
GENERAL ANALYSIS OF WHY INVESTORS ARE INVENTING MORE THAN INDEPENDENT INVENTORS

M.V. Arjun Ram, Sastra University

ABSTRACT

Independent inventors have generally been overlooked in research on innovation. Investors who established a company to commercialize others inventions were most likely to achieve sales. However, inventors who licensed their inventions were more likely to achieve higher sales levels than those who commercialized them only via their own company, or by selling their inventions outright. This paper focuses on why Investors invent more than independent inventors

Keywords: independent inventor; invention; innovation; licensing

OBJECTIVES

1. To Study the difference between independent inventors and investors
2. To Know about Invention and innovation of such invention
3. To Understand the importance of R & D in Invention
4. To know the Investors contribution in an invention.

RESEARCH METHODOLOGY

The research methodology in this paper is done through doctrinal or nonempirical research methodology. The researcher has done this study using different articles, books, web information on the present topic.

INTRODUCTION:

Intellectual property (IP) is a legal framework that provides exclusive rights to individuals or organizations for their inventions, designs, and creative works. IP protection is essential for fostering innovation by providing inventors and creators with the incentive to invest in their ideas and commercialize them. Historically, independent inventors, individuals who develop new inventions without significant financial backing from corporations or investors, have played a crucial role in driving innovation. However, in recent years, there has been a noticeable shift in the landscape of IP ownership, with investor-owned IP becoming more prevalent. This trend has raised concerns about the challenges faced by independent inventors in protecting and benefiting from their innovative ideas. Today, innovation is a political and corporate buzzword (O'Bryan, 2016), not very surprisingly, as innovation is considered crucial for long-term economic growth. Already in 1911, Joseph Schumpeter pointed out that small company innovation plays a crucial role in the success and dynamism of capitalist economies. It has been further argued that the function of innovation is to introduce novelty into the economic sphere. Should the stream of innovation dry up, the economy will settle into a stationary state with little or no growth (Metcalf, 1998). Moreover, issues such as climate change, water stress, biodiversity loss, land system change and altered biochemical cycles are issues humanity need to address and solve (Steffen, et al., 2015). To do, we may rely on innovation. all national patent applications submitted in 2015 derived from independent

inventors (IIs), that is inventors who invent outside a company's boarder and without connection to universities (Lettl, Rost, & Von Wartberg, 2009). However, sometimes as part of patent strategies, companies hand in multiple applications without planning to commercial all of them; 22% of the company applications were submitted by the same ten companies (Arvidsson, 2015), and similarly, not all inventions by independent inventors are commercialized. 47% of the inventions were developed within already established companies, 33% were developed by independent innovators, while the academia represented the remaining 20% (Sandström, 2014). Although this study considered innovations over time, meaning the distribution might be different if only considering innovations from the last year, it shows that independent inventors have played an important role to the innovativeness, and hopefully they will continue to contribute to a sustainable development and economic growth. However, studies show that many inventors struggle to successfully commercialize their ideas. Only five to eight percent of inventions from independent inventors reach the market (Åstebro & Dahlin, 2005), meaning a lot of time and money that is spent on development of these inventions is never regained.

INVENTION AND INNOVATION:

Invention and innovation are two terms that are often used interchangeably, but they actually refer to two different concepts. Invention refers to the creation of a new idea, product, or process, while innovation refers to the implementation of that idea in a way that creates value. To put it simply, invention is the initial idea or concept, while innovation is the process of bringing that idea to life and making it a success. Invention is the act of conceiving a new idea, while innovation is the act of implementing that idea in a practical way. Invention is an important part of innovation because without new ideas, there would be nothing to innovate. However, not all inventions lead to innovation. In fact, most inventions never make it to the innovation stage because they are either not feasible or not commercially viable. Innovation requires more than just a good idea. It requires a process of research and development, testing, marketing, and commercialization.

Innovation involves taking risks and making strategic decisions that can lead to success or failure. It requires a combination of creativity, entrepreneurship, and business acumen. The relationship between invention and innovation is a complex one. Invention is often the starting point for innovation, but innovation is not always the result of invention.

Innovation can also be driven by market needs or changes in technology. In some cases, innovation can even lead to new inventions. Innovation is important because it drives economic growth, creates jobs, and improves our quality of life. Innovation has led to many of the advancements we enjoy today, from computers and smartphones to medical treatments and renewable energy. Innovation can also help solve some of the world's most pressing problems, such as climate change, poverty, and disease.

