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How To Commercialize Patents

Case: Company X

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ABSTRACT

The purpose of this thesis is to study what patents are, their meaning to the modern economy and what are the means how patents can be commercialized. The thesis was commissioned by Company X in order to provide them with necessary information about patents and a roadmap about the process of commercializing their patents.

This thesis uses a qualitative research method with deductive approach. The thesis is based on literature review, semi structured interviews and on the authors observation of the case company.

The theoretical part of the thesis consists of a brief introduction to micro-enterprises and wider research of immaterial rights especially focusing on patents and patent commercialization. Patent theory consists of the basic concepts of the patents, patent evaluation, patenting process, patent infringements and patent commercialization methods like assignments and licensing.

The empirical part of the study analyses the current situation of Company X in order to find possible limits and pitfalls in the commercialization process. Based on the analysis, an action plan is recommended to the company. The action plan offers Company X guidelines in order to achieve the full financial potential of the invention.

The study suggests that Company X needs to gather more data on possible patent violators and to create proper marketing material in order to prepare for the commercialization of the patent. It is also crucial to find partners with proper skills and contact networks to help in the commercialization process.

Key words: micro-enterprises, patents, patent commercialization

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TIIVISTELMÄ

Tämän opinnäytetyön tarkoituksena on tutkia patenteja, niiden merkitystä modernille taloudelle, sekä tapoja joilla patenteja voidaan kaupallistaa. Tämän opinnäytetyön hankkeisti Yritys X, jolla oli tarve saada tietoa patenteista ja toimintasuunnitelmaa niiden kaupallistamiseen.

Tämä opinnäytetyö käyttää kvalitatiivista tutkimusmenetelmää deduktiivisellä lähestymistavalla. Tutkimus perustuu ensi- ja toissijaisiin lähteisiin sisältäen kirjallisuutta, haastatteluita, sekä kirjoittajan omaa pohdintaa yrityksestä.

Teoreettinen osuus käsittelee lyhyesti mikroyrityksiä sekä immateriaalioikeuksia, keskittyen varsinkin patentteihin ja niiden kaupallistamiseen. Tutkimus sisältää patenttien peruskäsitteet, tietoa niiden arvioimisesta, sekä hakuprosessista Suomessa. Patenttien kaupallistamista käydään läpi selvittämällä erilaisia kaupallistamismuotoja esimerkiksi myymistä sekä lisensointia.

Empiirisessä osuudessa tutkitaan yrityksen nykytilaa, jotta kaupallistamissuunnitelma olisi mahdollisimman räätälöity yritykselle. Tämän tutkimuksen perusteella, yritykselle kehitetään toimintasuunnitelma jota noudattamalla yritys maksimoi mahdollisuutensa onnistua kaupallistamisessa.

Tutkimus osoittaa, että Yritys X:n tarvitsee tehdä lisätutkimuksia varmistaakseen patenttirikkomusten laajuuden. Näiden tutkimusten perusteella tehty markkinointi materiaali auttaa patentin kaupallistamisessa. Erittäin tärkeää on myös asiantuntevien yhteistyökumppaneiden löytäminen.

Asiasanat: mikroyritykset, patentit, patenttien kaupallistaminen

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1 INTRODUCTION

1.1 Background of the thesis

The idea for the thesis came from the owner of the case company X. Company X felt that they had made a great innovation and they wondered how they could capitalize on their efforts. However, due to lack of experience in commercializing their patents, Company X needed to conduct research in order to solve this problem. Company X made some initial steps on their own but they did not lead to desired results.

The author has worked for Company X on some minor projects and is very familiar with the company. Patents and their commercialization was something that the author was not familiar with beforehand. However, the author felt that patents were such a massive part of the modern economy that it would be a great learning experience to study this subject and thereby create benefit for both the company and the author.

1.2 Objectives

The main objective of this thesis is to generate a roadmap on how Company X can commercialize their patents.

1.3 Research questions

1. What are patents and their role in modern economy?
2. What different means are there to commercialize patents?
3. What is the current situation of the case company?
4. What means is the most suitable for the case company?

1.4 Research methods & Data collection

This thesis uses qualitative research method with a deductive approach. Qualitative data consists of observations, semi-constructed interviews and literature (Patton 2001, 4).

Research data of this thesis consists of primary and secondary sources. The empirical part of this study will consist of both primary and secondary sources. The theoretical part consists primarily on secondary sources with addition of few primary sources.

1.5 Theoretical framework

This study examines the special role of immaterial rights in our economy. Known commercialization theories of immaterial rights are tested and analyzed in the process to create the proper guidelines for the case company.

1.6 Scope and limitations

Immaterial rights laws and practices vary depending on the country or region. Therefore this thesis will primarily focus on those of Finnish design and secondly those of European Union.

The thesis neither evaluates the value of current patents nor gives detailed figures on possible financial outcomes of suggested approaches.

1.7 Structure

As can be seen below from figure 1, this thesis consists of eight chapters.



FIGURE 1. Thesis structure

The Introduction chapter gives the answer to questions: why and how this study was made?

Chapters 2 to 3 provide the theoretical part of this thesis. Theoretical part starts with a brief introduction of micro-enterprises and continues with a description of immaterial rights and patents. Last chapter of theoretical part focuses on the known methods of commercializing patents.

Chapters 4 and 5 are the empirical part of this study. Chapter 4 is an analysis of the case company X. Chapter 5 focuses on the suggested approach for the company. In this chapter, the author reveal the suggested action plan.

Chapter 6 answers to the research questions of the study and also evaluates reliability and validity of the study. Chapter 7 summarizes the whole study.

2 MICRO-ENTERPRISES & IMMATERIAL RIGHTS

2.1 Definition of Micro-Enterprises

The European Union defines Micro-Enterprises as companies that have fewer than 10 employees, have turnover less than 2 million Euros and that are considered as autonomous enterprises. To be considered as an autonomous enterprise no more than 25% of the capital or of the voting rights should be owned by a company or a group of companies that are not considered to be small or medium enterprises. (commission recommendation 2003.)

TABLE 1: Estimated number of micro-enterprises in European Union in 2012 (modified from: Barker, Canton, Konings, Spanikova, Wymenga 2012)

	Micro	Small	Medium	Large	Total
Number of enterprises	19,143,521	1,357,533	226,573	43,654	20,771,281
	(92.2 %)	(6,5 %)	(1,1 %)	(0,2 %)	(100%)

Table 1 provides information on the amount of enterprises in the European Union. Micro-enterprises are the most common size of enterprises in the European Union. SMEs altogether count for 99,8% of the total enterprises.

According to Yrittäjyyskatsaus (2012), 93,6 % of companies in Finland are micro-enterprises. The majority of these enterprises employ two or less persons. In total, 63% of all enterprises are handled by a single entrepreneur.

Micro-enterprises also have highest growth rate for the number of workforce when compared with SMEs and Enterprises in Finland. In fact, it is twice as high as SMEs and three times higher when compared to Enterprises. (Kiema 2008.)

In terms of time, money and talent, small companies usually have only a limited amount of these essential resources. Amount of time and talent can be scarce due

to the fact that these companies are usually run by a single entrepreneur. One can only work for a certain amount of time in a day and one's talents have limits based on their experiences and education. Small companies need to focus on their core business in order to be efficient with their resources. This means that Company X needs to find a way to commercialize this patent with as little effort as possible. (Horrigan 2012.)

2.2 Immaterial rights

Immaterial rights allow financial exploitation of intellectual work. Without immaterial rights inventor would gain only a short-lived advantage when discovering a new technical solution. Immaterial rights allow the inventor to have exclusive rights for the innovation or to control the usage of the innovation. However, immaterial rights can be seen as far more complex than traditional property rights where the rights focus on a material objects. For example if you own and rent bikes then you will get the income from renting them. Immaterial rights are not as straightforward as this example. (Haarmann & Mansala 2012, 15-16.)

Immaterial rights can be divided into two main categories: Industrial property and copyrights. Industrial property rights are technical in their nature and they protect inventions, designs or company logos. Copyrights deal with creative work like those created by musicians and authors. As a rule industrial rights need to be registered in order to be effective whereas copyrights are formed at the moment when the work is created. For example, copyright even protects a poem that the poet has not written down. In this case the copyright was created at the moment when the poem was recited. Hereafter, the poet cannot be used without permission from the poet. (Wipo intellectual property handbook 2008, 3,40.)

The standard is that the employee who innovated the product for the company is the first one to own the immaterial rights. Companies need to transfer the immaterial rights from the employee to the company if they wish to have control over them. However according to Pihlajamaa (2008, 339-341) most governments of the industrialized countries have set special laws in order to transfer these rights

to the employer rather than to the innovator. This may occur if the employer can demonstrate that there was a strong connection between the innovation and with the working relationship of innovator and employee. (Haarmann & Mansala 2012, 17.)

TABLE 2: Different Types of Immaterial Rights (modified from: Haarmann & Mansala 2012, 16)

	What is protected	Conditions	Example
Trademark	Logo or name of the product or service	Cannot be misleading or be confused with other logos/names	Coca-Cola Logo
Domain	Domain address information	Domain must contain at least two characters	www.google.com
Geographical Indications	Origin of the product	Geographical environment effects the quality of the product	Champagne, Roquefort, Havana
Patent	Invention	New and substantially distinctive technique	Innovation
Utility model	Invention	New and distinctive technique	Innovation based on a previous innovation
Design	Product appearance	New and unique	iPhone appearance
Copyright	Expression of the idea	Original and independent	Song, poem, book

Table 2 explains most used types of immaterial rights. Different types of protections are needed in different fields of business. Product entities may have multiple types of protection in effect. For example a single product could have its logo trademark protected, include multiple technical patents and also have design protection.

