



FROM INVENTION TO INNOVATION: ANALYSING THE TOOLS AND TROLLS OF THE JOURNEY

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Abstract

The paper attempts to perceive innovation in concomitance with invention and seeks to explore the role of licensing as a tool to promote innovation together with an examination into the behavior of patent trolls *vis-à-vis* innovation. Innovation may be seen as sequel to invention in the form of exploitation. Both are complementary in producing, transforming and transmitting the ideas to the end-users. Innovation is the implementation of idea successfully whereas invention is just testing idea on paper, not actual implementation of it. Most of the inventions end in the laboratories and never come out to commercial use. Therefore, in economic development, innovation plays a more important and prominent role than invention. The detachment between invention and market needs to be bridged by innovation which requires the inventor to seek cooperation from the innovator. Of course the inventor may utilize his technology himself but he is often unable to exploit his own technology or exploit it to its fullest extent. When he invites others to exploit his property, he has to rely largely on the mechanism of licensing by entering into contracts with others. The ease with which patents could be transferred from the inventor to other entities has twin implications for the process of innovation. One, it facilitates the process of innovation and two, it hinders the process of innovation when the patent falls in the hands of a rent seeking entity, such as a patent troll, that is not directly involved in the process of innovation. The paper explores the means to restrict and limit the negative effects of patent trolls which could be done through legal means and business strategy.

I Introduction

INNOVATION MAY be seen as sequel to invention in the form of exploitation of the invented technology. Both invention and innovation are complementary in producing, transforming and transmitting the ideas to the end-users. Innovation is the implementation of idea successfully whereas invention is just testing idea on paper, not actual implementation of it. Most of the inventions end in the laboratories and never come out to commercial use. The landscape of inventions is littered with the hulks of abandoned ideas. The detachment between invention and market needs

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to be bridged by innovation which requires the inventor to seek cooperation from the innovator. Innovation has become the main driver for economic growth for nations and it enables individual firms to compete in the global marketplace. In an environment when innovation has become the catchphrase at both macro and micro levels, this paper attempts to perceive innovation in juxtaposition with invention and seeks to explore the role of licensing as a tool to promote innovation together with an examination into the behavior of patent trolls *vis-à-vis* innovation.

II A perspective on innovation

What is innovation?

Scholars have given multiple meanings to the expression ‘innovation’. Some have understood it as a new technology or a new product while others have described it as the process that leads to the new product or the product’s market diffusion. So, it is clear that the expression ‘innovation’ must derive its meaning from the context in which it is used. For the present analysis understanding it becomes all the more critical as it is attempted to perceive it *vis-à-vis* invention.

Invention is transforming one’s creativity into tangible ideas or knowledge. Innovation is introducing these ideas to the consumer. Through the process of innovation inventions are channelized so as to produce products that people can and wish to use. In other words, innovation makes inventions marketable. Innovation is the process that turns the idea into value for the customer and results in sustainable profit for the enterprise. Innovation differs from invention in that innovation refers to the use of a new idea or method, whereas invention refers more directly to the creation of the idea or method itself. Invention is to do with new technologies and innovation with new ways of doing things. Invention is the conversion of cash into ideas; innovation is the conversion of ideas into cash.

For an invention, the focus is on novelty and this is a key criterion for patenting. Innovation, on the other hand, does not have to be new except in a specific situation. In other words, an invention is anything that is essentially novel and potentially practically applicable; an innovation is essentially practically applicable and introduced to the market. Thus, innovation may be seen as sequel to invention in the form of exploitation. This implies that invention is an early stage and innovation is the end stage. Both are complementary in producing, transforming and transmitting the ideas to the end-users. Innovation is the implementation of idea successfully whereas invention is just testing idea on paper, not actual implementation of it.

An early perspective on the relationship between invention and innovation was based on the views of Joseph Schumpeter who regarded inventions as simply “acts of intellectual creativity with little importance for economic analysis”. Innovation, on the other hand, was seen as a key factor in the economy and considered to be

independent of invention. According to Schumpeter, the creative process of economic development can be divided into three distinguishable stages of invention, innovation and imitation. In Schumpeter's analysis, innovation and innovator are distinct from invention and inventor. Innovation is possible without anything we should identify as invention and invention does not necessarily induce innovation.¹ Therefore, innovation is not dependent on invention in any direct manner; and moreover the social process that produces innovations is economically and sociologically different from the social process which produces invention.

An idea or scientific principle is not, by itself, of any importance for economic practice.² Moreover, invention and innovation are not always linear in nature. The path from invention to innovation is more random. An invention could result from either basic research or from market needs. Inventor is the frenemy³ of the innovator in the sense that without inventor there could be no innovator and with a possessive inventor around the innovator is in trouble. In economic development, the concept of innovation plays a more important and prominent role than the concept of invention.

Just because innovation is a sequel to invention does not mean that it has to be preceded by invention. In many cases, the invention is made only upon contractual assurance by the innovator as to its exploitation. Licensing of technology which is yet to be invented signifies exploitation of it before its invention. This leaves us with a question similar to the chicken and egg causality dilemma. Whether invention comes first or its innovation comes first? One could argue—there has to be invention first for it to be innovated. But the modern market practices have blurred this distinction between invention and innovation. The inventor is increasingly tailoring his inventions as per the demands of the market and the innovator is increasingly having a greater say in the work of invention itself.

Why is innovation so important?

In a market driven economy, the real winner is the firm that can make something valuable through innovation—not the inventor who happens to come up with something abstract that the market may or may not want. According to past experience, inventors of ideas have seldom been able to capitalize on the idea; it took others who actually innovated and built off that idea to make a product that actually had an impact on the world. Many people have invented revolutionary new

1. Joseph A. Schumpeter, *Business Cycles: A Theoretical Historical and Statistical Analysis of the Capitalist Process* 84 (McGraw-Hill Book Company, Inc., New York and London, 1939).

2. Joseph A. Schumpeter, "The Creative Response in Economic History" *Journal of Economic History* 152 (1947).

3. Frenemy is a play on two opposite words, *i.e.* friend and enemy.

products but have been unsuccessful at getting them into the marketplace. A nice example is of Philo Farnsworth who invented television in 1927, but it was David Sarnoff who created television broadcasting to bring television to the consumer in 1939. He developed a successful business model that put together televisions, cameras, broadcasting stations, program content, and advertising. Farnsworth invented a device, while Sarnoff was the innovator who put all the pieces together to create an industry.

Innovation is important from both micro and macro perspectives. For a nation innovation is a central driver of economic growth and development and generator of better jobs, so nations are promoting innovation as a motor of economic development. For an individual firm innovation is the way to remain competitive and out-perform their competitors in business.