ROLE OF INVESTOR AND INDEPENDENT INVENTOR:

Developing new ideas is difficult. Every idea requires a range of skills and normally involves several people. However, stereotypical convention suggests there are only two major players: an inventor and a 'greedy' investor (who is frequently a business person). Inventor and investor are polar opposites in this engagement. Each needs the other, but retains mistrust which, when the relationship starts, is directly proportional to the amount of perceived personal investment by the inventor and the direct financial investment proposed by the investor. I have seen too many good commercial opportunities fail to get to market simply because this relationship could not be managed effectively. The basic challenge is that inventors and investors intrinsically see the world from completely different angles. Inventors, by nature, usually have an element of free spirit about them. An investor (a business person) focuses on a specific plan to turn a profit. Therein lies the problem. It is hard to sit astride the fence. For the inventor, the idea itself is the wealth; for the investor, it is simply a necessary means for generating wealth.

In the normal run of things, it would be nice if inventors would be inventors and investors could focus on making money, but we seem to be in a position in which the only certain way to succeed commercially is to be what David Nicholas frequently called an 'entrepreneurial inventor'. Because of this, he has often said, he has not been rewarded as well as he should have been. This is one reason why he has fought so hard for the 'unjustly treated' inventor, regularly attacking those whom this article would define as investors.³ Surely there is a better way of bringing together inventors and investors, such that they can both gain appropriate recognition for their contribution to a commercial venture?

Investors are, after all, in the business of making money: it is their money and they want control. It is a given that investors will primarily seek good management teams capable of delivering a project against a plan – people with a track record of success who

will generate profits. Thus it is not surprising if investors are actually looking beyond the idea (and the inventor) to see where they can find the person or team who will deliver their return; the inventor's idea is not incidental, but it is certainly not the investor's main concern.

In summary, we have an inventor, who has given life and soul to an invention, trying to sell it to a person who is essentially interested in people and in making money rather than in the idea itself. No wonder an inventor can feel belittled. When the inventor starts to fight for status in this relationship, we can already see the seeds of discord which may fester and finally break that thread of trust which is essential to any long-term relationship.

INDEPENDENT INVENTORS AND CORPORATE INVENTORS OR INVESTORS AS SOURCES OF INVENTION

Independent inventors operate outside the boundaries of established firms and do not have an explicit mandate to develop inventions. Their motivation for voluntarily engaging in creative processes is typically a combination of the following motives: First, the inventors may simply enjoy the intellectual challenge of developing a novel solution to a problem. Second, they may be compelled by a need for a better solution (Von Hippel, 2005). Third, they may be motivated by the prospect of gaining recognition from peers or signalling technical excellence to venture capitalists or potential employers. Fourth, they may see an incentive in the monetary rewards which may arise from patent licensing, consultancy or entrepreneurship. Independent inventors have often been stereotyped as lone 'garage' inventors (Fleming, 2007). However, recent work indicates that many independent inventors are embedded in social networks of individuals who share an interest in a specific topic or field. Corporate inventors are employed by organizations to conduct research, development and other technical activities. As a result, their inventions arise during their work and belong to their employers (Spear, 2006). Corporate inventors have an explicit obligation to come up with patentable inventions and are supported by various organizational resources in order to accomplish that task.

INVESTORS INVENT MORE THAN INDIVIDUAL INVENTORS

We have various reasons of why investors are inventing more than individual inventors. To start with, we must analyse the commercialization process, and in particular the

different roles and skills required. Any commercial operation needs an element of R&D; in our case, the inventor. Further technical support might be available within a higher education. You need someone to sell the product (sales and marketing), someone to control the finances (finance), some legal advice (patents and agreements), and finally a coordinator with lots of energy (a 'champion' or 'driver'). It may also be appropriate to have a mentor (such as a non-executive chairman). Now add an investor who is injecting hard cash to make the whole operation run. It is clear that the inventor is but one element in a skilled and varied team geared for success. How, therefore, do we protect the position of the inventor without limiting the commercial room for manoeuvre sought by the investor? Assuming there is some form of protectable intellectual property (IP) (patent, trademark (brand), copyright or know-how), it may be possible for an inventor to license an idea to an established commercial operation. Licensing has many advantages as it automatically links into established distribution channels and saves all the difficulties of a start-up company.

