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## Impact Analysis of The Leahy-Smith America Invents Act

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## **Impact Analysis of The Leahy-Smith America Invents Act**

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### **Abstract**

The United States patent system is crucial in protecting our intellectual property and strengthening our position in the world economy. The U.S. Constitution specifically empowers Congress to issue patents in order to “promote the progress of science and useful arts.” This research paper explores how The Leahy-Smith America Invents Act (AIA) has impacted independent inventors and small businesses in the United States. In this study, I used secondary analysis of existing research and statistical data from the United States Patent Trademark Office (USPTO) to examine this issue as it pertains to economic competitiveness (creativity and innovation), job creation / reduction, and legal. The most significant change by the AIA made to the patent law was the move from a first-to-invent to a first-to-file patent system. The second change was the 1-year commercial use limitation for any patent applicant to use an invention prior to filing an application for a patent. The Leahy-Smith America Invents Act has modified a 60-year-old patent system and brought us more in line with the rest of the patent systems in the world but it is having some damaging effects to the innovation and creativity here in the United States. Some of these effects result in diminishing patent quality and surging increase in patent applications reported by the USPTO. Going forward, we need to continue to closely monitor the quality and quantity of patents being filed and granted by U.S. based independent inventors and small businesses in comparison to foreign origin patent applications and grants.

## Introduction

Patenting an invention in the United States grants the inventor exclusive rights and allows them to exclude others from making, using, or selling their invention. Having a strong patent system drives creativity, innovation, and economic growth. It is crucial to the growth and stability of the United States in the world market. The United States economy depends on patents and intellectual property protection; without a strong patent system in place our economy could die a slow death. Many thought that our patent system was dated because it had not been modified in nearly 60 years. With our patent system being so systematically different than the rest of the world it was challenging for American inventors and small businesses to understand and patent an invention in another country. It was also very confusing for a foreign inventor or small business to understand and patent something here in the United States. This was one of the main driving factors for the U.S. to modify the patent system to be more in line with the majority of patent systems that govern the rest of the world.

The Leahy-Smith American Invents Act (AIA), signed into law by President Barack Obama on September 16, 2011, has modified the nearly 60-year-old patent system so that our patent system is more consistent with the patent systems of other countries. The old patent system was a “first to invent” (FTI) system – where the patent would be awarded to the person able to show that they invented a particular product first (Braun, 2012, p. 47). The FTI system and its robust grace period afforded the independent inventors, startups, and small businesses time to research and develop their idea, build the substance of the patent, prior to filing a well thought out patent application (Case, 2013, p. 48). With the old system, as long as you documented your invention very well from napkin

(concept) to launch (market), you would be granted a patent for your invention even if there was another inventor that filed for a patent before you but made the discovery after you.

The new system is a “first-to-file” (FTF) system – which awards patents to the inventor(s) who first files the patent application (Braun, 2012, p. 47). With this new system no matter how well an inventor documents their invention from napkin to launch, if someone else files an application before they do they will not be granted a patent for their invention. Research shows that the patent law modifications to be more in line with other countries have negatively impacted independent inventors and small businesses. The new system diverts the innovator's attention, time, and resources to unwanted, unhelpful, and expensive paperwork (Case, 2013, p. 48).

In this study, I will be using secondary analysis of existing research and statistical data from the United States Patent Trademark Office (USPTO) to examine this issue as it pertains to economic competitiveness (creativity and innovation), job creation / reduction, and legal with two goals in mind: (1) identify differences in patent law outcomes and (2) recommend ways for independent inventors and small businesses to leverage the new patent law system in their favor. My hope is to inform independent inventors and small businesses on the new patent law system, identify aspects about the new law that were developed in their favor, and encourage them to continue filing high quality patents that spur innovation and creativity, protect their intellectual property and inventions, and create more technologically focused jobs in the United States.

### Interdisciplinary Approach

If we only focus on the legal impact that the Leahy-Smith American Invents Act has had on independent inventors, startups,

and small businesses you would find that the changes that were made to the patent system have significantly reduced the ability for another inventor to dispute a patent application that has been submitted. Before the change to a “first-to-file” patent system, a “first-to-invent” patent system allowed anyone to dispute a patent if they could provide well documented evidence that they had made the same invention discovery at an earlier date. By using an interdisciplinary approach and examining the impact this change has had to the U.S. economic competitiveness (creativity and innovation), job creation / reduction, and legal systems we get a better understanding of the full effect it is having on creativity and innovation here in the U.S.