Most of the inventions end in the laboratories and never come out to commercial use. The landscape of inventions is littered with the wrecks of abandoned ideas. This does not necessarily suggest that the inventions were not good enough; for every patented invention had to conform to the requirements of novelty, inventive step and usefulness. So, why is it that so much of human effort in inventing and then patenting goes down the drain? Perhaps, successfully walking up to the patent office is no guarantee that the invention would be a success in the market as well. A lot of new ideas are generated leading to patents but “Most die a lonely death, never seeing the light of commercial success.”⁴ The reason that a very huge majority of inventions worldwide do not reach up to the market suggests:

- For an invention to reach the market a step of innovation is required after invention
- An inventor is not necessarily an innovator as well
- It is difficult for inventors to find innovators and *vice versa*
- There are more inventors in this world than innovators
- Innovation is more difficult and challenging than invention

Inventions require enormous amounts of time, effort and resources. Of course the inventor as a creator gets tremendous satisfaction when he creates something new and when that new thing gets through the patent office. But the process of invention becomes economically sustainable only when the invention is successful in the market. The following section is devoted to analyzing the tools, particularly licensing, through which invention moves to the stage of innovation.

4. J.L. Brandt, *Capturing Innovation: Turning Intellectual Assets into Business Assets* 66 (2002); quoted from “Intellectual Property, Innovation and New Product Development” *WIPO Magazine* 6 (July-Aug. 2005).

III Tools of innovation

The previous section demonstrated how innovation is more important than invention itself. This section focuses on licensing⁵ as a tool of innovation.

Licensing: a tool for innovation

Technology and patents are not wealth in themselves but only sources of it. And this reservoir of wealth flows only when the technology is used to produce and market goods and services. The inventor may utilize his technology himself but he is often unable to exploit his own technology or exploit it to its fullest extent. When he invites others to exploit his property, he has to rely largely on the mechanism of licensing by entering into contracts with others.

The trend towards alliances based on partnership and not ownership is the greatest change in corporate structure and the way business is being conducted today.⁶ A few years ago, patenting and other forms of intellectual property (IP) activity were mostly seen as belonging to the domain of corporate legal departments, with patents used mainly in-house. Today, an increasing number of companies treat IP as a central business asset that is managed strategically and valued and leveraged with a view to generating returns through active licensing.⁷ Moreover, businesses increasingly use bundles of IP rights to appropriate and market the products of their innovation. Popular products in areas such as technology, textiles, food and consumer products rely on the protection of technology, designs, trademarks and copyright.

Licensing has a vast impact on the economy. The greatest economic value of IP comes from its use in licensing.⁸ In the last two decades, the reliance upon licensing strategies as a source of revenue for IP holders has seen a dramatic increase. In international trade, licensing in the present day is much more extensive and it has now become almost an indispensable tool of business organization on an international level.

The role of licensing in innovation

One of the key challenges for businesses today is to remain profitable in an economy that is increasingly becoming competitive and global. Businesses are

5. The concept of licensing is used here in its wide sense which ranges from a mere permission to use to the complete transfer of ownership over the intellectual asset to the transferee.

6. See, Peter F. Drucker, *Managing in the Time of Great Change* (Plume, USA, 1995).

7. World Intellectual Property Organisation, *The Changing Face of Innovation* 52 (2011).

8. See, "Important Contracts and IP", available at: <http://www.wipo.int/sme/en/e-commerce/contracts.htm> (last visited on June 12, 2012).

invariably under tremendous pressure to be innovative and create new opportunities and new revenue streams from existing intellectual assets. As IP become critical to the businesses, acquiring them becomes extremely important. Few businesses are able to develop internally every technology needed for their activities as it would be impractical and also uneconomical.⁹ Even large companies are no longer doing everything in-house because that does not make business sense to do so. Therefore, in today's business world, licensing has become a necessity and businesses rely on it as the vehicle for obtaining the required IP. For example, while a company may find it good at figuring out how to extend the life of batteries, other companies might be better at turning the underlying inventions into components for different consumer electronics. Specialization allows companies to maximize an inherent advantage, ultimately enhancing the economy wide productivity of the innovation process.¹⁰ Despite the general growth in licensing activity, only a limited share of patents is licensed out. In most countries less than ten percent of patents are subject to licensing outside the company. About 24 percent of firms in Europe declare having patents that they would be willing to license but could not. In Japan, this figure reaches 53 percent.¹¹

Potential of licensing as a strategic tool for innovation

The activity of licensing always involves two parties. One brings in his property and the other brings in his means to exploit that property. So, in that sense it is always a joint venture. The secret to success of this joint venture is that each party perceives the other as a partner in a fruitful collaborative process. Therefore, from a business point of view, a critical bond between licensor and licensee is that they are collaborating on a business venture in which, in effect, they are sharing profits.

As a business tool, licensing has vast potential. As licensing is a voluntary partnership where the parties pool their respective resources, it is necessary that each party stands to benefit from the transaction and thus should have a stake in

9. For example, an inventor plans to develop a new mobile phone system which contains various components that are protected by means of patents, trade secrets, designs and copyrights. To manufacture each component would require separate infrastructure, technology and skills which the inventor does not by himself possess. Therefore, he relies on licensing to acquire them. Sometimes, it may even be necessary to obtain licenses for technologies that are required to be used as an input for a particular product. For instance, a company is desirous of manufacturing product X. But a technology Y is necessary to be used for making X which is owned by a different company. Now, if the company wishes to manufacture X, it is incumbent upon it to acquire Y and licensing could be a means for the same.

10. World Intellectual Property Organisation, *The Changing Face of Innovation* 65 (2011).

11. *Ibid.*



the success of the licensing venture. The advantages that stem out of creative use of licensing must be complementary for the licensor and the licensee. Some of these advantages are discussed below:

Concentrating on one's core competence

Licensing enables one to concentrate on one's core competence and leave the rest to the other party to the license. For example, a university or a research & development company may not have the will or resources to commercialize their inventions themselves. So, they can invite others by licensing out their patents to them while continuously engaging themselves in developing new technologies. Through the process of licensing out the licensor generates revenues which can be invested in the development of new technologies, which in turn would lead to additional revenues, hence creating a virtuous circle of creativity.

On the other hand, the licensee may have core competence in localization, logistics, distribution and risk management. He can concentrate on his core competence while combining it with the licensor's technology. In fact, inventors rarely exploit their inventions themselves as production and dissemination of works, on a large scale, has historically been capital intensive; so inventors have relied on entrepreneurs to exploit their inventions.

Access to new markets/new properties

The owner of technology may not be able to approach new or foreign markets himself for a variety of reasons. Such reasons could be lack of knowledge about these markets, risks associated therewith, lack of business resources, lack of time, etc. Therefore, it is common for owners to themselves operate in their local markets while reaching out to new or foreign markets through licensees. For the licensee it may take a lot of time and effort to independently come up with the required technology but licensing could give him instant access to new technologies. In reality, licensing remains the principal means through which the businesses penetrate new and foreign markets by effectively combining their intellectual inputs with the licensees' local expertise.