In setting up his or her own exploitation company, the inventor needs to add investment in the form of either funds or resources. Unless inventors have personal funds, the only option is to swap these for equity and thus, they will be diluted out of control as soon as the venture requires significant external support.

Whilst the total value of the minority shareholding is probably significantly greater than the whole value at the beginning, the inventor is no longer in control and, in practice, may not manage to withdraw any cash value for some time. This uncertainty is most uncomfortable for inventors, and some suggest that they are at an unacceptable commercial disadvantage. Investors, however, will feel that their significant investment should give them total freedom of action, not least because they probably believe they have a better understanding of how to create long-term wealth. However, there is a way around this issue as long as the value of the IP can be held 'independently' within a limited 'IP holding' company. Having clearly established what is available to a commercial partner, it is now possible to offer a licence for this IP to a second independent exploitation company.

PROTECTING R & D OF AN INVENTION THROUGH TRIPS:

The existence of IPR laws is important for protecting and managing research results. Countries must enhance awareness on intellectual property laws and their functions at national and international levels to protect patentable inventions in a legal manner.⁷ R&D innovations can be protected under the TRIPS Agreement which covers seven forms of intellectual property, namely, patent, copyright, trademark, industrial design, geographical indication, lay out design of integrated circuit, and protection of undisclosed information or trade secrets. According to Article 27 of the TRIPS Agreement all inventions regardless of the field of technology would be eligible for protection.⁸ Strong IPR protection checks imitations while simultaneously attempt to strengthening the ownership of the innovation.

In other words, strong IPR protection by checking all possible imitation does not permit to offer ownership when the work does not entitle to receive it. It also has a positive effect on economic growth by increasing the average duration of monopoly on power of goods and an increase in the average price of goods in the economy. A strengthened IPR protection regimen may lengthen the ownership duration of the owner over a product or invention.⁹ It means by providing a strong protection according to their criteria, they ensure the IPR being offered. Weak or ambiguous intellectual property rights reduce the incentive to innovate and create, and countries with weak IPR protection and poor institutional environments for that purpose are not known for their R&D and technology strength. A functional intellectual property rights system is needed for successful utilization and implementation of R&D. Since, intellectual property is significant facet of global commerce; it is not possible to negotiate trade between states that does not utilize these key property rights. Therefore, countries recognize that designing a functional intellectual property system would help them to protect their rights. Although it has not been fully demonstrated that stronger IPR laws are essential for economic development, countries do attempt to comply with international IPR regime, namely the TRIPS Agreement, to promote their technological development and enhance economic competitiveness.²⁷ Most countries have amended their laws to make them compliant with the TRIPS Agreement so as to effectively protect and manage the results of their research.⁷ A good example of this is India which emphasizes on enhancing awareness on intellectual property laws and their operations at national and international levels.

However, changes in technology require intellectual property laws to take into account the new technologies such as, in the field of biotechnology, domain names, animal

genetic resources, and computer software.

THE ENFORCEMENT OF IP RIGHTS FOR R&D INVESTORS

Data indicates that firms investing in R&D perform better in regions that have strong enforcement of IP rights that help to mitigate problems associated with R&D protection. When enforcement of IP rights is poor, foreign investors in joint ventures would hesitate to transfer or invest in technology. Good enforcement of IP rights enables greater technology transfer and development by deterring the local partners from illegally appropriating the technology. In addition, foreign partners of joint venture firms in regions with strong enforcement of IP rights will be more forthcoming with resources for projects as well as in providing increased levels of R&D investments and enjoy greater productivity in terms of introducing new products.

Countries must have proper legal structure as well as well-developed financial markets to have economic development. Knowledge resulting from R&D activities occur through contractual, namely, patent arrangements in countries which have strong intellectual property rights protection. The gains from firms' investments in R&D will be lost if courts are unwilling to restrain such action through leakage of proprietary information through imitation. This occurs due to the high cost of court action or trial in protecting R&D investments in countries with weak legal protection. Consequently, it curtails an individual firm's R&D activities and will reduce the benefits of firm-specific R&D. Therefore, arbitration should be considered seriously as an option to take control of a dispute. It has plenty of advantages over litigation.