The birth of immaterial rights can be traced back to the 15th century. Invention of printing houses created a need for the pressman to protect his work so no other printing press could just copy his work. The oldest known immaterial right law was issued in 1474 by Venice in order to protect the work of pressmen. In the following centuries the immaterial rights laws developed, but the French revolution and creation of the constitution law of the United States of America can be seen as the birth of our modern laws. Laws created by the French revolution and the constitution of the United States actually differed significantly. Only the agreements between the European Union and the United States in last decades have brought our immaterial rights laws closer. (Haarmann & Mansala 2012, 20-22.)

2.2.1 Patents

Patents are part of immaterial rights as described before. Patent system offers multiple advantages to various parties. The inventor can protect the invention and get exclusive rights to its usage. Patents are mostly used by companies for risk management and for preventing competition. Competition is prevented because patent allow companies to have almost monopolistic position in the market. (Jaala 2013.)

Due to the public nature of patents, other inventors also can easily find out the latest inventions. This helps them to start innovating from the current technology rather than trying to invent something that has already been invented. Society benefits because the patent system offers inventors a change to financially benefit from their patent and thereby increasing the meaningfulness of innovations and thus increasing the technological level of our society. (Pihlajamaa 2008, 24-25.)

However, the benefit of the patent system to society can be questioned. One of the main purposes of the patents system is to increase competition but the system also creates monopolistic situations by giving exclusive rights to the inventor. One other main purpose is to bring the inventions in to the public. Does this really happen or do the companies only apply for the patent when they feel that they

cannot keep the invention as a secret no longer? Could it be so that the whole system works against its self? Patent system has been widely studied but these questions still remain unanswered. (Haarmann & Mansala 2012, 66.)

Technical development is so rapid that it in some cases negates the benefit that the public nature of patents create. It takes about 1.5 years from the applying date that the patent becomes public. In this time the patented technology may have become obsolete. (Jaala 2013.)

The monopolistic nature of patents has caused discussion especially in the medicine industry. Medicine manufactures spend a lot of money on R&D when developing new medicines. Every now and then one of these companies may come up with a medicine that could be considered as a life-saving drug. Naturally the inventing company will acquire a patent for the product and thus will have exclusive rights to its usage. Company may then price the product so high that while it is seemingly available to all, it actually may be out of reach of patients living in the developing countries. Those in favor of removing patent protection from life-saving drugs also argue that governments should be the ones to compensate drug innovations, not the revenue created by the patent system. However, many organizations disagree with this statement. According to the supporters of the patent system, around 95 % of HIV/AIDS medicines are no longer protected by patents. Even without patent protection, these drugs still remain beyond reach of normal people in Africa. Problem with the drug prices seem to lie somewhere far deeper than in the patent system. Also due to the public nature of the patents competing medical companies in the world are all aware of the current standards and innovations in medicine industry and thus speeding up the process of new drug innovations. (Patents and access to drugs and health care 2013.)

Patents, however, can be utilized without the patentees approval in case of national emergency, extreme distress or for non-commercial use. In case of national emergency or extreme distress the local judiciary can grant compulsory

licensed. This could be the case if a country feels that they have to break the patent in interest of public health. (Patents 2013.)

Non-commercial use means that the patented product can be manufactured and used in private acts without the approval of the patentee. In order to qualify as non-commercial use, activities must not be professional. For example, one may use the product in his studies.

Professional usage include usage in churches, schools, pharmacies, army, associations or by state or local government. Charity and other non-profit operations are also seen as professional usage. If a radio amateur builds and sells a radio that violates a certain patent it is still considered as non-commercial use. If the radio amateur builds and sells many radios then his actions are considered as professional and therefore he breaks the patent. This means that the actions has to have continuity in order to be considered as professional. (Norrgård 2008, 91-92.)

A Patent may also be used for experimental purposes without the patentees approval. This allows competitors or other researches to study the patent in order to generate new information or to improve existing products. Also it may help the competitors to generate products that do not violate the patent. These experiments may have some commercial or professional purposes. However, experiments must be done to the patented product itself. It is not approved to use the patent as a tool in order to experiment or manufacture a whole new product. (Norrgård 2008, 97-98.)

As described earlier, industrial rights (including patents) need to be registered in order to become effective. However, there are few requirements for the invention. Novelty is required in order for the product to be patentable. Also an invention that is public knowledge cannot be patented. Therefore the invention cannot be sold to the public before the patent application is filed. Non-public use of a single person is not public knowledge therefore patent would still be patentable.

Some countries use a "first to invent" principle. If two parties apply for the same patent at the same time, the patent is granted to whom can demonstrate the earlier time of invention. The USA changed from the "first to invent" to "first inventor to file" principle on 16 March 2013 (America Invents Act: Effective Dates 2011).

Finland uses "first to file" principle where the party that first files for the patent will get exclusive rights. (Norrgård 2008, 102-103.)

Based on this "first to file" principle when a company or a person files for the patent he receives exclusive rights for it. However, if another party has already used the product in a professional manner before the patent filing, they can actually continue to financially benefit from it. Even actions of leading into the deployment of the product can be enough to grant this exemption. Company filing for this exemption must be committed on deploying the patented product and must be truly involved in the process of deployment. Research or testing of the product are not enough itself. (Kenellä on oikeus patenttiin? 1999.)

Patents can be a major part of companies business strategies. Patents help companies to gain technological advantage over competitors as competitors need to find out new solutions. Also, companies can generate income by selling licenses to manufactures. A good example of this is International Business Machines Corp. or IBM for short. Frier (2013) analyses that IBM is capable of moving in to new businesses with more freedom because of their vast patent portfolio of around 33,500 patents. This allows the company to operate with a low risk of messy patent infringements. For 20 straight years IBM has applied for more patents than any other company in the world. In 2012 IBM was granted 6,478 U.S patents. This counts for almost 3 % of all patents granted in the U.S.A In comparison there was 5,950 patents granted in whole Finland in 2011 (Statistical Country Profiles 2012). IBM also received about \$ 1 billion in licensing income in 2012. On the other hand they also spent \$ 6 billion on R&D. (Patentti antaa yksinoikeuden keksinnölle 2013.)

Patents can be divided into product, apparatus, method or use claims. Product and apparatus claims protect the product no matter how it would be used. Method claim protects the manufacturing process of the product and the product its self. Use claim protects a previously known product when used in a new way. (Haarmann & Mansala 2012, 67.)

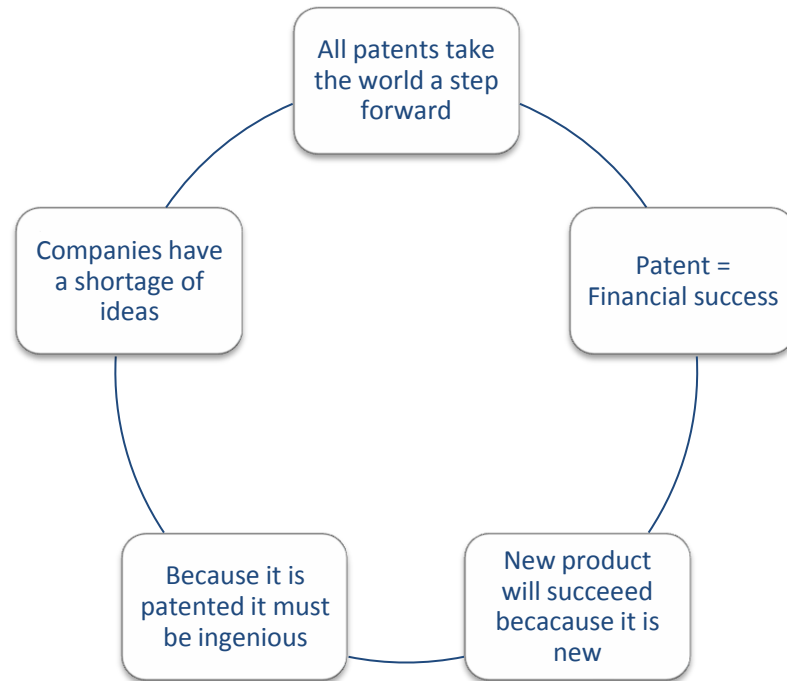


FIGURE 2: Five false perceptions of patents (modified from: Fogelholm 2009, 64-66)

There are a lot of misconceptions about patents. Figure 2 above shows six false perceptions. As mentioned before one of the main purposes of the patent system is that it benefits the society by bringing inventions to the public. In reality many of the patents are useless. Stephen Key (2013) writes in his blog that 97 % of patents never make any money. Some experts claim that only 0,2-1% of inventions can be considered to be successful. Patenting a product just creates a possibility for financial success but does not guarantee it. In the process, inventor may actually lose a lot more money than earn. (Fogelholm 2009, 64-66.)

The Inventor may also have misconceptions of the product potential because the invention is unique and new. Sometimes the innovation is so radical or different in nature that there actually is no existing market for it. Radical inventions are even more challenging to evaluate. It may be hard to find out if the invention has potential or is it just useless. This all brings along a great uncertainty that may scare the company. Companies with big financial resources can test out these innovations but smaller companies may opt not to gamble. (Sanberg 2008, 2-4.)