### **Economic Competitiveness**

The first impacted area as a result of the Leahy-Smith American Invents Act is economic competitiveness. Economic competitiveness is a Country’s ability to design, develop, produce, and supply goods and services to a particular market as compared to other countries in the same market. The U.S. economy is increasingly based on high-tech and Intellectual Property (IP) intensive industries instead of traditional manufacturing. According to the U.S. Department of Commerce, IP-intensive industries contribute more than five trillion dollars annually to the U.S. economy. In addition, forty million jobs are attributed to IP-intensive industries. Countries such as the United States, where IP protection is strong, have a significant advantage attracting research and development (R&D) investment. There is a strong positive correlation between U.S. GDP and U.S. patenting activity (Turner-Brim, 2016, p. 80). It is imperative that we preserve and strengthen the patent system in the U.S. so we can strengthen our place in the world

market and remain competitive economically.

### **Job Creation / Reduction**

Another area impacted area as a result of the Leahy-Smith American Invents Act is job creation. Startups and other venture-backed companies outperform the overall economy in job creation and revenue growth. Venture capital facilitates the growth of these new industries. In 2010, venture capital-backed companies employed eleven percent of the U.S. private sector nearly twelve million people. Those same companies generated more than \$3 trillion in revenue, which amounted to twenty-one percent of the U.S. GDP (Case, 2013, p. 46). Startups and venture-backed companies make up a significant portion of the U.S. GDP. If we ignore the negative impact that the Leahy-Smith America Invents Act has and will continue to have on job creation the twenty-one percent revenue that these companies contribute to our economy will continue to fall. This will have a significant impact on the financial stability, economic growth, and unemployment status of the U.S.

The Leahy-Smith American Invents Act has also had an impact on job reduction here in the U.S. Proponents of the modified patent system are unable to explain why the U.S. economy has not seen a significant acceleration in the “rate of technology progress”, a decrease in the amount of money spent on research and development, and also a decline in U.S. scientific research and literature being published despite a tremendous increase in the amount of patents registered This paradox is known as the “patent puzzle” (Harding, 2016, p. 200). Many consider the amount of scientific research and literature being published an early indicator that the creativity and innovation surrounding technological advancement in the U.S. is slowing down. The adoption of an open-source model in

cutting-edge industries will not only help in solving the “patent puzzle” and increasing the rate of innovation in the U.S., but will also likely lower legal costs for companies by reducing transaction costs, the risk of litigation, and the presence and power of patent trolls (Harding, 2016, p. 200). A patent troll is a person or corporation that typically does not manufacture products but attempts to enforce patent rights against infringers far beyond the actual value or scope of the patent. An open-source model could be interpreted in a couple of ways, one way would be that a patent holder would open their patent to be used by others with or without some stipulations. There have been some inventors that have done this in the past, most recently Elon Musk, owner of Tesla Motors, opened many of the patents they have on their charging system and the Model S. They did this so that other automakers, that are also producing or aspiring to produce electric cars, could collaboratively benefit from a common, rapidly evolving technology platform. Instead, most automakers are working independently and the development of electric vehicle and charging infrastructure is becoming less common.

The U.S. Constitution specifically empowers Congress to issue patents in order to “promote the progress of science and useful arts.” Patents allow the dissemination of new technological information and are integral to the U.S. economy. However, the current patent system’s benefits are largely outweighed by its negative effects. The U.S. patent system stunts innovation, allows patent trolls to abuse the legal system, and imposes large litigation and transactional costs on companies (Harding, 2016, p. 201). Since the U.S. Constitution was drafted and came into force in 1789 we knew the importance of a strong patent system and the value of innovation to the future of the U.S.

We are also starting to realize that some inventors and small businesses are developing and producing their inventions but they are not patenting them. Things have been put in place like supplemental examination of an existing patent where a patent owner can request examination of a patent in the office to consider, reconsider, or correct patent information believed to be relevant. The supplemental examination mechanism can be predicted to encourage a greater belief that patents are generally less likely to be valid than they were before (Rantanen, Petherbridge, & Kesan, 2012, p. 232). At the same time, and somewhat perversely, it creates an environment in which organizing capital around a patent or modestly sized patent portfolio might make less sense than it did before the America Invents Act (Rantanen & Petherbridge, 2011, p. 27). The validity of a patent is the only reason to file for a patent, if we make them less valuable fewer independent inventors and small businesses will bother with filing for patents and innovation in the U.S. will decline with an exponential decay model.

