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Patent law is an important part of the engineering field. Our world has continually made progress in the scientific fields. More specifically, we have seen many advances in the technology we use such as computers, microprocessors, communications and so on. These technologies are then patented by the companies or people that create them. This allows the inventor to make claim to whatever it is they have created. However, there is debate to whether patents help or hurt economic growth. In this paper, there will be a discussion of each side to help determine the answer to the debate.

What exactly is patent law? Patent law is a branch of law that governs patents. U.S patent laws were enacted by Congress under its Constitutional grant of authority to protect the discoveries of inventors. A patent itself is the grant of an exclusive property right to the inventor for the benefits of an invention or improvement, granted by the U.S. Patent & Trademark Office (USPTO). The invention or idea, by its nature, must be patentable. There are several criteria that make an invention patentable.

The first criterion is that it consists of patentable subject matter. An invention must fall within the scope of patentable subject matter as defined by the applicable national law, which varies from one country to another. Many countries exclude certain subject matters from patenting, such as scientific theories, mathematical methods, plant or animal varieties, discoveries of natural substances, methods for medical treatment (as opposed to medical products),

and any invention where prevention of its commercial exploitation is necessary to protect public order, good morals or public health. Second, the invention must be new. An invention must show some new characteristic that is not known in the body of existing knowledge, referred to as "prior art", within the same technical field. While the definition of prior art may differ between countries, many countries consider any information disclosed to the public anywhere in the world in written form, by oral communication, by display or through public use, to constitute prior art.

The third criterion involves an inventive step. An invention is considered to involve an inventive step when, considering the prior art, the invention would not have been obvious to a person having ordinary skill in that art. This requirement is meant to ensure that patents are only granted in respect of truly creative and inventive achievements, and not to inventions that could be easily deduced by a person with average knowledge in the technical field from what already exists.

The fourth criterion is it must be capable of an industrial application. An invention must be of practical use, or capable of industrial application. An invention cannot be a mere theoretical phenomenon; it must be useful and provide some practical benefit. The fifth criterion is the invention must be fully disclosed to the public. A patent application must disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled

in the relevant technical field. In some countries, the "best mode" known to the inventor for practicing the invention must also be disclosed.

Now patents themselves have several different uses. One use for patents is for internal use. The is exploited internally for commercial or industrial purposes. It can be used in the production process or it is incorporated in marketed products. Another use for patents is for licensing. This means the patent is not internally used by the applicant but it is licensed out to another party. This use can be combined with the first so that a company can use and license a patent to another party. Fourth use for patents is for cross-licensing. This means the patent is licensed to another party in exchange for another innovation. Another use is blocking competitors. This means that the patent is not used internally nor licensed, but unused so that a competitor cannot use it. The final use is to use it as a sleeping patent, which means that it is not used for anything previously mentioned.

Now, that the uses of patent have been explained, let us look at how these uses effect the economy at a macroeconomic and microeconomic aspect. First, we will see the positive effects that patents have on the economy. Patents can stimulate economic growth in several ways. Patent information facilitates technology transfer and investment. Patents encourage research and development at universities and research centers. Patents are catalysts of new

technologies and businesses. Also, businesses accumulate and use patents in licensing, joint ventures and other revenue generating transactions.

When technologies are invented and then patented that information of the invention is fully disclosed to the public. There are patent databases, which are available online to the public so that the patent isn't infringed by another invention. This information can be transferred to other companies and allow potential licensors and business partner to find the patent and contact the company. This allows for business opportunities and business investments. Companies can then put up for sale or license it to other companies interested in using the patented technology.

Patents encourage research and development at universities and research centers. There is a relationship with patents and public and university research. The research from these universities or centers can result in inventions that can generate revenue by licensing. The increase in funds allows for further research, which can enhance the education of the university and its students. This creates a constant cycle of innovation for the universities or research centers. This has macro-economic effects as well. It reduces the effect of the brain drain, emigration of intellectual people from a country, since it generates financial support for education, and promotes research for these universities.

Patents are catalysts of new technologies and businesses. Patents are a way of creating new technologies and industries. Patents create innovation because people

find different ways to create products already out and normally making improvements. If a product is created in a certain way that process could be patented and licensed thus creating an industry specifically for that process. This creates more jobs thus generating revenue for the economy.

Businesses accumulate and use patents in licensing, joint ventures, and other revenue generating transactions. Businesses can benefit from accumulating intellectual property and their licensing benefits. Patents can promote competition and create profitable business opportunities that provide jobs, job training, and human resources developments. They can also supply needed goods and services, as well as, increase business and individual income. Patents are an efficient way to create revenue.