Even among engineers the common conception is that if an invention is patented then it truly must have some brilliant new features. However, Most of the patents are just minor improvements over old inventions.

One general illusion is that companies have a shortage of ideas all the time. What they actually are looking for is not just an idea or a blueprint on how to make a new product but the companies are looking for inventors that have also the proper business plans in order to make money out of the product. This is why companies prefer to stick to their own research for innovations rather than to actively look for the outside the house. With these things in mind we can reason that the inventor should objectively try to analyze his innovation and figure out if it is truly worth of patenting. (Fogelholm 2009, 67-68.)

Even the biggest companies tend to patent their products only in the biggest markets. Patents are only applied in the markets where the company will generate significant reward or where their main competitors operate. Applying and the upkeep of the patent generates high costs especially if it is done in many different states.

Also, the longer the patent is in effect the more it costs. First years of the patent are far more cheaper than the later years. Companies may opt to dissolve the patent after a few years because the costs will rise in contrast to benefits.

Sometimes companies may opt to not apply for the patent. One of the reasons could be the high costs of patenting. Rather than filing for the patent company may try just to keep the invention as a secret as long as possible. (Jaala 2013.)

According to Sunbo, Gallina, Serin & Davis (2006, 3-4) patents do not hold as much value as in industrial society. In modern economy, services have become more important than selling goods.

2.2.2 What kind of innovation is worth patenting?

Accurate evaluation of financial potential of the invention is challenging. This said, the analysis is one of the most important part of the innovation process. This evaluation is truly the make or break moment for the product.

Inventors tend to have too optimistic view of the inventions potential and may overlook the financial risks and difficulties of commercializing the invention

because of the emotional bond between the inventor and the invention. External expert may be brought in to give an outside opinion on the invention but this neither can be trusted completely. External help may have own motivations and reasons to either praise or pick apart the invention. Inventors may also live in the fear of someone stealing their idea. This will make the inventors suspicious of any outside help and thus complicate the process a lot more. Analyses should be done for the invention and patentee's working environment from three different sides as described in the Figure 3 below. (Fogelholm 2009, 16-18.)



FIGURE 3: Analyzing the invention from three sides (modified from: Fogelholm 2009, 16-22.)

Inventor analysis analyses the characteristics of the inventor. What kind of experience does he have in commercialization and in other business skills needed after the invention process itself? Outside help may be required if the inventor lack these skills. Company analysis examines the company's financial and intellectual resources that are needed to commercialize the product. Also former distribution channels and partners should be analyzed to find out possible clients or stakeholders. Product analysis should analyze the product and its potential widely. Five main categories can be designated: Approval of the society, business risks, demand, market and competition. (Fogelholm 2009, 19-22, 29.)



FIGURE 4: Product analysis (modified from Fogelholm 2009, 19-22.)

Figure 4 above provides some examples of subclasses for these five main categories. As we can see, the inventor should analyze much more than just his product. Product may be unique and technologically innovative but there may be legal or moral barriers that would not allow production of the good or too long payback period of initial investments.

However, all these analyses may indicate that the product will not succeed in the market but it may still have potential after a few modifications. Thomas Edison who is considered to be one of the greatest inventors ever, made around 1 000 attempts before finally inventing the right kind of light bulb that was durable and worked long enough (50 Famously Successful People Who Failed At First 2010). Apple would also be very different without their success with iPhone. Apple almost gave up on trying to solve the problems with early prototypes of iPhone and was thinking about abandoning the whole product. (Eddy 2013.)

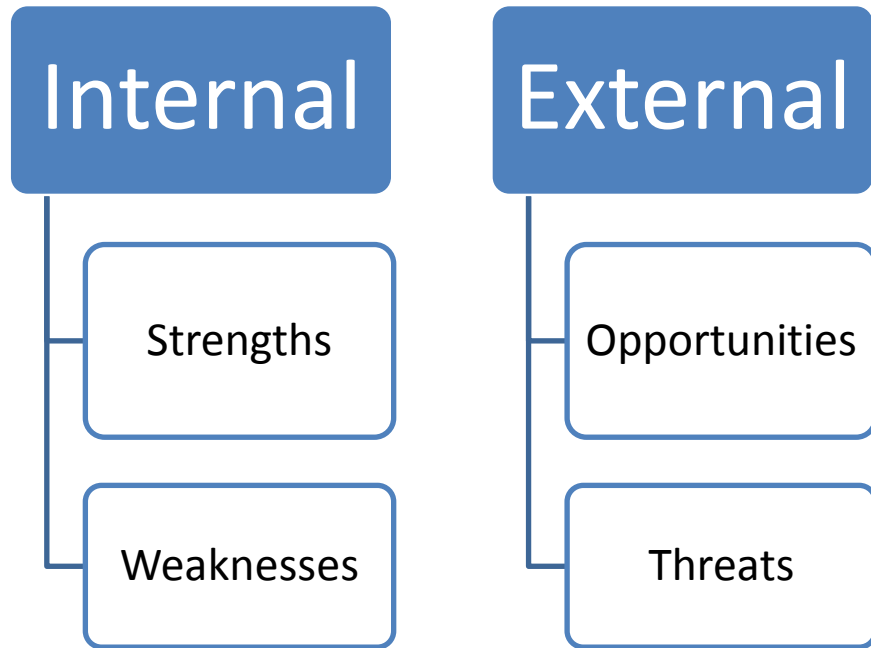


FIGURE 5: SWOT analysis (modified from Hetherington 2007, 26-27.)

In addition, SWOT analysis is a great way to analyze companies or inventors. As can be seen in Figure 5, SWOT analysis analyses both internal and external factors. Internal factors are strengths and weaknesses. External factors are opportunities and threats. The SWOT analysis is rather easy to perform and it is also easy to read. (Hetherington 2007, 26-27.)

2.2.3 Patenting process in Finland

As described earlier, an invention has to be novel and not known by the public before the filing of the patent. Before applying for the patent, the applier should study published patents from patent databases in the internet in order to confirm the novelty. If this condition is satisfied, then applicant may file the patent application. Patent applications are sent to the National Board of Patents and Registration of Finland. (What kind of invention can be granted a patent? 2013.)

Application includes:

- Description of the invention
- Drawing of the invention (if possible)
- Abstract
- Statement concerning the right to the invention (if applicant is not the inventor)
- Power of attorney (if representative is used)

Patents are granted based on the written application. Therefore the inventor may not give oral presentations or show the prototype of the product. Also the application may not be modified after it has been filed. For these reason, the application should be done with great care. (Patent application 2013.)

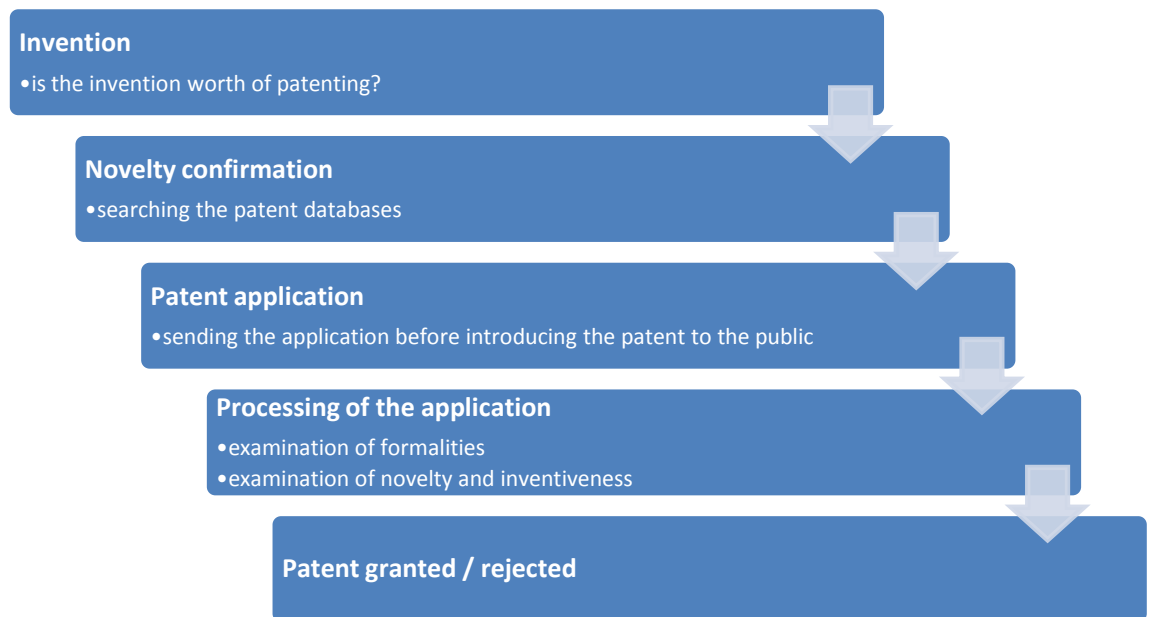


FIGURE 6: Patenting process (modified from: Processing of applications at the National Board of Patents and Registration 2013).