The main con of this creature is that parties can select decision maker with expertise in the type of intellectual property, which the dispute is involved. Basically, this is a major advantage of arbitration over litigation.²¹ Further, ADR and Mediation consists of single proceeding under the law determined by the parties, while court litigation consist of multiple proceedings under different law with risk of conflicting result which make too many complexity in cross-border cases.²⁴ IP rights in various contracts throughout R&D project has a vital role.

Thus, parties must be prudent in choosing dispute resolutions strategy when negotiating dispute resolution clauses. In fact, the legal protection of a firm's investment in R&D will have an effect on financial market development and economic growth.

This is quite apparent in China where the economic development depends on financial markets and legal structure. Although, China's market was weak initially, transactions were protected via informal mechanisms. One of the deviations of informal mechanism is informal finance and informal financial systems. Informal financial institutions play a complementary role to the formal financial system. Informal financing typically consists of small, unsecured, short-term loans restricted to rural areas, agricultural contracts, households, individuals, or small entrepreneurial ventures. The vastness of the country results in wide variation in market and legal structures across different regions. However, the government ensured that certain regions were sufficiently well-developed to support economic activities.¹¹ Statistics on more than 300,000 states and private industrial firms indicate that the leakage of proprietary information varies with the strength of property rights protection.

Regions without such protection have larger R&D spillovers and firms have less incentive to invest in R&D activities. The strong economic position in China is an example of how R&D investment is closely associated with property rights protections and how they affect R&D investments. Despite the overall weak property rights protection within China, certain regions provide stronger protection which checks uncompensated spill overs of R&D. It is clear that weak property rights contribute to R&D spill overs and some developing countries "have not signed international treaties concerning protection of intellectual property rights and others that have laxly enforced domestic laws and regulations designed for this purpose."

As such, imitation and information leakage are common in those countries. This can be compared with the situation in developed countries with strong IPR regimes. The existence of strong IPR regimes is one reason why the R&D spill overs on investment differ in developing and developed countries. According to the United States Trade Representative Report, about 90 countries have adequate and effective intellectual property rights protections. China is on its Priority Watch List as imitation is seen as a dominant element in R&D spill over there.

Yamaha Case Study

The name *Yamaha* is synonymous with cutting-edge sound and music technologies that have been acquired over the years. This has enhanced the value of the *Yamaha* brand and creates new demand for its products through the provision of innovative, high-quality

products and services. *Yamaha* is identified with world-class technologies that it has researched and developed and this is expected to further develop in the future. Its investments in human resources to support its research endeavours and business are high and the company constantly seeks advanced technologies and collaboration with universities and research institutions.¹³ This acquired high-level knowledge and technology is then drilled down into its workforce. *Yamaha* is a strong believer in creating its own patent and other intellectual property rights while respecting that of other innovators. Lately, the company has taken steps to integrate its business, R&D and intellectual property strategies through measures aimed at maximizing the contribution of intellectual property to its business bottom-lines.¹³

The company's patent strategies are designed specifically to meet its operational requirements in particular business segments. They include acquiring patents in specific areas such as core and new technologies and new businesses and developing a strong patent portfolio on its core competencies.

CONCLUSION:

In conclusion, the success of start-up operations is almost totally dependent on the quality of the team driving the project. Hitherto, inventors have been forced to develop their own products when, very often, they patently have not possessed the full range of necessary skills. With no obvious alternative, they are often forced to go down a commercialization path which is unsuited to their abilities. Conversely, investors with no alternative of their own have needed to take control of the process as soon as possible to reduce their commercial risk. Despite the rising importance of the modern corporation and the spread of in-house R&D, over half of patents originated from outside the boundaries of firms. Comparisons of citations to a broad sample of patents by individuals and firms shows that the quality of independent inventions was similar to or even higher on average than the quality of inventions within firms. As Schmookler once noted about the period, "while large-scale enterprise unquestionably makes a great contribution to modern technological progress, the claim that it alone does so is entirely unwarranted." The examples cited above corroborate the fact that if an invention has the potential to address / simplify an existing problem, then even though an individual or SME seeks patent protection, it is bound to reap benefits for the patent applicant. Certainly, the road may be rough and long for the patent applicant being an SME / inventor but is certain to fetch returns, and at the end may reaffirm an old saying – 'All's well that ends well'.

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