Testing new markets/new technologies

Licensing, as a business tool, can be used by the owner of technology for testing a new market before entering in it. If the licensee is successful in exploiting the license profitably, the licensor may decide to enter the market himself as well. If the licensee's efforts are not successful, then the licensor has learnt a lesson at no cost and without making any investment and without incurring any loss. So, licensing in this way allows the licensor to test the market through the licensee. On the other

hand, the licensee can test new technologies in his own market without investing in the development of the underlying technology.

Turning infringer into ally

There is no one single universal response to a patent infringement. Infringers could be pursued, sued, persuaded or ignored and each one of them will leave the parties with multiple issues. As such, suing the infringer is not the only remedy with the patent and it may sometimes be counterproductive to do so. Infringements could be utilized as business opportunities by thoughtful licensing which is often a precious tool in mitigating the probability of expensive disputes. Therefore, licensing can be creatively used as a means of turning an infringer into an ally. For the infringer, entering into a license will begin a new relationship of cooperation; thereby, he will also be able to avoid the possibility of being sued.

Utilization of IP that the owner doesn't use

“Even if you can't or don't want to use your IP yourself... bear in mind that third parties may want to use them.”¹² Many times it may happen that a business owns patents which are lying redundant. In this situation, they become a burden and the company has to spend money to maintain it. So, the company could explore licensing opportunities and could benefit from licensing out of such patents by relying on better production capacity, wider distribution network, greater local knowledge and expert managerial skills of another company, *i.e.* the licensee.

Risk management

A license contract can be seen as a mechanism for the distribution of risks and gains between the licensor and the licensee. In a licensing arrangement the licensee assumes the risks of working the technology as he is the one who gathers together the means of production, finances, *etc.* together with establishment of marketing systems and sales distribution networks. A licensee typically is already commercially active in the field of the licensed technology, so engineering, production, marketing and sales are usually not much daunting for him. This shifting of risk is, at times, necessary for the owner of technology, especially for a relatively small entity, such as an individual inventor or an entrepreneurial start-up company.

12. Jacques de Werra, “Leveraging IP: Licensing, Franchising, Merchandising”, available at: http://www.wipo.int/edocs/mdocs/sme/en/wipo_smes_ge_07/wipo_smes_ge_07_www_81578.pdf (last visited on June 10, 2012).



Planning the licensing function

The licensing factor may be thought of as active in nature, *i.e.* where the company or its licensing department is actively pursuing potential partners for licensing; or it may be passive, *i.e.* where the company acts only in response to unsolicited requests from potential licensing partners. If the attitude towards licensing is passive then licensing just happens; then licensing income is just 'found money'. But if the attitude towards licensing is active, then it requires meticulous planning. The planning function *vis-à-vis* licensing can be split into two parts, *viz.* auditing and analysis whether the technology be self exploited or exploited through licenses.

Technology audit

It means a systematic review of the technologies owned and/or used by a business. A technology audit would provide a launch pad for developing a technology management plan and strategy which, if undertaken systematically and effectively, would result in the business deriving the maximum benefit from its portfolio. This would lead to the broadening of the concept of exclusivity by looking at new options in a new light.¹³ The idea is to uncover under-utilized or dormant technologies. Particular attention has to be given to any contracts signed with employees, consultants, *etc.* which assign or license any technologies they develop while working for the company. The audit clarifies the scope and ownership status of these assets. It is indeed not surprising for a company to discover during an audit that it owns a lot of assets when it thought none existed before and that it should consider taking necessary steps to legally protect and leverage them thereafter. The second step is to profile which technologies are used by the company; also keeping in mind the likely future requirements of the business. This would include technologies that are both owned and licensed-in by the company.

Self exploitation v/s licensing analysis

After profiling all the technologies, the next step is to find out which technologies included in the portfolio could be licensed out? And what would be the estimated royalty that these properties could fetch? Will it be advantageous to allow others to utilize your technology? It is worth noting that many times the patents that a company owns may be lying dormant. Many times it may be possible to invite others in utilizing your patents without compromising your business position in any way. The prospective licensor has the exclusive right to exploit his patents. So, if he has

13. Christopher Kalanje, "Leveraging Intellectual Property: Beyond the 'Right to Exclude'", available at: http://www.wipo.int/sme/en/documents/leveraging_ip.html (last visited on May 15, 2012).

sufficient resources to exploit the same then his own efforts may generate better profits than operating only, or through, a license contract. This analysis has often to be made before the owner of the patents decides to venture into licensing. If the property that a business owns is neither utilized optimally nor licensed-out then it only remains a burden to maintain and that too at the cost of draining valuable financial resources.¹⁴

The ease with which IP could be transferred and the consequent rights acquired by the licensee makes the process abusive at times. It has been seen that the process of innovation, in most cases, requires the transfer of technology from the inventor to the innovator. In other cases innovation requires consolidation of IP in the hands of one business entity that assumes the task of taking the technology to the market. The ease with which patents could be transferred from the inventor to other entities has twin implications for the process of innovation. One, it facilitates the process of innovation and two, it hinders the process of innovation when the patent falls in the hands of a rent seeking entity that is not directly involved in the process of innovation. The next section focuses on such a scenario where innovation is hindered because of licensing, *i.e.* when the patents are acquired by patent trolls.

IV Innovation *vis-à-vis* patent trolls

What is a patent troll?

A patent troll is an entity that neither invents technology nor is interested in developing it; it acquires patents through licensing and sues another company (operating company) by claiming that one of its products or processes infringes on the acquired patent(s). Thus, a patent troll¹⁵ is just a collector of patents with the intention to sue or threaten to sue other businesses with lawsuits so as to earn through damages awarded by court or by extortions in the form of 'out of court' settlements.¹⁶ These settlements are done under a non-disclosure agreement (NDA) which means that the world will not come to know about the details of the settlements.

14. See, Raman Mittal, *Licensing Intellectual Property: Law & Management* 18.2.1 (Satyam Law International, New Delhi, 2011).

15. Patent troll is currently a controversial term and is susceptible to numerous definitions, none of which can be considered universally acceptable. Some other terms such as patent pirate, patent extortionist, non-practicing entity, patent holding company, patent licensing company, patent squatter, *etc.* are also used to describe a similar kind of entity.

16. The term patent troll could apply to any company that takes advantage of these factors to make money.



Business model of patent trolls

Patent trolls have carved out a place for themselves in the industrial scenario by picking up the vulnerabilities of the patent law and industrial environment. Their business model is a combination of three activities, *i.e.* amassing patents, watching markets and legal actions.