As can be seen from figure 6, after the patent application has been filed, the National Board of Patents and Registration examines the application. First the application is examined in order to ensure that all the necessary information has been sent. If the application misses vital information, then the applicant is

informed to provide the missing information in a certain time limit. Secondly the novelty and inventiveness of the invention is examined. The National Board of Patents and Registrations have more than 80 specialists from different fields of technologies. These specialists searches patent databases, books, advertisements, scientific journals and other sources in order to confirm the novelty and inventiveness of the invention. If another invention is found which is similar to the one in the application then the patent may be rejected. There may be a few rounds of dialogue between the specialists and the applicant in order to clear out any disagreements.

If the patent is granted then there is still a nine month period when anyone can send opposition against the patent. If the opposition is valid then the patent may be rejected. If no valid oppositions are filed then the patent stays in effect.

(Processing of applications at the National Board of Patents and Registration 2013).

2.2.4 European patent system

The European Patent Cooperation Treaty signed in 1973 laid the foundation for the modern collaboration between European nations. The ultimate goal was to create a uniform patent system across the Europe. This is how the European patent concept was born and the European patent office was created to steer this process. (European Patent Convention 2006, 24-28.)

In 1978, the first European patents were granted and the long planned unification had begun. Little by little more countries joined the European patent convention and in the year 2011 total of 38 countries (including 27 EU members) had signed the convention. (Torello 2012.)

The birth of the European Union in the 1990s can be seen as a leap forward in this process. The European Union had taken steps in order to unify the patent laws of the member states. However, there can still be some differences between the members. According to the European Commission (2011, 1) in the current situation an inventor needs to validate his patent in every member state separately if he wishes the protection to include these countries. This can cost up to 32,000 €

because the inventor may need to translate the patent to the language of the member state and pay separate handling fees in each country. In comparison applying for a patent in the U.S.A only costs around 1,900 €. If this process would be made simpler it would save both time and money for the patent applicant and thus help companies to become more competitive. Especially small and medium enterprises with limited recourses would benefit greatly. According to Torello (2012) the price of patent protection could come down to around 5,000 €. (Pihlajamaa 2008, 59-60.)

25 Members of the European Union agreed on unitary patent system on 11th of December 2012. Unitary patent will be brought alongside national patents and the traditional European patent. Unitary patent will follow the same principles as the European patent but it will also have effect on the territory of all the 25 member states without the need for separate applications in each country. (Unitary patent 2013.)

However, the unitary patent also received some heavy criticism from major European companies like Ericsson, BAE systems and Nokia. Companies insisted that the European Parliament should reject the new system. Companies feared that different infringement cases would have different standards because the court must apply the patent laws of the country of the patents owner. Also the system received criticism due to the fact that Europe would be the only region in the world with three different layers of patents simultaneously and that the national patents should be discontinued to simplify the system. (After 40 years of trying, Europe has a unified patent system, sort of 2012.)

On 19th of February 2013, members of the European Union excluding Spain signed a pact on establishing a new unified patent court. Spain did not sign the pact, because only English, French and German were chosen to be the official languages of the new EU patent and therefore Spain felt that EU belittled the Spanish language (Torello, 2012). This patent court is a major component in the new unitary patent system as it will have sole jurisdiction over unitary patent infringements or period of validity of the patents. The patent court is estimated to

become operational in 2015. The court will be set up in Paris with specialist services in Munich and London. (Ministerit sinetöivät EU-patentin 2013.)

Danish Prime Minister Helle Thorning-Schmid:

After thirty years of negotiations, we now have an agreement on the European patent. The European businesses will now experience – when we have it finalized – that instead of applying for patent in 27 member states, they can now apply in one place. And that will be good for growth and business in Europe. (EU unitary patent – a historic breakthrough, 2012.)

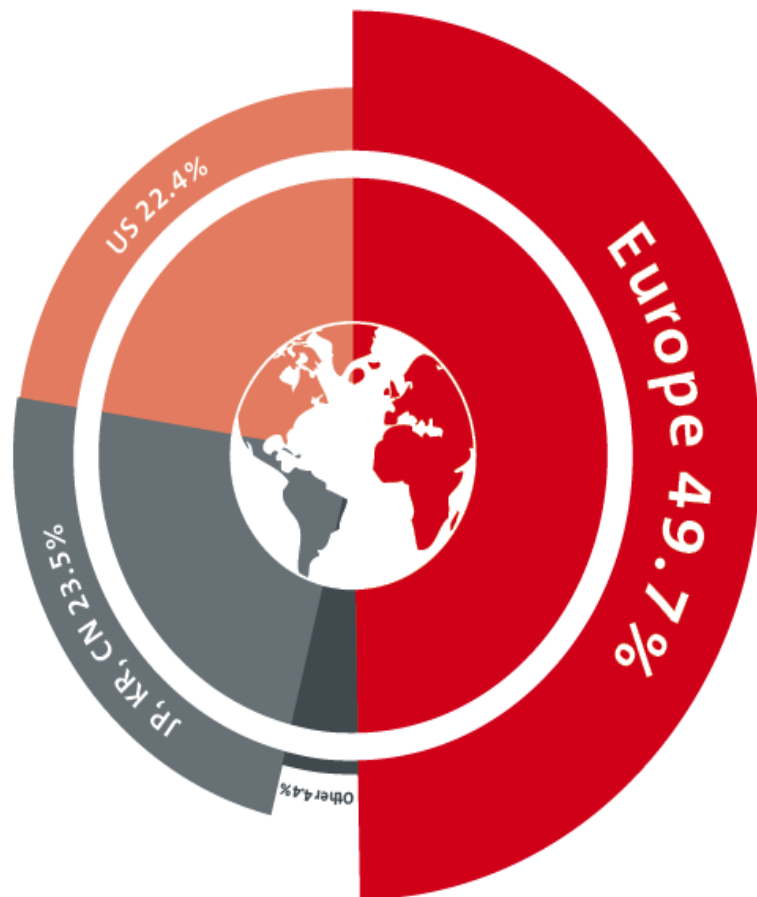


FIGURE 7: Geographical distribution of companies granted European patents in 2012 (EPO annual report 2012.)

Companies need to apply for patents in different countries and regions across the world if they wish to have their invention protected in those areas. As figure 7 clearly shows, only half of the patents granted in Europe belong to European companies. Big Asian and American companies like Samsung, LG, General Electric and Qualcomm were all in the top ten on the amounts of granted European patents. Non-European companies especially patented innovations in medical technology, computers and information technology. European companies were forerunners in transportation technology. (A record year for the EPO 2013.)

2.2.5 Patent infringements

As described before, a patent grants its owner an exclusive right to the commercial usage of the invention. When some party breaks this exclusive right a patent infringement occurs. Patent infringements can be divided into direct patent infringements and indirect patent infringements. Direct patent infringement occurs when a product that breaks the patent is manufactured, sold, bought, offered or is stocked for these purposes. Indirect patent infringement occurs when a third party helps someone in direct patent infringement or if they try to sell licenses for patent that they do not own. (LaMance 2012.)

Direct patent infringement occurs even if the patentee has not suffered any damages or if the violator has not received any profits from the patent infringement. Direct patent infringement takes place even if the violator does not know that they are actually infringing a patent. Patent infringements are always judged from objective viewpoint. For example if a manufacturer orders parts for its product from a supplier and requests that these parts are such that they do not violate the patent of Company A. However, against this request the supplier supplies the manufacturer with parts that violate company A's patent. Even if the manufacturer is unaware of this situation they are still violating the patent of Company A and can be held accountable. In this case Company A could claim injunction or a temporary ban on manufactures products. Nonetheless, Company A could have a hard time if they decide to file for damages. Damages can be claimed only if the infringement in question is considered to be intentional. After the patent reaches its last day of duration. Competitors can start to utilize the

invention. However, these competitors cannot manufacture, import or even offer these products while the patent is still in force. (Norrgård 2008, 60-61.)

As described before an indirect patent infringement occurs when a third-party assist in direct patent infringement. This could be the case for the supplier in the previous example. Purpose of the indirect patent infringement laws are to prevent direct patent infringements by forestalling the infringement before it has happened. Indirect patent infringement can be ruled only if the violating party works with bad faith. Therefore the patentee must demonstrate that the violator has knowingly violated the patent or that there is no way that the violator could not know that he violated the patent. (Norrgård 2008, 87-88.)

According to Guglielmo (2012) only around 4 % of patent disputes are settled in court. In case the infringement goes in to a court the basic rule is that all legal proceedings will take place in the home country of the defendant. But on the other hand only the court of the country where the patent was registered has jurisdiction over patent infringements. It has become common practice that legal proceedings will take place on the country where the patent was registered. As described before the new EU patent court system will bring much needed clarity in to this. (Norrgård 2008, 41-43.)

2.2.6 Recent patent disputes

Recent patent disputes have been widely reported in the newspapers across the world. Especially disputes between major mobile phone manufacturers have been followed by the media for many years. Smartphone business is such a big industry nowadays, that companies try to gain competitive advantage any way possible. Companies can be sure that they will be sued if they use patented innovations of another company without permission. (Arthur 2012.)

The Apple vs. Samsung dispute has been the most visible of the recent patent battles. Apple first sued Samsung in the U.S.A for violation of design and utility patents in April 2011. Apple`s accusation was that more than 20 Samsung devices were violating their patents. Altogether Apple felt that Samsung devices were violating 7 different Apple patents. According to Apple, Samsung was taking

shortcuts in their product development. Instead of inventing a new product Samsung was copying main principles of the iPhone and iPad (Khedekar, 2012). Samsung answered by countersuing Apple for infringes on Samsung's wireless communication and camera technologies. (Guglielmo 2012a.)

