid.*

⁴⁸ *Ibid.*

tools consequently serve to remove them from public domain, where they were freely available to the scientific community.⁴⁹

Because of that, there is growing concern about the likely implication of patents hindering downstream research.⁵⁰ This concern can be seen for example in the case of Myriad Genetic in which advocates have questioned whether the broad coverage that Utah-based Myriad Genetic enjoys on its breast cancer gene patents is slowing down research in curing this disease. This is because Myriad received two patents on diagnostic tests and treatments involving these genes. Myriad then entered into licences with several medical schools, universities, and hospitals, and through this licences those institutions has the rights to research breast cancer and its related issues. However, the scope of these licences is very limited. One of examples is that the licences are confined only to laboratory research and do not extend to clinical settings. According to Jaffe and Lerner, many medical school researchers have been forced to throw away their research program due to the licensing terms and this condition has been happening since the first patent was granted in December 1997.

Michael A. Heller and Rebecca S. Eisenberg also argue that the recent rush in patenting will harm innovation by creating 'anticommons' that threaten innovation by raising the transaction costs of R & D.⁵¹ By using the anticommons theory, Eisenberg argues that 'too many patent rights on 'upstream' discoveries can stifle 'downstream' research and product development by increasing transaction costs and magnifying the risk of bargaining failures'.⁵² Earlier, Eisenberg argues that 'patent rights in some government-sponsored discoveries may actually be undermining, rather than supporting, incentives to develop new products and bring them to market'.⁵³ Furthermore, Eisenberg maintains that:

⁴⁹ Racheal A. Ream, above n 38, 1359.

⁵⁰ See in Adam B. Jaffe and Josh Lerner, *Innovation and its Discontents; How Our Broken Patent System Is Endangering Innovation and Progress and What To Do About It* (Princeton University Press, New Jersey, 2004) 17.

⁵¹ Michael A. Heller and Rebecca Eisenberg, 'Can Patents Deter Innovation? The Anticommons in Biomedical Research' (1998) 280 *Science* 689, 689.

⁵² R.S. Eisenberg, 'Bargaining over the Transfer of Proprietary Research Tools: Is This Market Failing or Emerging?' in R.C. Dreyfuss, (et.al) (eds) *Expanding the Boundaries of Intellectual Property, Innovation Policy for the Knowledge Society* (Oxford University Press, Oxford, England, New York, 2001) 223-250, 226-29.

⁵³ Rebecca S. Eisenberg, 'A Technology Policy Perspective on the NIH Gene Patenting Controversy' (1994) 55 *U. Pitt. L. Rev.* 633, 640.

The patent system aims to promote scientific and technological progress by granting exclusive rights ... But the enforcement of these exclusive rights against subsequent researchers can sometimes interfere with further progress in the field of inventions... That free access to prior discovery by subsequent researchers might be a more effective means of promoting progress... But as the line between basic and applied research becomes blurred in certain fields, patent protection increasingly threatens to encroach on the domain of research science.⁵⁴

To address this problem, Eisenberg suggests formulating carefully the experimental use exceptions from patent infringement liability.⁵⁵

The use of experimentation or research exceptions is permitted under Article 30 of TRIPs. Most countries provide this exception, but, the appropriate scope of this exception has been subject to intense debate among legal scholars. In the US, there is a statutory basis for the 'experimental use exception',⁵⁶ but it has been established based on case law using a very narrow term, only for 'philosophical experiments'.⁵⁷

*Madey v Duke*⁵⁸ reaffirmed the extremely narrow approach proposed by the Court of Appeals for the Federal Circuit.⁵⁹ Madey is a physicist who moved from Stamford University to Duke University. Madey had received two patents on 'free electron lasers'

⁵⁴ Rebecca S. Eisenberg, 'Patent and the Progress of Science; Exclusive Rights and Experimental Use' in David Vaver III (ed), *Intellectual Property Rights; Critical Concepts in Law* (Routledge, London, 2006) 84-144, 121.

⁵⁵ *Ibid.*

⁵⁶ See Also Carlos M. Correa, 'Access to Plant Genetic resources and Intellectual Property Rights' in Peter Drahos, and Michael Blakeney (eds), *IP in Biodiversity and Agriculture; Regulating the Biosphere* (Sweet & Maxwell, London, 2001)103-131, 122.

⁵⁷ The opinion of the Supreme Court Justice Story in *Whittemore v. Cutter* (1813) stated that:
'[I]t could never been the intention of the legislature to punish a man who constructed such a machine merely for philosophical experiments, or for the purpose of ascertaining the sufficiency of the machine to produce its described effects". And by 1861 it was generally accepted that 'an experiment with a patented article for the sole purpose of gratifying a philosophical taste, or curiosity, or for mere amusement is not an infringement of the rights of the patentee'.

See Advisory Council on Intellectual Property (ACIP).

⁵⁸ *J. Madey v. Duke University* No. 1: 97CV1170, slip on (M.D.N.C. June 15, 2001); 307 F. 3d 1351 (Fed. Cir. 2002) See also in Adam B. Jaffe and Josh Lerner, *Innovation and its Discontents; How Our Broken Patent System Is Endangering Innovation and Progress and What To Do About It* (Princeton University Press, New Jersey, 2004) 65-6.