Amassing patents

Patent trolls typically collect and amass patents related to a particular area of a technology. They are known to acquire patents cheaply from entities not actively seeking to enforce them. For example, a company may purchase hundreds of patents from a technology company forced by bankruptcy to auction its patents. They also usually acquire patents from smaller companies by adopting a *turnkey* method for getting patents. They pay the company a one-time fee and a percentage of any profits they make from the patents. Trolls are also on a lookout for those entities that have the ability to develop technology and obtain patents on it but lack the ability to practice the developed technology themselves, like universities and research institutions.

After amassing the patents the trolls then assume the costs of maintaining the portfolio, and gain the right to go after operating companies. By acquiring many patents focused on one area, they are able to cite so many instances of possible infringement that it makes it harder and more expensive for the target operating company to defend the suit.

Watching markets

Patent trolls operate much like any other company that is protecting and aggressively exploiting its patent portfolio. However, their focus is on obtaining money from existing uses, not from seeking out new applications for the technology. They are not interested in developing their own manufacturing capabilities nor are they interested in seeking new business partners for developing their technologies. Their main activity is in monitoring the market for possibly infringing technologies by watching products, processes, services, news coverage and expert analysis. They also review published patent applications for clues as to whether another company is developing infringing technology, possibly unaware of their patents.

Often times patent trolls employ scientists dedicated to do some serious reverse engineering whereby they examine successful products and try to find proof that these products infringe on the portfolio of patents owned by the trolls.

Legal actions

Patent trolls use the uncertainties of the civil litigation system as their primary

bargaining chip. They don't have to protect a product of their own so they can start litigation on everyone who may have infringed on their claim without worrying that they will be counter-sued for infringement.

The first weapon of a patent troll is the threat—bringing the danger of being sued. In many cases the threat works as an effective instrument to coax the other party into arriving at an out of court settlement whereby the manufacturing entity agrees to pay licensing fee for that technology which it had been using.

The second weapon is a lawsuit, defending which is expensive for the defendant. No doubt, it is also expensive for the plaintiff but the troll looks it as a business investment and takes the risk of a defeat in the court. If it is successful in obtaining an injunction, then also the defendant can be coaxed to shell out settlement money. If it ultimately wins, the troll is entitled to damages and/or an award of at least a reasonable royalty determined according to the norms of the field of the patented invention. If the patent troll loses then also it has been successful in bleeding the defendant as defending a patent suit is extremely costly. Because of these factors, patent trolls are in a position to negotiate licensing fees that are grossly out of alignment with their contribution to the alleged infringer's product or service.

Patent trolls usually sue multiple defendants who they allege are violating their patents. This strategy helps them in two ways; firstly, it reduces their legal costs per defendant and secondly, it sets a stage for a large potential payoff. Further, trolls are also known for choosing their targets as vulnerable entities that have much to lose, or little money to defend themselves; however, they also go after large entities or even the whole industry at a time if it suits their strategy. In order to make the legal actions hard to track, patent trolls assign their patents to shell companies¹⁷ and then the individual actions seem to come from those companies which are just fronts for the trolls.

On top of it they pay lawyers a contingent fee; meaning thereby the attorneys are paid only if they win the case which is usually a percentage of the damages and royalties fixed by the court. Moreover, since litigation is the main business of trolls, they are much more adept in economizing on it, at least more than their defendants. To add to it, trolls have an almost-unrestricted ability to choose their preferred forums for instituting infringement suits.

There is one way in which patent trolls are at a disadvantage when compared with companies having a regular patent portfolio. Patent owners who make and sell their invention are entitled to awards of lost profits if they win an infringement

17. A shell corporation is a company which serves as a vehicle for business transactions without itself having any significant assets or operations. Shell corporations are not in themselves illegal and have legitimate business purposes. They may also be known as *front companies*, or *"mailbox" companies*.

action. However, patent trolls, being non-operating, typically do not qualify for this remedy.

Legality of business model of patent trolls

The business model as discussed above seems not to fall foul of the patent law. Legally patent owners need not commercialize the invention to enforce their patents. Moreover, the owner of a patent need not be the inventor. Patents are legally transferrable in the sense that they can be assigned or licensed to entities other than the inventor. Patent owners may negotiate any royalty others can be convinced to pay in exchange for a license to not be prohibited from making, using or selling the patented invention, but the only right conferred by holding a patent is the right to sue to prevent others from making, using or selling the invention or to collect damages for the breach of that right.

Effects of Patent Trolls on Innovation

Patent trolls have a mixed effect on innovation. The following sections discuss the potential effects of trolls by taking multiple arguments from both the sides.

Encouraging innovation

The ability to buy, sell and license patents is seen by some as generally productive. By creating a secondary market¹⁸ for patents, the ownership of patents becomes more liquid, thereby creating incentives to innovate and patent.¹⁹

Patent trolls provide a valuable service to the patent community in enforcing their patent portfolio which might be too costly for the initial inventor and in providing financial liquidity to companies that have patent assets outside their core business.²⁰ Some inventors lack the resources and expertise needed to successfully commercialize their technologies or enforce their patents. Other inventors may just be interested to utilize all their resources in the area of their core competence which is research & development. Patent trolls provide a way for these inventors to earn rents that they might not realize otherwise, thus providing them with greater

18. The secondary market, also called aftermarket, is the financial market in which previously issued financial instruments such as stock, bonds, options, and futures are bought and sold.

19. Don Clark, "Inventors See Promise in Large-Scale Patent Auctions" *Wall Street Journal Online* (Mar. 9, 2006), available at: http://online.wsj.com/article_email/SB114187357457393357-MyQjAxMDE2NDxOTgwNzkzWj.html (last visited on May 20, 2012).

20. See, Steven Rubin, "Defending the Patent Troll: Why These Allegedly Nefarious Companies Are Actually Beneficial to Innovation" 62 10(4) *The Journal of Private Equity* (2007).

incentives to innovate. By aggregating patents patent trolls help consolidation of patents in the hands of specialized licensing companies which facilitates access to technology by more efficiently organizing ownership of patent rights thereby making it easier for an entrepreneur who wishes to use technology.

Discouraging innovation

The orientation of patent trolls is passive in nature in that they are not actively engaged in commercializing technology. These entities acquire a patent, sit on it, do nothing, and attempt to place a private tax on the actual innovators. Since patent trolls act like investors and middlemen they tend to add value to the patents by acquiring them; as a result of which acquiring patents becomes more costly for the operating companies which in turn increases the cost of production. Patent trolls are engaged in hoarding behaviour, therefore, they are frequently in a position to create artificial scarcity of available technology by refusing to license it.