Samsung claimed:

“Apple, which sold its first iPhone nearly 20 years after Samsung started developing mobile phone technology, could not have sold a single iPhone without the benefit of Samsung’s patented technology. (Guglielmo 2012a.)”

Even though these two companies are competitors they also have a long history of working together. Samsung actually is one of Apple's biggest phone component suppliers. This relationship however did not help the two parties into reaching a settlement. Apple was seeking for \$2.525 billion in damages while Samsung claimed that Apple owned them \$400 million in royalties and 2.4% from every iPhone or iPad sold in the future. (Guglielmo 2012a.)

In August 2012 the court finally reached a verdict. In the end Samsung was forced to pay \$ 1.049 billion in compensations to Apple and was in threat of receiving a ban of sales for 8 Samsung smart phones in the US territory. Also all of Samsung's claims were rejected by the court. One of the courts decisions was that Samsung was violating Apples design patents. Meanwhile in Seoul, Korea, the local court working on a similar case ruled that even though there were some similarities between the companies' products, Samsung was not violating Apples design patents. Korean judge claimed that the customers would clearly note the differences between the products because there was a visible company logo on different products. Also other things like software, service and price would be taken in to account when selecting a new phone. Not just the outer design. This ruling has been viewed as a bit confusing and as a trivialization of the design patents. Samsung was granted a victory in their home region Korea and Apple won in the U.S.A. Could this just be coincidence or did the home team have an advantage? However, the ruling by US court can be seen as more important due to the size of the US market. (Khedekar 2012.)

If Apple wins, companies will have to be much more careful about where they find inspiration for their new products, If Samsung wins, we will see a lot more of companies borrowing key features from each other – likely leading to a much more homogenous market for phones and tablets. (Guglielmo, 2012b.)

The battle was ongoing in other parts of the world as well. Samsung achieved a victory in the UK when the local court ruled that Samsung have not violated Apples design patents (US judge rejects Apple plea for Samsung ban 2012). In Australia Apple successfully applied for ban of sales for Samsung Galaxy Tab. Samsung also received sanctions from a Dutch court. Unless they would fix the products to avoid patent infringements they would receive a sales ban. Apple had won major battles in the western nations including banning of Galaxy Tab in Germany. Their next move was to pursuit a ban of Samsung products in Asia, starting from Japan. Samsung also took on the offensive and started to seek possibility of banning iPhone and iPad in Korea. Meanwhile Samsung also redesigned the Galaxy Tab and was able to lift the sales ban in Australia and also looked forward to do the same in Germany. Even with the new design Apple claimed that the products were still in violation of Apples design patents. (Khedekar 2012.)

It can be argued that Apple`s victories strengthen the immaterial right protection across the globe. Especially the verdict from the US court was seen as a trendsetter in future patent disputes. To be safe, companies may choose to differentiate even more from their competitors in order to dodge patent infringements. However, this may lead in to a situation where in some product groups competition will decrease and there will be fewer choices for the customer. Companies with tons of patents may indeed form a monopolistic market in some sectors. (Guglielmo 2012b.)

Apple`s victories effects on innovation itself are yet to be seen. Strict patent protection may create new different solutions as companies are forced to think outside of the box. This could lead in to new different innovative products and creating more choices for the customer. (Wingfield 2012.)

3 COMMERCIALIZING PATENTS

Private persons make far more better inventions than companies. Almost all of the radical innovations have come from private inventors. Companies tend to apply for less radical patents that do not meet the requirements. However, patents by private persons tend to fail due to lack of business skills or contacts. (Jaala 2013.)

As discussed in earlier chapters, just the invention in itself is not enough. Only with proper analysis it can be found if the invention is worth of any money. There is no sense in patenting a product unless patenting creates some value for the patentee. That said, if the patent has some value in it then the patentee should start to look on capitalizing on in his idea.

It is far easier to market an invention that is already a ready product. Ideas do not tend to sell as easily as there are far more risks and question marks involved with them. A patentee should have at least a prototype of the product ready. According to Mohr, Sengupta & Slater (2005, 151) beta testing can also be used not only as a way to test the product but to collect real life experiences from potential customers. These experiences may then be shared with potential buyers. The more prepared the product is the easier it is to sell. Buyers are usually more interested in the actual product rather than the patent on which the product is based on.

Inventors should focus on finding the right solution rather than trying to create the perfect technology. Patent should be considered to be part of a product rather than its own matter. In best case scenario the inventor has the right buyer in mind when inventing the product and can therefore customize it to the buyers needs. All these steps are needed to be taken into consideration as only a few percents of patents ever hit the market. (Hänninen 2007.)

When trying to commercialize a patent, an extensive network of contacts is needed. Without proper contacts it is almost impossible for the patentee to succeed. However if the patentee is lucky enough to find a suitable partner who is

able to sell the patent, the compensation may barely cover the costs of innovating, patenting and selling. (Jaala 2013.)

As can be seen from Figure 8 there are several options for the patentee to commercialize the invention. Depending on company's situation and industry, they should carefully research different options and choose the most suitable for that particular product. Also marketing of the invention may be needed in order to find a possible partner for assignment or licensing. Before starting to contact possible partners the patentee should have a solid concept and preferably working prototypes. (Touhill, Touhill & O'Riordan 2008, 83-84.)



FIGURE 8: Different commercialization means

3.1 Assignments

Assignment occurs when the patentee (assignor) sells the ownership of the patent to another party (assignee) and therefore gives up all the rights concerning the patent for a certain compensation. (Bellis 2013.)

Assignment may be an option for a patentee that wishes to focus only in the innovation process or who wants to minimize risks. It could be also that even with high potential for the product the company wishes to move on as quickly as possible in order to focus on other fields of business. For example when discovering an innovation that is not related to the core business of the company. Also if the invention of the patent has depleted the financial resources of the company. The patentee may be forced to look for as quick return of investment as possible.

The two sides negotiate together in order to come up with a compensation that satisfies the both parties. However, as the assignor gets his rewards after the deal is done and the assignee continues with all the risks. In the end, assignor may be left with far less money than what he would get with a licensing deal if the product is very successful, because the assignment compensation is not tied to any sales numbers etc.

The assignor does not have any risks. If the assignee truly believes that they can make money out of the patent, then assignment could be a great option for them. It allows the assignee to obtain all the future profits without any future fees to the assignor. This could be the case for example if the buyer sees more potential in the product than the seller. In some rare cases the assignor could get some royalty fees down the road. But this would not be a sensible option for the assignee. As described earlier all the risks lie with the assignee so there should be no idea to share future revenues with the assignor. (Touhill, Touhill & O'Riordan 2008, 83.)

Patent assignments are far more common in the USA than in Europe. In the USA there are brokers that buy patents from inventors and then try to sell them forward. These brokers have wide contact networks and can market the products directly to the right customers. This kind of culture does not really exist in Europe. Also patents are more valued in the USA than in Europe which affects their attractiveness. However, there are couple of patent brokers in Finland but their success rate is not that high. Nevertheless they may be the only option if the patentee does not have proper connection networks. (Jaala 2013.)

3.2 Licensing

Licensing can be very lucrative for the licensor. However, it also requires more cooperation between the parties than assignment. Also licensing requires some monitoring from the licensor as described in later chapter. When choosing a proper licensing method the licensor should examine the possibly to either give exclusive or nonexclusive rights. To make an accurate decision the licensor should calculate the possible profits of either scenarios or other effects on the company. (Touhill, Touhill & O'Riordan 2008, 84.)

3.2.1 Exclusive licenses

By giving exclusive rights, the licensor gives sole rights to the licensee. Therefore no other company may produce the patented product than the licensee. Also the licensor may not grant any licenses to other companies in same market. Companies can agree on exclusive rights for the whole world or for just a geographical region or a country. The broader the exclusivity is the more the licensor can expect to be compensated. If exclusive rights are granted to various companies then the contracts must be such that there will be no controversy in the future. (Touhill, Touhill & O'Riordan 2008, 84.)

3.2.2 Nonexclusive licenses

With nonexclusive license, the licensor could potentially have more manufacturers and therefore more of his patents being produced. However, this does not mean that the licensor will get larger income due to higher volumes. With nonexclusive rights the licensee will need to compete with other licensees of the same patent. Licensors therefore will not pay as high licensing fees as with exclusive rights. Higher level of competition also decreases the product prices and thus lowering the licensing incomes even further. Also nonexclusive licenses could come in to consideration for weaker ideas as it does not require as much mutual commitment as exclusive licenses. Usually in the high technology nonexclusive licenses are rare. (Touhill, Touhill & O'Riordan 2008, 84-85.)

3.2.3 Performance Obligations

Potential licensees should be analyzed during the process of licensing negotiations. The last thing the licensor wants is that the licensee is someone that is not fully committed to making money out of the license. The licensee should be someone that proceeds quickly in their actions. The quicker the product is in the market the quicker the licensor gets his compensation. Also swift actions decrease the possibility of market entry of similar or improved technologies to the markets. (Touhill, Touhill & O'Riordan 2008, 196.)

One subject in the licensing negotiations is the negotiation of performance obligations. Performance obligations are certain milestones or targets that the licensee must reach. This ensures that the license is put in to a good use rather than gathering dust in the corner. If the licensee does not meet the goals, the licensee may lose exclusive rights or the licensing agreement can be terminated completely. (Mendes 2013.)