Worldwide revenue from patent licensing went from \$10 billion in 1990 to \$110 billion in 2000. This goes for large companies as well as small and medium enterprises.

Now, we have looked at several ways how patents can help the economy grow intellectually and financially. Let's see the other end of the spectrum and how they can hurt the economy. Patents have become greater in number over the years. This means there are more and more patents every year. Now, this sounds like a good thing because this means there have been more inventions. However, this can end up causing a lag of in innovation. They can slow down the development of new inventions and processes. If a company holds the patent they could use it block competition. This means no other company may use that technology or process. A certain drug could be created by one company (Company A) but certain tests are patented. For each

patented test Company A would have pay every owner or risk a lawsuit. Eventually, the cost of testing could exceed the profit expected from the drug. Therefore, the drug never makes it to the shelves. The drug could potentially save lives and therefore in the long run hurt the consumers.

Now, say a company gets taken to court because of infringement, meaning their product or process mimics a currently patented one. A company will take them to court and sue them for infringement. A lawsuit could bankrupt a company thus doing the opposite of creating jobs but destroying them. Corporate monopolies are the product of patents. They block other companies from their patent and end up suing companies for infringement. If a company becomes a monopoly they have no real competition. This means that they can increase the amount of product which in the end hurts the consumer. This does not help innovation or economic growth for all just for that company.

Another problem with that occurs from patents is what is called patent trolling. A derogatory term used to describe people or companies that misuse patents as a business strategy. A patent troll obtains the patents being sold at auctions by bankrupt companies attempting to liquidate their assets, or by doing just enough research to prove they had the idea first. They can then launch lawsuits against infringing companies, or simply hold the patent without planning to practice the idea to keep other companies' productivity at a standstill. An example of this is Innovatio, a company holding certain Wi-Fi patents, claims that anybody using Wi-Fi, including a home user, is

infringing its patents. The company has sent demand letters to “coffee shops, hotels, grocery stores and restaurants offering Wi-Fi, demanding \$2,300 to \$5,000 to settle. There are movements to reform patent law so that these described problems do not happen. If changes are made to current patent law the negative effects of patents can disappear. Here are some changes that could help companies who are trying to innovate and create. Require that patent demand letters include truthful, basic information. Patent trolls send vague and deceptive letters alleging patent infringement to demand unjustified payments from innocent individuals and businesses. Another reform is to ensure that claims between a patent owner and a manufacturer proceed before claims between the patent owner and the customers who use those products. Under current law, anyone can be sued for infringement for simply using a product, system or method. We don't want to change that. Instead, it simply makes sense for cases against customers to be stayed in favor of cases involving the manufacturer. By adding some changes in the current laws, we can stop hurting innovation and correctly reward those who are trying to better social with new creative ideas.

Patents are essential to help entice companies and inventors to create new idea and products. With new inventions, we can help positively boost the economy. As stated, patents help to grow universities, businesses, and the welfare of society. We must acknowledge the loopholes that are currently in patent law to get rid of those who use patents in a negative way. Overall, I believe patents have a positive effect on the economy. They are designed to reward creativity, which they do. Patents allow these

creators to continue inventing due to their finances they provide. They allow for research centers and universities to keep researching new technologies that will help move society forward. Patents are essential to the good of the economy and society.

References

- [1] Idris, Kamil. *Intellectual Property: A Power Tool for Economic Growth*. Geneva: World Intellectual Property Organization, n.d. Print.

- [2] Kieff, F. Scott. "The Case for Registering Patents and the Law and Economics of Present Patent-Obtaining Rules." *John M. Olin Center For Law, Economics, and* (2003): 1-56. 1 Apr. 2003. Web. 15 May 2017.

- [3] Nazer, Daniel. "Infamous Wi-Fi Patent Troll Settles For Peanuts." *Electronic Frontier Foundation*. Electronic Frontier Foundation, 07 Feb. 2014. Web. 15 May 2017.

- [4] Quinn, Gene. "Patent Reform 101 – A Primer on Pending Patent Legislation." *IPWatchdog.com | Patents & Patent Law*. IPWatchdog, 29 May 2015. Web. 15 May 2017.

- [5] Rothschild, Max Frederick, and Scott Newman. "The Economics of Patents." *Intellectual Property Rights in Animal Breeding and Genetics*. Oxon, UK: CABI Pub., 2002. N. pag. Print.

- [6] Staff, Investopedia. "Patent Troll." *Investopedia*. Investopedia, 14 Apr. 2009. Web. 15 May 2017.

- [7] United for Patent Reform. "Goals for Patent Reform." *Patent Reform*. United for Patent Reform, 10 July 2016. Web. 15 May 2017.