Most infringement suits by patent trolls are frivolous because in most cases ultimately the defendant is found to have not infringed or the troll's patent is found invalid.²¹ To add to this is that patent infringement suits are technical, very slow and expensive. This significantly adds to the cost of innovation in the hands of the companies that wish to commercialize the technology. A study shows that 97 percent of infringement suits are settled before trial.²² This suggests that target companies would rather pay off trolls than fight them in court. For example, in 2006, NTP Corp., a patent holding company, settled a patent suit with Research in Motion, the maker of the BlackBerry device, for \$612.5 million. They received this sum even though questions were raised about the validity of NTP's patents.²³ This came to \$6 for each BlackBerry ever sold. It may also involve a loss of consumer welfare as the costs of defending patents are passed along to consumers in the form of higher product prices which may then become unaffordable, and that way law suits by trolls hamper technology innovation.

21. For example, the JPEG format, intended to be free of license fees, was subject to two patent suits, one by Forgent Networks during 2002–2006 and another by Global Patent Holdings during 2007–2009. Both patents were eventually invalidated based on prior art, but before this, Forgent collected more than \$100 million in license fees from 30 companies and sued 31 other companies. See, Dawn Kawamoto, "Graphics patent suit fires back at Microsoft" (Apr. 22, 2005), available at: http://news.cnet.com/2100-1025_3-5681112.html (last visited on May 29, 2012).

22. Kal Raustiala and Chris Sprigman, "How 'Patent Trolling' Taxes Innovation" (Nov. 07, 2011), available at: <http://www.freakonomics.com/2011/07/11/how-patent-trolling-taxes-innovation/> (last visited on June 3, 2012).

23. Rob Kelley, "BlackBerry maker, NTP ink \$612 million settlement" (Mar. 3, 2006), available at: http://money.cnn.com/2006/03/03/technology/rimm_ntp/ (last visited on June 2, 2012).

The risk of paying high compensation for the patents the operating company was not aware of, and the costs for extra vigilance for competing patents that might have been issued, in turn increases the costs and risks of manufacturing products. This increased cost and risk decreases their willingness to invest in innovation. Besides direct legal costs incurred to defend the suit, litigation often involves a diversion of management resources and attention away from productive activity.

The cost of defending against a patent infringement suit may run into millions of dollars, even if the defense is successful. Because the costs and risks are high, defendants may settle even non-meritorious suits they consider frivolous for huge sums of money. The uncertainty and unpredictability of the outcome of court cases also encourages settlement. These settlements weigh heavy on the overall innovation potential of inventions.

It's no longer just established companies who are being hit with frivolous lawsuits; it is startups as well. It may be extremely difficult for these startups to defray the costs of litigations. This way many small companies are hounded out of the market which acts as a major disincentive for innovation. There are various independent scientists who are engaged in research. When such independent inventors come up with inventions they seek to license the same to large operating companies after obtaining patents on these inventions. Such licensing royalties are their only means of sustenance and growth. With the prospect of an infringement suit always looming, the prospective licensees have to factor in the potential risk of being sued by a troll for an inadvertent infringement by the independent developer. This risk of inadvertent infringement reduces the amount which the licensees are willing to pay which in turn reduces the research incentives of independent developers as well.

It is clear that the effects of patent trolls are more towards discouraging innovation and very little consequence is towards encouraging innovation. A very small percentage of whatever is collected by patent trolls by way of settlement fee or royalty or damages is ultimately transferred to the inventors whose patents they had acquired. In the words of Bessen, *et.al.*:²⁴

[B]y exploring publicly listed NPEs, we find that very little of this loss of wealth represents a transfer to inventors. This suggests that the loss of incentives to the defendant firms is not matched by an increase in incentives to other inventors.

24. James Bessen, Jennifer Ford and Michael J. Meurer, "Patent Trolls—Do Nonpracticing Entities Benefit Society by Facilitating Markets for Technology?"; *available at*: <http://www.cato.org/pubs/regulation/regv34n4/v34n4-1.pdf> (last visited on Apr. 23, 2012).

Legal means to limit the negative effect of patent trolls

The analysis in the previous section is that there are more negative impacts of patent trolls than positive. Hence it is important to find out what are the ways to minimize these negative effects. The following sections focus on legal means together with business strategy to limit the negative effect of patent trolls.

Loser pays: the costs of litigation

In the normal course of litigation the parties are often required to bear their own expenses of litigation though there is a provision whereby the civil court could award expenses of litigation to the defendant when the defendant is successful. Often these awards of costs are far less than the actual costs of litigation for the defendant. It has been seen how prohibitively expensive litigation costs can become a barrier for companies to innovate especially if they are start-up entities. If the plaintiff, who loses a patent suit, is made to reimburse the actual costs of the defendant in defending the failed action then it would put a serious damper on those suits that lack merit but that might be settled to avoid litigation expenses. The defendant would then be encouraged to fight frivolous suits and the plaintiff would be discouraged to do the same.²⁵ Such an attitude of the courts would force the patent trolls to thoroughly investigate infringement actions prior to approaching an operating company with the threat of a lawsuit. In the words of Daniel P. McCurdy:²⁶

It would dramatically curtail the amount of contingent litigation pursuing weak claims of infringement, a mainstay of most patent trolls, and yet it would permit the vigorous enforcement of strong patent rights.

Jurisprudence of injunctions

An injunction is an equitable remedy in the form of a court order that requires a party to do or refrain from doing specific acts. Interim injunctions can be issued by the court during the pendency of the proceedings so as to prevent an irreparable

25. In *Eon-Net LP v. Flagstar Bancorp* (Fed. Cir. 2011), the federal appeals court of the US allowed an award of \$141,984.70 as fine and another \$489,150.48 in attorneys' fees to the defendant. The court found the plaintiff to be engaged in pursuit of baseless infringement claims with improper purpose of bringing the law-suit against Flagstar to obtain a nuisance value settlement and offensive litigation tactics. The court found that the plaintiff had filed over 100 patent infringement lawsuits, following up each one quickly with an offer of settlement. In this particular case, it was found that the defendant Flagstar did not infringe on the patents in question.

26. Daniel P. McCurdy, "Patent Trolls Erode the Foundation of the U.S. Patent System—Recommendations for Reform" (Jan. 12, 2009), available at: <http://scienceprogress.org/2009/01/patent-trolls-erode-patent-system/> (last visited on May14, 2012).

loss to the plaintiff if the balance of probabilities is in his favour. Normally in a patent litigation the plaintiff seeks such injunctions. The business of a patent troll is done if it is successful in obtaining a favourable injunction from the court and for the defendant it could, in many cases, be the end of business. Preliminary injunctions can shut down production and sales while the litigation remains pending and the threat of final injunction might require the operating company to rework its product drastically at much expense or even abandon it altogether. Armed with such injunctions the defendant could be coaxed to make a costly settlement.