If performance obligations are not made then the licensee may choose to just sit on the license without further actions. For example if the financial situation of the licensee has changed or they for some other reason do not wish to manufacture the product. Also company may try to acquire exclusive rights just to keep the invention out of the hands of their competitors. This can be countered only by negotiating proper performance obligations. The licensor should not just trust that the licensee will do their best. (Touhill, Touhill & O'Riordan 2008, 196-197.)

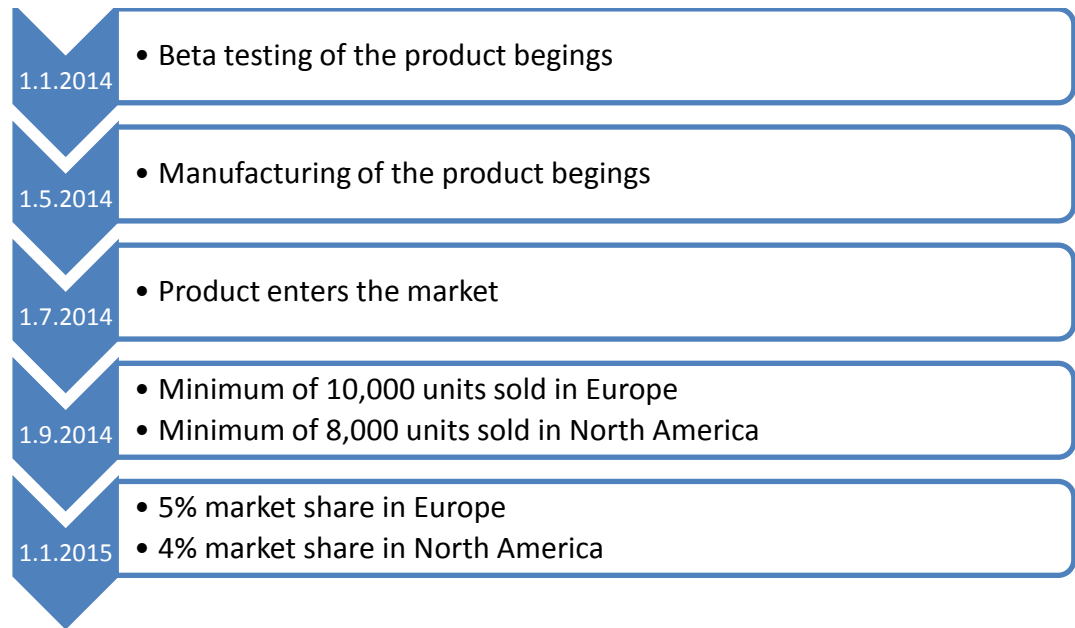


FIGURE 9: Performance obligations (modified from Mendes 2013.)

Performance obligations may vary according to the product and its stage of development. As can be seen in figure 9, if the product needs to be tested or processed to fit the licensee's needs, the licensor may ask for performance obligations that focus on late stages of product development and product launch. However, the more infant the patented invention is the more risk the licensee will have. In this case it may be difficult to negotiate performance obligations. If the product is already ready for the market and the licensor can showcase the potential of the product then he would have greater influence in the negotiations due to lower risk for the licensee. Performance obligations should be such that they can be monitored easily. Easiest way is to use sales numbers as a goal. (Mendes 2013.)

3.2.4 Compensation

The value of the patent must be analyzed in order for the parties to reach an agreement on licensing fees and performance obligations. There are a few ways to do this.

Benchmarking can be used to compare the patent to existing technologies and licensing agreements. If similar or older technologies are found then the value of the patent can be calculated by using older agreements as basis. New and old technology are then compared and the value of new patent can be analyzed based on this information and potential of the product. (Stiroh & Rapp 2013, 8.)

A discounted cash flow analysis analyses the whole lifecycle of the patent.

TABLE 3: Discounted cash flow analysis (Stiroh & Rapp 2013, 11)

Discounted Cash Flow Analysis ((\$ Thousands)										
Expected Sales Revenues	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Expected Sales (Thousands of Units)	45,000	50,000	55,000	60,000	62,000	64,000	65,000	65,000	65,000	65,000
Expected Price	\$ 0.53	\$ 0.55	\$ 0.56	\$ 0.58	\$ 0.60	\$ 0.61	\$ 0.63	\$ 0.65	\$ 0.67	\$ 0.69
Expected Revenues (Thousand Dollars)	\$ 23,850	\$ 27,295	\$ 30,925	\$ 34,749	\$ 36,984	\$ 39,323	\$ 41,135	\$ 42,369	\$ 43,640	\$ 44,949
Discount Factor	1.00	0.88	0.78	0.69	0.61	0.54	0.48	0.43	0.38	0.33
Discounted Value of Sales	\$ 23,850	\$ 24,155	\$ 24,219	\$ 24,083	\$ 22,683	\$ 21,343	\$ 19,758	\$ 18,009	\$ 16,416	\$ 14,963
Net Present Value of Sales	\$ 209,478									
Alternative One: Licensing the "Tried and True" Technology										
Expected Revenues	\$ 23,850	\$ 27,295	\$ 30,925	\$ 34,749	\$ 36,984	\$ 39,323	\$ 41,135	\$ 42,369	\$ 43,640	\$ 44,949
Costs of Production										
Royalty Payments	\$ 596	\$ 682	\$ 773	\$ 869	\$ 925	\$ 983	\$ 1,028	\$ 1,059	\$ 1,091	\$ 1,124
Physical Production Costs	\$ 20,511	\$ 23,474	\$ 26,596	\$ 29,884	\$ 31,806	\$ 33,817	\$ 35,376	\$ 36,437	\$ 37,531	\$ 38,657
Total Expected Costs	\$ 21,107	\$ 24,156	\$ 27,369	\$ 30,753	\$ 32,731	\$ 34,800	\$ 36,405	\$ 37,497	\$ 38,622	\$ 39,780
Net Cash Flow	\$ 2,743	\$ 3,139	\$ 3,556	\$ 3,996	\$ 4,253	\$ 4,522	\$ 4,731	\$ 4,872	\$ 5,019	\$ 5,169
Discount Factor	1.00	0.88	0.78	0.69	0.61	0.54	0.48	0.43	0.38	0.33
Discounted Value of Cash Flow	\$ 2,743	\$ 2,778	\$ 2,785	\$ 2,769	\$ 2,609	\$ 2,454	\$ 2,272	\$ 2,071	\$ 1,888	\$ 1,721
Total Net Present Value of Option One	\$ 24,090									
Alternative Two: Licensing the "New-Improved" Technology										
Expected Revenues	\$ 23,850	\$ 27,295	\$ 30,925	\$ 34,749	\$ 36,984	\$ 39,323	\$ 41,135	\$ 42,369	\$ 43,640	\$ 44,949
Costs of Production										
Royalty Payments	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Physical Production Costs	\$ 20,273	\$ 23,201	\$ 26,286	\$ 29,536	\$ 31,437	\$ 33,424	\$ 34,965	\$ 36,014	\$ 37,094	\$ 38,207
Total Expected Costs	\$ 20,273	\$ 23,201	\$ 26,286	\$ 29,536	\$ 31,437	\$ 33,424	\$ 34,965	\$ 36,014	\$ 37,094	\$ 38,207
Net Cash Flow	\$ 3,578	\$ 4,094	\$ 4,639	\$ 5,212	\$ 5,548	\$ 5,898	\$ 6,170	\$ 6,355	\$ 6,546	\$ 6,742
Discount Factor	1.00	0.88	0.78	0.69	0.61	0.54	0.48	0.43	0.38	0.33
Discounted Value of Cash Flow	\$ 3,578	\$ 3,623	\$ 3,633	\$ 3,612	\$ 3,402	\$ 3,201	\$ 2,964	\$ 2,701	\$ 2,462	\$ 2,244
Total Net Present Value of Option Two	\$ 31,422									

In table 3 the manufacturer compares two solutions. In alternative one, they would stick to their old technology and pay royalty of 2,5% of net sales in order to use the patent. The manufacturer would get around \$24 million dollars in net cash flow. In the second alternative the new technology would decrease the manufacturing costs of the company. However, manufacturer must calculate the amount of royalty that they could pay the inventor and still be profitable. Without counting in the royalties the manufacturer would gain around \$7 million dollars in

manufacturing costs savings over 10 years. This means that the manufacturer could pay up to 3.5% in royalties and still be left with a margin. If they could negotiate the royalties between 2,5 to 3% the manufacturer would gain a considerable amount of profit when switching to new technology. However if the licensor pushes for higher royalty rate than 3.5% then the manufacturer should stay with the old technology. Therefore the licensor should try to calculate these estimations on his own. If the licensors is not capable of this kind of analysis due to lack of access to appropriate data. Then he would be shorthanded in the licensing negotiations. In the negotiations if the licensee comes up with a number for the licensing fee then the inventor could however ask for the calculations that these numbers are based on. By accessing these numbers then the licensor could analysis if the suggested fees are appropriate. (Stiroh & Rapp 2013, 9-12.)

If the invention is so radical that there is no other technology that it could be compared with then the evaluation process would be slightly different.

Manufacturers would have an option to use the technology and earn profits or not to manufacture at all and avoid risks. Then the process would be to calculate the estimated costs and revenues for manufacturing the product and comparing this with the possibility of technical or business risks. Producing a new technology may be a jump in to the unknown and therefore harder to calculate. (Stiroh & Rapp 2013, 13.)