Patent law drives a hard bargain with inventors: a patent grants you monopoly rights for a limited time in exchange for full public disclosure of your invention. Independent inventors, startups, and small businesses are concerned that by publically disclosing their invention it might qualify as “prior art” and be patent defeating under subsection 102(a) (Morgan, 2011, p. 32). Subsection 102(a) says a person shall be granted a patent unless the claimed invention was patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention. Also, an inventor who makes a secret, commercial use of an invention for more than one year prior to filing a patent application at the USPTO forfeits his own

right to a patent. This policy is based principally upon the desire to maintain the integrity of the statutorily prescribed patent term. The patent law grants a 20-year patent term, commencing from the date a patent application is filed. If the trade secret holder could make commercial use of an invention for many years before choosing to file a patent application, he could disrupt this regime by delaying the expiration date of his patent (Schacht & Thomas, 2012, p. 7). With this new change a company like Coca-Cola or Gentex could not produce and sell their products for more than a year prior to filing for a patent. If they were to do so, they would not be granted a patent for their invention. The reason companies like this do not apply for a patent is because they do not want to have full public disclosure of their inventions. Independent inventors, startups, and small businesses must choose between filing for a patent and keeping their invention or technological advancement a secret. Some evaluate the costs and benefits of these opposing choices and choose the protection afforded by patent law, with this protection they must disclose their invention and/or advances in technology to the public (Crawley, 2014, p. 5). With the old patent system, they would just hold their intellectual property secret as long as they can and if someone could figure out their invention they would still be able to file for a patent because they were the first-to-invent. With the new system if someone else figures it out and they file for a patent before the original inventor does they will be granted the patent and then could go after the other corporation for royalties on all the product they produce. A growing number of experts agree, arguing that the current patent system, as well as the culture surrounding it, does not promote innovation in the United States (Harding, 2016, p. 199). A result of the changes to the patent system, and the culture surrounding it here in the United

States, result in less collaboration and a reduction in technological jobs created.

### **Legal Aspect**

The legal area is also impacted by the changes that were implemented with the Leahy-Smith American Invents Act. The older “first-to-invent” system and its robust grace period afforded the inventor(s) time to develop their ideas prior to filing a patent application (Case, 2013, p. 48). The FTI system allowed all current and future patent applicants the needed time to compile a high quality patent. The new system is a “first-to-file” system – which awards patents to the inventor(s) who first file the patent application (Braun, 2012, p. 47). With the changes that were implemented with the Leahy-Smith American Invents Act inventors are now quicker to file so they aren’t undershot by another inventor with a similar or same idea and without the grace period there is no longer an opportunity to compile a high quality patent. Some of the negative effects have been the move to a “first-to-file” system. This type of a system will likely favor, and further entrench, well-financed multinational market incumbents over independent inventors and small businesses with limited assets (Mattappally, 2012, p. 1012). We are already observing this change happening with the data provided by the USPTO. In 2009, before the Leahy-Smith America Invents Act 50.8% of the patents granted by the were of foreign origin. Since the Leahy-Smith America Invents Act went into law there have been a rise in patent grants to businesses of foreign origin by almost 5%. The 2012 wait time for the USPTO to review and examine a patent was 21 months. The average time it takes to obtain a patent from the USPTO since the AIA went into law is between 32 months and 3 years (“Traditional Total Pendency,” 2016).

The time it takes the USPTO to grant or deny a patent has increased because of the significant increase in patent applications. On the other hand, some of the AIA law has been good for independent inventors and small businesses like the filing fee reduction. Congress lessened the financial burden on independent inventors and small businesses in filing patent applications by reducing their application fees (Mattappally, 2012, p. 1008). The reduction in fees for domestic and foreign independent inventors and small businesses has made it attractive for some to apply for a patent. These changes to the patent system have made things much more complex and confusing for, especially for independent inventors and small businesses that lack the legal resources to familiarize themselves with the new law. Most retain legal representation to handle the process and it is still very time consuming, expensive, and because of this some are not likely to go through the process of obtaining a patent on their invention.

#### Integration

The U.S. Constitution was founded with the idea that the patents are integral to the sustainability and growth of U.S. economy. The radical change from a first-to-invent to a first-to-file patent system in the U.S., mostly to align us with other patent systems globally, causing creativity and innovation in the United States to diminish. People are increasingly likely to invent and produce things without patenting them or open the patents that they do hold to try and spur innovation and rapid technological advancements. Lastly, unless we make some changes to fix the patent system, to close loopholes, and stop bad behaviors, we will fall further down the list of technologically advanced countries and someday perhaps as far as becoming one of the low cost countries for manufacturing.

#### Conclusion

The Leahy-Smith America Invents Act has modified a 60-year-old patent system and brought us more in line with the rest of the patent systems in the world but it is having some damaging effects to the innovation and creativity here in the United States. If we don't realize what they are and make some changes quickly it will have a devastating and long lasting impact to our education system, economy, and the future of technology in the United States.

One challenge with this topic is that the patent law was signed into law by President Barack Obama and went into effect on September 16, 2011 and on March 16, 2013. It can take 32 months to 3 years for a patent to move from a filed application to being granted a patent under the new patent law so there is not much data available yet. We are just starting to realize the effects that the changes have made to the system and how it is affecting independent inventors and small businesses. Going forward, we need to continue to closely monitor the quality and quantity of patents being filed and granted by U.S. based independent inventors and small businesses in comparison to foreign origin patent applications and grants.

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