If the courts adopt more cautious approach and be considerate as to public interest while considering the cases for the grant of injunction then it would dilute the negative effect of patent trolls to some extent. In *eBay Inc. v. MercExchange, L.L.C.*,²⁷ the US Supreme Court removed the so-called 'automatic injunction' remedy for plaintiffs in a patent dispute, replacing it with the established 'four factor' test to determine whether an injunction should be granted. That test requires a plaintiff to demonstrate cumulatively that:

- (1) it has suffered an irreparable injury;
- (2) remedies available at law are inadequate to compensate for that injury;
- (3) considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and
- (4) public interest would not be disserved by a permanent injunction. This test will be difficult for patent trolls to pass.

The court also said that an injunction should not be denied simply on the basis that the plaintiff does not practice the patented invention.

Higher standards of patent offices

There is no doubt that patent offices are overloaded with patent applications and are hard-pressed to investigate each application thoroughly. Because of this reason they sometimes end up issuing patents that should not have been issued in the first place. These dubious patents are insignificant as inventions, but they can be very nice bargaining flakes and hence valuable for patent trolls. The sheer number and poor quality of patents make it harder for technology companies to be sure that they are not infringing on an existing or pending patent. If patent office accept claims that have been invented, published or even patented before, ignoring prior art, then even existing technologies in use are subjected to the ill effects of patent trolls. Distortions in the patent landscape, such as those caused by long patent application pendency, also promote patent trolling.

27. *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006).

When patent suits actually come to trial, 40 percent of patents are invalidated by courts.²⁸ That means they should never have been issued in the first place because either they lack novelty or inventive step or they are obvious. Patent trolls make use of these patents to destabilize the operating company's activities. If patent offices set higher standards, patent trolls would be less able to bring suits based on vague patents with little merit.

Compulsory licensing

The negative effects of patent trolls can be reduced by having recourse to the instrument of compulsory licensing. There are provisions in the patents laws for grant of compulsory licenses of patents if certain conditions are met.²⁹ The Patents Act, 1970 of India states the following general purposes to guide the controller of patents in granting compulsory licenses:³⁰

- (a) that patented inventions are worked on a commercial scale in the territory of India without undue delay and to the fullest extent that is reasonably practicable;
- (b) that the interests of any person for the time being working or developing an invention in the territory of India under the protection of a patent are not unfairly prejudiced.

At any time after the expiration of three years from the date of the grant of a patent, any person interested may make an application to the controller for grant of compulsory license of a patent on any of the following grounds, namely:³¹

- (a) that the reasonable requirements of the public with respect to the patented invention have not been satisfied, or
- (b) that the patented invention is not available to the public at a reasonably affordable price, or
- (c) that the patented invention is not worked in the territory of India.

An application under this section may be made by any person notwithstanding that he is already the holder of a license under the patent.³²

The reasonable requirements of the public shall be deemed not to have been satisfied:³³

- (a) if, by reason of the refusal of the patentee to grant a licence or licences on reasonable terms,—

28. Kal Raustiala and Chris Sprigman, "How Patent Trolling Taxes Innovation" (Nov. 07, 2011), available at: <http://www.freakonomics.com/2011/07/11/how-patent-trolling-taxes-innovation/> (last visited on Apr. 30, 2012).

29. Art. 31 of TRIPS provide member states the flexibility to grant compulsory licenses.

30. Patents Act, 1970, s. 89.

31. *Id.*, s. 84(1).

32. *Id.*, s. 84(2).

33. *Id.*, s. 84(7).



- (i) an existing trade or industry or the development thereof or the establishment of any new trade or industry in India or the trade or industry in India or the trade or industry of any person or class of persons trading or manufacturing in India is prejudiced; or
- (ii) the demand for the patented article has not been met to an adequate extent or on reasonable terms; or
- (iii) a market for export of the patented article manufactured in India is not being supplied or developed; or
- (iv) the establishment or development of commercial activities in India is prejudiced; or
- (b) if, by reason of conditions imposed by the patentee upon the grant of licences under the patent or upon the purchase, hire or use of the patented article or process, the manufacture, use or sale of materials not protected by the patent, or the establishment or development of any trade or industry in India, is prejudiced; or
- (c) if the patentee imposes a condition upon the grant of licences under the patent to provide exclusive grant back, prevention to challenges to the validity of patent or coercive package licensing; or
- (d) if the patented invention is not being worked in the territory of India on a commercial scale to an adequate extent or is not being so worked to the fullest extent that is reasonably practicable; or
- (e) if the working of the patented invention in the territory of India on a commercial scale is being prevented or hindered by the importation from abroad of the patented article by—
 - (i) the patentee or persons claiming under him; or
 - (ii) persons directly or indirectly purchasing from him; or
 - (iii) other persons against whom the patentee is not taking or has not taken proceedings for infringement.

Patents are granted for a period of 20 years. But there is no requirement that a patentee or his licensee commercialize the underlying technology or bring it to the market within a certain period of time. Therefore, most of the patents expire without ever being commercialized. In contrast there is a provision in trade mark law which has the effect that if a trade mark has not been used within a specified period of time then the owner of it loses all rights over it even if the mark has been registered.³⁴ 'Use it or lose it' is the dictum of trade mark law. A somewhat similar provision is called for in patent law requiring patent holders to license an idea for a reasonable fee if the holder fails to develop it after a certain amount of time. This would prevent a patent troll from waiting until a product was profitable before jumping in with a suit.

34. See, Trade Marks Act, 1999, s. 47.

Patent trolls and competition law

Whatever is granted by intellectual property is not in conflict with the norms of competition law and is not *per se* anti-competitive—it only becomes anti-competitive when the owner of IP seeks to extend it beyond its intended and proper scope. In other words, competition law comes into picture only when such monopolies are abused. Following are certain practices adopted by patent trolls that could fall foul of competition law:

(a) Refusal to license

The law of IP grants exclusivity to the owner. Is it necessary for the patent troll as an owner to dilute this exclusivity by licensing? Or can it refuse to license his property?

If one regards IP as equivalent to other forms of property, then the rights holders would have the power to refuse third party use. A unilateral, unconditional refusal to license IP cannot, by itself, result in liability under competition law.³⁵ In *Verizon Communications Inc. v. Law Offices of Curtis V. Trinko LLP*,³⁶ the US Supreme Court held that “a monopolist did not have to authorize would be competitors to utilize his networks, facilities or other property in order to enable competition.” In the absence of any indication of illegal tying, fraud in the patent office or sham litigation, the patent holder may enforce the statutory right to exclude others from making, using or selling the claimed invention free from liability under the antitrust law.³⁷ In *IMS Health*³⁸ the European Court of Justice considered whether one company could demand access to a type of copyrighted sales map created by another. The ECJ stated that a refusal to license a copyright “cannot in itself” constitute an abuse of a dominant position.