3.3 Other means

Even though patents are public knowledge, infringements may occur due to lack of research of existing patents databases. Some opportunists have utilized a tactic where they remain silent about their patent and hope that it does not get in to the hands of manufacturers of the industry in question. Then the patentee hopes that some party violates the patent and therefore can be sued into paying damages or accepting a licensing agreement. However, the probability of this happening may be low and this tactic can be seen as unreliable. Also it may lead in to a long legal process that might be costly especially for a smaller company. (Lauriala, Pirnes, Foster & Constance 2006, 16.)

The patentee may also choose to start manufacturing the product by their selves. However, if the patentee does not possess ready manufacturing facilities, the starting costs could be rather high. Also this move may mean a transition in to a field of business that the company is not familiar with. All this will tie up a lot of capital and brings a lot of pressure for the organization. But if the product has such a high potential then self manufacturing can be seen as high risk - high reward. The patentee may also choose to outsource the production. They could start to sell the product in their own name but have a partner company to manufacture it. Benefit of this is that the inventor would be deeply involved in the process and thus giving their unconditional commitment and expertise without the need to invest in to expensive machinery. However, outsourcings may also require the company to go through large-scale changes.

Manufacturing and outsourcing give the patentee a change to put their fate in their own hands rather than relying so much on the work of others. (Marks 2013.)

Instead of selling or licensing the patent the possible manufacturer may acquire the whole company of the patentee. By doing this, the buyer acquires the whole knowledge behind the invention and all the skilled staff. This helps the buyer in the process of manufacturing the product. (Jaala 2013.)

3.4 Marketing

Rarely the inventions are so radical that there are no competitors. Even if the idea is new there are also competing products that solve the problem in other way. In the beginning the invention may have a novelty factor that helps in the selling process.

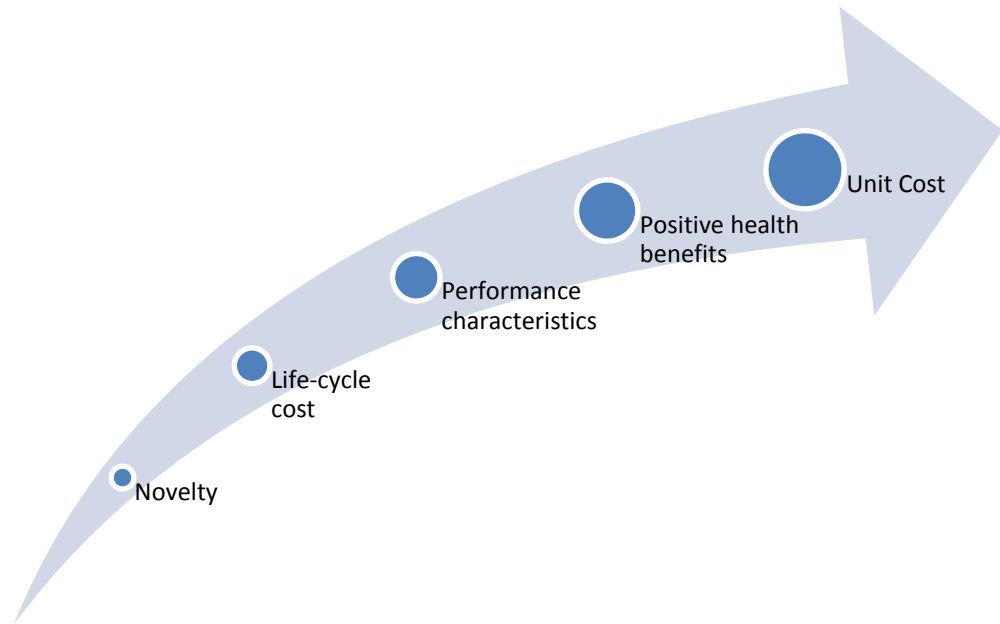


FIGURE 10: Selling points on different part of product life cycle (modified from (Touhill, Touhill & O’Riordan 2008, 190-191.)

A marketing plan for the product cannot rely solely on the novelty of the product. If novelty is the only selling point for the product, then it is not truly innovative. As figure 10 demonstrates, companies should move to other selling points for the product when it ages. At the beginning marketing focuses on the added value for the customer. As time lapses and more innovative competing products appear in to the marketing may be needed to be adjusted into focusing more on the cost of the product. Newer products tend to have higher manufacturing costs therefore older products can compete with them with lower unit costs. (Touhill, Touhill & O’Riordan 2008, 190-191.)

3.5 Monitoring

After successful selling or licensing of the patent, the commercialization process is not yet over. As described before, if the inventor has licensed his invention then some system on licensing fees has been created. In order to avoid any kind of cheating, the licensing fee system should be audited by a third party. The system must be such that it can be easily interpret in order to verify the licensing fees. If for example the amounts of licensing fees are based on the performance of the patented product it is far more complex to calculate the licensing fee when

compared to fee per unit sold. However, complexity of the patent in question or on the licensing system may require the external auditor to have technical and/or accounting skills. (Touhill, Touhill & O'Riordan 2008, 207-208.)

If the licensor agrees to license the patent only locally or non-exclusively or if the licensor wants the manufacturing rights only in a certain area of the world then the patentee should look for other possible licensors. It would be a great advantage for the licensor if they could use the licensor's experiences and possibly even the production facilities as a reference. However, this may be a sensitive issue since the existing licensor and new prospects are probably in the same field of business. The licensor may be unwilling to let competing companies to inspect their products or facilities even though they may work in different markets. The licensor may offer some incentives to the original licensor. For example if the visit results in a licensing agreement then the original licensor could get minor financial benefit in form of money or reduction in future license payments. In case of many licensors it may be possible to gather data from all of them. When the data is analyzed then it can benefit all the licensors and provide the licensor with selling material for new licensor prospects. (Touhill, Touhill & O'Riordan 2008, 209-210.)

4 CASE COMPANY X

The content of this chapter is not published.

4.1 SWOT

SWOT analyze was conducted in order to analyze the inventor and the company.

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> • Creative • Technical knowledge / Marketing skills • 1 stop shop 	<ul style="list-style-type: none"> • Language skills • Lack of recourses • No experience in patents
Opportunities	Threats
<ul style="list-style-type: none"> • Increased use of videos • Outsourcing • Technological development 	<ul style="list-style-type: none"> • Economical fluctuations • Technological development

FIGURE 11: SWOT Analysis

The content of this chapter is not published.

4.2 Patents

The content of this chapter is not published.

Legal battles against smaller manufactures may have better results. Also when companies have limited resources, they try to stay away from the courtroom due to high costs. Therefore companies may have better success in selling their patents to companies of similar size. (Jaala 2013.)

5 SUGGESTED APPROACH

It is clear that commercializing patents is a difficult process. Company X has had some success in defending their patent in the court but there has not been any other progress since. Limited resources of the company are the main reason for the troubles in commercializing the patent. As described earlier, proper network of contacts is one of the key elements of successful commercialization. Current contact network helped in the process of winning the infringement sue against a Finnish manufacturer but different kinds of connections are needed in order to find a suitable buyer for the product. Finding new partners with proper contact networks is the top priority for Company X.

As there could be many manufacturers that violate the patent it could also be possible to take legal actions against them. However, the company analysis shows that there just is not enough financial resources to carry out any legal actions against the violators.

Currently the patent does not create any value for the company. Actually it only consumes money. Because the company does not manufacture the product themselves they gain no benefits from holding the patent. Company X will only benefit from the patent if they can find a buyer or a licensee for it.

However, the situation is not hopeless. If the estimations are right that there are tons of products that violate the patent, then it could be possible to find a buyer that already infringes the patent and is scared of being sued. A possible buyer can also be a company that has the proper resources to attack video display unit manufacturers with the patent.

5.1 Action plan

In order to maximize the possibility of success, Company X needs to follow a long term action plan. Trying to contact the possible buyers without proper preparation may have devastating effects on the negotiations. There also has to be a deadline when it's time to pull the plug on the patent due to the continually rising costs.

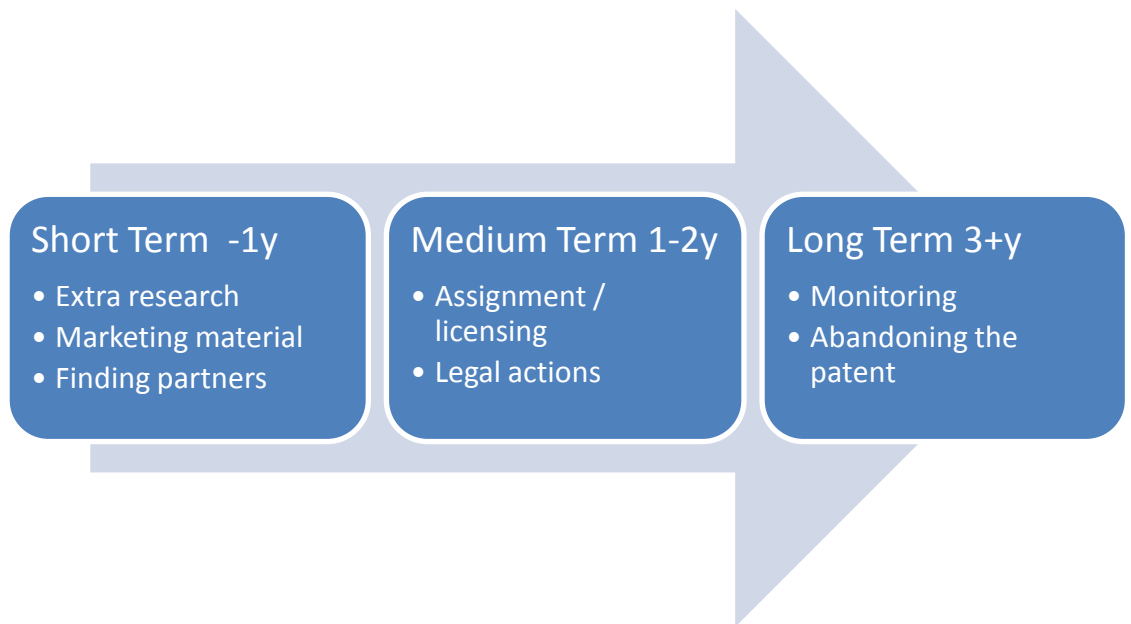


FIGURE 12: Long term plan

5.1.1 Short Term

The content of this chapter is not published.