⁵⁹ See also, this citation in Adam B. Jaffe and Josh Lerner, *Ibid.*

(FEL) while at Stanford. When Madey moved to Duke, this University built an FEL lab for Madey, including equipment protected by Madey's Patents. Madey headed this lab for almost ten years, but after than Madey was removed as head of the lab and left Duke University. But, Duke continued to operate the FEL lab, and on this basis Madey sued the University and claiming infringement of the patent that he held from his work during at Stanford. On the basis that Duke's established a patent policy that states that Duke is 'dedicated to teaching, research, and the expansion of knowledge ... [and] does not undertake research or development work principally for the purpose of developing patents and commercial applications' the District Court found that the Duke FEL was covered by the experimental use exception, and granted Duke's request for a ruling for its favour. But Madey appealed, and in this appeal the Court of Appeal for the Federal Circuit held differently, this Court decided that the universities, by their very nature, are not eligible for the experimental use exception. The Court also concluded that the exception use should continue but 'albeit in [a] very narrow form'.⁶⁰

The Court of Appeal for the Federal Circuit held that: '... major research universities, such as Duke, often sanction and fund research projects with arguably no commercial application whatsoever. However, these projects unmistakably further the institution's legitimate business objectives, including educating and enlightening students and faculty participating in these projects... In short, regardless of whether a particular institution or entity is engaged in an endeavour for commercial gain, so long as the act is in furtherance of the alleged infringer's legitimate business and is not solely for amusement, to satisfy idle curiosity, or for strictly philosophical inquiry, the act does not qualify for the very narrow and strictly limited experimental use of defence. Moreover, the profit or non-profit status of the user is not determinative'.⁶¹

The *Madey* decision has not been well received by those concerned to promote research. Some have predicted the decision will have devastating consequences for academic scientific research, particularly in the fields of biotechnology and biomedicines.⁶²

⁶⁰ *Ibid.*

⁶¹ *Ibid.*

⁶² See the Brief for Association American Medical Colleges (et.al), as *Amici Curiae* in Support of Petitioner at 14, *Duke Univ. v. Madey*, 123 S. Ct.2639 (2003) (No. 02-1007), See also expressing 'grave concern' that *Madey* will 'encourage patent holders to assert claims in a manner that will impede or altogether frustrate

Moreover, without an experimental use exception, research institutions will be highly dependant on the mercy of the patent's holders, consequently, blocking further innovative research.⁶³ For example, if this strict approach is applied in the context of a patent on seeds, it has the potential to prevent third party from using patented seeds to produce improved varieties even for non commercial purposes, like experimentation.⁶⁴

6. Conclusion

From the above analysis and discussion, it can be concluded that protection of IPR over the academic works of universities may be contradictory to the mission of universities, that are: teaching, research and public service. Interestingly, since there is a growing trend to change the institutional type of universities into "Enterprise University", together with the establishment of IP and Technology Transfer Offices in the Universities, the motivation and spirit of protecting intellectual academic works is regarded as one of the most important elements for not only bring the University's reputation into internationally recognised standard, but also financial benefit.

It can also be concluded that protecting academic works of universities through patent and copyright to some extent can inhibit the access of knowledge, research material and research tool. This condition if not adequately addressed by the policy maker as well as university leader, it may have a detrimental effect to the further development of knowledge. The reader, of course may have different opinion derived from different assessments and analysis. My primary goal is not to persuade the reader that my conclusion is correct, but rather to share the public that to some extent protection of IPR also have a potential impact to other development objectives like access to knowledge, research materials and tools.

university scientists' ability to make further basic advances in critical areas of biotechnology and biomedicine', in David Malakoff, University Ask Supreme Court to Reserve Patent Ruling, 299 Sci. 26, 27 (2003) which reporting concern of academics that *Madey* will have 'disastrous' implication for university Science, in Cristina Weschler, 'The Informal Experimental Use Exception; University Research After *Madey v. Duke University*', footnote no. 5, available from <<http://www.law.nyu.edu/journals/lawreview/issues/vol79/no4/NYU406.pdf>>.

⁶³ Jennifer Miller, 'Duke University Sealing the Coffin on the Experimental Use Exception', available from <<http://www.law.duke.edu/journals/dltr/articles/PDF/2003DLTR0012.pdf>> and Rochelle Dreyfuss, 'Protecting the Public Domain of Science; has the Time for an Experimental use Defense Arrived?' (2004) 46 (3) *Arizona Law Review* 457.

⁶⁴ 35 U.S.C. §271(a); See also, Mark D Janis, 'Experimental Use and the Shape of Patent Rights for Plant Innovation', Paper for Economics of Innovation and Science Policy Lecturers, Centre for Agriculture and Rural Development, Iowa State University, September 15, 2003, 1, available from <<http://www.card.iastate.edu/research/stp/lectures.aspx>> (last visited 1 August 2012).

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