Whilst refusal to grant a license is not in itself an abuse of dominant position, it may be an abuse where special circumstances exist. The fact that a property owner could refuse to license does not give it unfettered rights to exact any conditions on a license that it does grant when those conditions are otherwise anti-competitive. There are situations in which refusals to deal, especially when done in a selective

35. Unconditional refusal to license a valid patent does not give rise to liability as an improper refusal to deal under s. 2 of the Sherman Act; see, e.g., *In re Independent Service Organisation Antitrust Litigation*, 203 F.3d 1322 (Fed. Cir. 2000); *Miller Instituform of N. Am., Inc.*, 830 F.2d 606, 609 (6th Cir. 1987); *SCM Corp. v. Xerox Corp.*, 645 F.2d 1195, 1204-07 (2d Cir. 1981).

36. *Verizon Communications Inc. v. Law Offices of Curtis V. Trinko LLP*, 540 U.S. 398 (2004).

37. *In re Independent Service Organisation Antitrust Litigation*, 203 F.3d 1322 (Fed. Cir. 2000).

38. *IMS Health GmbH & Co. OHG*, Case C-418/01 (2004).

manner, present competition law concerns.³⁹ While a licensor has the freedom to select his licensees, yet, if a group of competitors jointly agree to exclude others by refusing to deal with them, competition issues could arise when the group has adequate dominance in a market.⁴⁰

One such situation where the competition authorities in Europe and the US have declared 'refusal to license' as legally untenable is the situation of denial of essential facilities by their owner. If a dominant firm tries to deny access to an 'essential facility' as a means of deterring competition, it may be found to abuse its dominant position. Consequently, sufficient grounds may be found for compelling a dominant firm to grant licenses on non-discriminatory and reasonable terms. This is termed as the *essential facility doctrine* and the most clear cut situation where this doctrine may be used is when the refusal to license prevents other parties from competing in a downstream market. Competition authorities may consider that a refusal to license an intellectual property right is unlawful if the lack of permission to use the right leads to a monopoly or near-monopoly, particularly when the dominant position allows the title-holder to charge excessive prices.

In *Otter Tail Power Co. v. The United States*,⁴¹ the US Supreme Court ruled that a dominant firm that controls an infrastructure or an asset that other companies need to make use of in order to compete has the obligation to make the facility available on non-discriminatory terms. In *Intergraph Corp. v. Intel Corp.*,⁴² the plaintiff argued that Intel's chips and technical know-how constituted an essential facility, as access thereto was vital to the plaintiff's business. The court did not agree and stated that "an essential facilities claim could not be made out unless the owner of the essential facility and the antitrust plaintiff competed in a market that required access to the facility."⁴³ In *Radio Telefis Eireann (RTE) and Independent Television Publications Ltd. (ITP) v. Commission of the European Communities*⁴⁴ (the Magill case), the complainant company wanted to produce for TV viewers a comprehensive guide to the programmes of the existing three TV stations. However, the TV stations refused to allow the complainant to publish their programmes citing their copyright.

39. Raymond T. Nimmer and Jeff C. Dodd, *Modern Licensing Law* 895 (Thomson West, USA, 2007-08).

40. See, *F.T.C. v. Indiana Federation of Dentists*, 106 S. Ct. 2009.

41. *Otter tail Power Co. v. The United States*, 410 U. S. 366 (1973).

42. *Intergraph Corp. v. Intel Corp.*, 195 F. 3d at 1356-59 (Fed. Cir. 1999).

43. See, Carlos M. Correa, "Intellectual Property and Competition Law" (International Centre for Trade and Sustainable Development, Geneva, Switzerland 2007).

44. *Radio Telefis Eireann (RTE) and Independent Television Publications Ltd. (ITP) v. Commission of the European Communities*, C-241/91P (ECJ 1995). See also *Istituto Chemioterapico Italiano S.p.A. and Commercial Solvents Corpn. v. Commission of the European Communities* [1974] ECR 223 where the company which had a monopoly over a raw material was obliged to supply it to a competitor.

The European Court of Justice, applying the ‘essential facility’ doctrine, held this to be abuse of dominance.

Refusal to license could possibly be brought within the concept of abuse of dominant position under section 4(2)(c) which states: “There shall be an abuse of dominant position under sub-section (1), if an enterprise or a group indulges in practice or practices resulting in denial of market access in any manner.”⁴⁵

(b) Abusive litigation

Enforcing one’s property rights is a fundamental guarantee of law. However, in certain situations such judicial actions can also fall foul of competition law. In *ITT Promedia* the court upheld the view of the European Commission that litigation can only be deemed abusive if two cumulative conditions are fulfilled:⁴⁶

- The action cannot reasonably be considered to be an attempt to establish the rights of the undertaking concerned, and can therefore only serve to harass the opposite party and
- It is part of a plan whose goal is the elimination of competition.

The first condition refers to the predatory nature of the action and the second examines the effect of the proceeding on the competitive structure. Applied together the two conditions extend the “special responsibility” of dominant undertakings to restrain themselves from hindering the maintenance of competition by threatening or commencing of judicial actions they know to be “groundless”.⁴⁷

(c) Excessive royalty

Royalty is the consideration of the license contract and courts are generally not bothered whether the consideration matches with the bargained rights.⁴⁸ Competition enforcers are not in the business of price control. The emphasis of competition law is on protection of a competitive process, not a particular result, and particularly not a specific price. Allegations of ‘excessive’ royalties are unlikely, on their own, to support the finding of a competition violation.⁴⁹ Therefore, a complaining party must first identify some anti-competitive conduct beyond a mere unilateral refusal to license and beyond the mere attempt to charge, where a lawful monopoly exists,

45. S. 4(2)(c), Competition Act, 2002.

46. *ITT Promedia v. Commission* [1998] ECR II- 2937.

47. See, Steven Preece, “ITT Promedia v. E.C. Commission: Establishing an Abuse of Predatory Litigation?” 119 20 *ECLR* (1999).

48. See, s. 25 (Expln. 2), Indian Contract Act, 1872.

49. *LaSalle St. Press, Inc. v. McCormick & Henderson, Inc.*, 445 F.2d 84 (7th Cir. 1971); *In re Indep. Servs. Orgs. Antitrust Litig.*, 964 F. Supp. 1479 (D.Kan. 1997).

a monopoly price.⁵⁰ In *Brulotte v. Thys Co.*,⁵¹ the US Supreme Court stated that a patent owner could exact royalties as high as he can negotiate with the leverage of that monopoly.

Licensors generally have a great deal of freedom in deciding what royalties to charge and how to structure their royalty arrangements. In very few cases, most of which have been subject to significant criticism and are of questionable precedential value, have royalty provisions provided the basis for an antitrust violation or a finding of misuse.⁵² Section 4(2)(a)(ii) of the Competition Act could be relevant here; it states: “There shall be an abuse of dominant position under sub-section (1), if an enterprise or a group... directly or indirectly, imposes unfair or discriminatory... price in purchase or sale (including predatory price) of goods or service.”⁵³

Business strategy to limit the negative effect of patent trolls

There can be no universal answer as to whether an operating company should settle or go for litigation when sued or threatened to be sued by a patent troll. Whereas some companies acquiesce to a troll’s demands, others go on the offensive by challenging the patents themselves, for example by finding prior art that invalidates their patent. An early settlement is often far less expensive than litigation costs and later settlement values. The answer lies in the litigating stamina and resources of the company within the overall business strategy of the operating company. Even after settlement for one patent there is no guarantee that the troll will not threaten the operating company for another technology covered by another patent or another troll would not do so. Following measures could be adopted by the operating companies in accordance with their resources.

Searching prior art

Patent litigation is a public affair and that patent trolls typically sue defendants in batches. This gives notice to other similarly situated potential defendants to find prior art and initiate a reexamination proceeding. Such prior art searches to invalidate patent troll lawsuits can also be outsourced to volunteers or crowd sourced against an offer of reward.

50. See, R. Hewitt Pate, “Competition and Intellectual Property in the U.S.: Licensing Freedom and the Limits of Antitrust”, available at: <http://www.justice.gov/atr/public/speeches/209359.htm> (last visited on Apr. 23, 2012).

51. *Brulotte v. Thys Co.*, 379 U.S. 29 (1964).

52. George G. Gordon, “Analyzing IP License Restrictions under the Antitrust Laws: A General Outline of Issues”, available at: <http://www.dechert.com/library/Analyzing%20IP%20License%20-%20GGordon%205-02.PDF> (last visited on June 5, 2012).

53. See, *supra* note 14 at 17.4.6.

Looking for alternatives

The amount of license fee that a patent troll can demand is always limited by the availability of an alternative. So, even before an operating company has been sued or threatened to be sued for infringement, it is wise to always be looking for alternatives. Operating companies should take more seriously the aspect of monitoring new patents to determine if any are relevant to their business activities. If an operating company is threatened by an infringement action, there is always a prospect of an injunction being issued against it. In that situation, a previously searched alternative could come handy for it.

Defensive patent aggregation

A defensive patent aggregation is the acquisition of patents by operating companies to keep such patents out of the hands of patent trolls. Another motivation for operating companies to acquire patents is the ability to counter-assert such patents in case another operating company files a patent litigation. In response to the patent troll threat, large companies have purchased their own patent portfolios.⁵⁴

Patent pools

It may be difficult for individual companies, especially if they are small, to acquire multiple patents. Therefore, companies can form a joint entity that could acquire patents and then that joint entity could non-exclusively license the patents of the pool to the members against a fixed or variable license royalty.⁵⁵ This way operating companies that are wary of trolls could jointly ward themselves from trolls.

Class action

Operating companies could defend themselves from trolls as a group—to take class actions to invalidate trolls' patents. The companies thinking alike could form a conglomerate to fight the troll together. In this conglomerate smaller companies could also join. The members of the conglomerate could agree within themselves that they would not adopt trollish behaviour against each other and would be together should any one of the group be targeted by a troll.

54. However, this defensive strategy does little to promote new ideas. It might even tempt these corporations to engage in troll-like behavior themselves.

55. An example of this model was introduced by RPX Corporation, a start-up based in San Francisco. RPX received venture funding from Kleiner Perkins Caufield & Byers (KPCB) and Charles River Ventures (CRV).

Insurance

Resort could also be had to insurance to help protect operating companies from inadvertently infringing a third party's patents in the event of them being sued.

Industry self regulation

In a technological world where some companies are just purely patent trolls and some giant manufacturing companies are also increasingly engaged in trollish behavior, some self regulation is called for. The inventions are made by humans and companies take control over them by way of contractual arrangements like licenses and assignments. The current practice in the industry is that engineers and designers sign a contract of assignment with their company that irrevocably gives that company ownership over any patents filed related to the employee's work. The company then has control over the patents and can use them however they want, which may include selling them to others who can also use them in whatever way. This arrangement allows trollish behaviour on part of companies that obtain patents and companies that acquire them. This arrangement is possible only when the employees make an assignment in favour of the company they work for. If this industry practice is changed then trollish behavior on part of companies can be reduced. Such industry practice can be induced by companies and also by employees who would not want their inventions of today be used as means for obfuscating innovation tomorrow.

One example has recently come from Twitter when it announced its intention of not using its or its employees' patents offensively on April 17, 2012 on their blog. The company is working on a model contract called Innovator's Patent Agreement (IPA) whereby Twitter promises not to use its patents or its employees' patents in an offensive manner without explicit permission from the people listed as inventors. This applies to both past, present, and future patents, and is transferable. That means even when the patents are further assigned by Twitter, this clause of the original contract will stand. According to Twitter:⁵⁶

The IPA is a new way to do patent assignment that keeps control in the hands of engineers and designers. It is a commitment from Twitter to our employees that patents can only be used for defensive purposes. We will not use the patents from employees' inventions in offensive litigation

56. Adam Messinger, VP of Engineering, Twitter "Introducing the Innovator's Patent Agreement", available at: <http://engineering.twitter.com/2012/04/introducing-innovators-patent-agreement.html> (last visited on June 12, 2012).

without their permission. What's more, this control flows with the patents, so if we sold them to others, they could only use them as the inventor intended.

With the IPA, employees can be assured that their patents will be used only as a shield rather than as a sword.

V Conclusion

Invention by itself does not guarantee the commercial success of the underlying technology; it requires innovation for taking the invention to the market. The goal should be to make applied research a profitable activity that attracts vastly more private investment than it does today so that the number of inventions soars. Licensing is one of the major tools for galvanizing the invention and taking it to the market. This way through licensing the IP is converted into wealth. However, any system will eventually be co-opted by rent-seekers. The patent system which permits ease of transferability of property is subject to be hijacked by patent trolls who act as rent seekers of the industry. Just as good patents advance innovation, bad patents retard it. The money that goes to license an invalid patent, or settle a meritless lawsuit by a patent troll, is a tax on innovators. Of course patent trolls create a secondary market for patents, however, they fail to create a market for technology. They are rarely instrumental in transfer of technology because the defendants are already using the technology. It seems patent trolls, for the time being, will continue to lie in wait under the bridges of technology, ready to exact their rents; for that we need to devise means to restrict and limit their negative effects which could be done through legal means and business strategy.