Based on the gathered information Company X should create marketing material for the patent. Known and estimated infringements should be listed alongside with the description of the patent. When the possible violators are found it may be necessary to make an estimation of how many units are in the market that are violating the patent in the protected states. The higher this number is the more interest it will generate from the possible buyers. However, the number should be as accurate as possible as the buyer candidates will double-check it without fail. As described in earlier, Company X is capable of producing high quality

marketing material about technical matters and these skills are needed to put in use in order to create proper marketing materials for the patent.

As Company X has limited resources and limited knowledge on commercializing patents they should try to seek outside help after the initial research and marketing material is finished. As discussed in the earlier chapters, there are some patent brokers in Finland. The most preferred option would be to find a broker that is willing to buy the patent from Company X in order to resale it. If that opportunity does not exist then a partner with proper contacts to possible buyers is needed. As the financial resources are limited it may be necessary to find a partner that is willing to work on a commission. Marketing material that was generated earlier will help a lot in the process of finding a partner (list of possible partners can be found from Appendix 1). For example, experts from the Centre for Economic Development, Transport and the Environment provide free counseling for companies and therefore could be a logical first step.

5.1.2 Medium Term

With a partner with good contacts, it may be possible to contact suitable buyers. As described earlier, the possible buyer could be a manufacturer that violates the patent or who wishes to use the patent against its competitors in order to gain competitive edge or compensations. When negotiating with a video display manufacturer, it may be needed to have a partner that is specialized in patent violations (Appendix 2). Small or medium sized manufacturers tend to try to stay away from the court room as it is very expensive. A Professional lawyer in the negotiations may be enough to "intimidate" the counterparty in to an agreement. Also, services of lawyers may be needed in order to gain audience with the manufacturers. As described earlier by Jaala (2013), big multinational companies may wait for the law suit and choose to attack the patent. Without any threat, they may opt to ignore the demands of the patentee. Getting in to negotiations may be easier with small or medium enterprises.

The method of commercialization depends on the buyer. If the buyer is a company that manufactures great amounts of products, then licensing may be in question.

However, the most probable option is to sell the patent for a lump sum. This will transfer the patent to the buyer and help them in competition against other manufacturers. A company with proper resources could gain a huge advantage over the competitors if the initial estimations on the amount of patent infringements is valid.



FIGURE 13: Suitable commercialization means

Acquisition of Company X is highly unlikely because the day to day work of Company X is not exactly related to the patent and therefore the company itself would not bring any value for the buyer. If a possible buyer for the patent is not found, then the only option is to sue the patent violators. If initial analysis demonstrates that there is a great amount of them, only then this option may be used. However, due to the lack of resources it is imperative to find an experienced lawyer to work for a commission on the case.

5.1.3 Long Term

This whole process should be done as quickly as the patent generates costs. To avoid unnecessary costs there should be a date set when it is time to abandon the patent if there has been no success in commercializing it. As mentioned earlier, the patent in itself does not generate any value for the company unless it can be sold or it generates income in form of licensing or in infringement compensations. The next 3 to 4 years should determine the faith of the patent. Experienced partners might also help in order to evaluate when it is time to do abandon the idea.

In case licensing agreement is made (or assignment agreement that has clauses for compensation on new products). Then monitoring is needed in order to reduce the risk of the manufacturer cheating on the compensation amounts. As described earlier, a 3rd party should be appointed to this task.

6 CONCLUSIONS

This chapter answers the research questions and also provides suggestions for further research. Also Reliability and validity of the study is reviewed in this chapter.

6.1 Answers to research questions

What are patents and their role in modern economy?

Patents grant the inventor exclusive rights to commercially benefit from the invention in a particular geographical area. Patents also help companies to gain competitive advantage over competitors. However, patents do not hold as much value as they used to. Technological development is so fast these days that there may be only a short window when the patent can create financial benefit.

Patents are always made public. Publishing patents is not ideal for the inventor, but it increases the speed of technological development and thus helps the society.

What different means there are to commercialize patents?

If the patentee does not possess the needed resources to manufacture the product by himself, then they may wish to find a suitable partner to sell the patent or to license it. If the patent is sold, then all the rights transfer to the buyer. Usually the seller receives a lump sum in compensation. Licensing is usually used when the patentee grants multiple manufacturers license to use the patent. In this case, the patentee receives compensations based on the amount of manufactured or sold units. In case the invention is made or owned by a company, then a merger or acquisition of the patentee company may come into question. When the buyer buys the whole company, they also get all the knowhow behind the invention. Some inventors also patent the inventions in hope of finding patent violations. However, this method is highly unreliable and very expensive.

What is the current situation of the case company?

Company X has patented an invention on which they wish to benefit financially. However, Company X has only limited resources and connection networks. These

limitations complicate the commercialization process. Company X is in need of external help and partners in order to make the most out of the patent. Dealing with patents is not part of the core business of Company X and therefore spending too much resources on commercializing the patent may be risky.

What means is the most suitable for the case company

Patent assignment would be the most suitable means for Company X. Selling the patent to a single party could be the most efficient way of generating financial benefit from the patent. Compared to licensing, assignment does not have the same business risks as compensation is not tied to future sales of the product

6.2 Suggestions for further research

This study demonstrates that commercializing patents is a very difficult process especially for smaller companies. Further research should be conducted to find recent success stories of micro-enterprises that were successful in this process. By studying these success stories, it may be possible to reveal new means and connections in order to commercialize patents.

As suggested earlier, further research should also be conducted on the video display unit industry in order to find out if their assumptions of large-scale patent violations are correct.

6.3 Reliability and validity

Reliability and validity of the study can be seen as satisfactory. If the research would be repeated, the results would be similar. However, the results could differ when different specialists are interviewed. Specialists tend to look at things from their own side, using their own experiences. The number of specialists interviewed could have been higher in order to form an overview of opinions of the patent specialists. The purpose of the study was fulfilled. The research questions were answered and Company X was provided with an action plan for them to follow. However, the study could have examined the problem from additional angles.

7 SUMMARY

Company X had made an innovation that they felt was worth investing in. However, they lacked the proper resources and skills in order to commercialize their patent. Limited resources of the company also brought some challenges, as every hour spent on the patent was away from the core-business of the company. This study was conducted in order to give Company X a roadmap to follow in order to commercialize the patent in the most efficient way.

The theoretical part of the study focused on patents and the known commercialization theories of immaterial rights. An expert in patent commercialization was interviewed in order to gain information about real life situations, difficulties and success stories.

The study indicated that the actual selection of commercialization method was a secondary concern. Micro-enterprises have a low rate of success when trying to find suitable buyers or licensees. More effort should be put into analyzing the potential violators of the patent. However, finding professional cost-efficient partners would be the most critical step in the process.

Future research should be used to find small companies that have successfully commercialized their patents.

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APPENDICES

Appendix 1

Possible partners (commercialization)

Company	Name	Speciality	Contact information
Berggren	Mika Lehtinen	Patent portfolio monetization and management, patent risk management, IP strategies	E-mail: mika.lehtinen@berggren.fi Phone: +358 10 227 2333
VTT	Timo Joutsenoja	Business Development Manager ICT and electronics	E-mail: timo.joutsenoja@vtt.fi Phone: +358 20 722 3009
Papula-Nevinpat	Sasu Salonen	Patent Attorney Telecommunications and radio technology, electronics, engineering mathematics, biomagnetic measurements	E-mail: sasusalonen@papula-nevinpat.com Phone: + 358 9 348 00 649
Centre for Economic Development, Transport and the Environment	Jonas Hafren	Innovations & International Business	E-mail: jonas.hafren@ely-keskus.fi Phone: +358 9 6150 0829

Appendix 2

Possible partners (patent lawyers)

Company	Name	Speciality	Contact information
HH Partners	Esa Korkeamäki	Intellectual property law.	E-mail: esa.korkeamaki@hhpartners.fi Phone: +358 9 177 613
Berggren	Tarja Tchernych	IP lawyer Intellectual property rights, especially matters related to patents, trademarks and copyright	E-mail: tarja.tchernych@berggren.fi Phone: +358 10 227 2306
Kolster	Joose Kilpimaa	IP lawyer European Trademark and Design Attorney	E-mail: joose.kilpimaa@kolster.fi Phone: + 358 20 137 0604

Appendix 3

Semi-structured interview with Company X

1. What is the history of Company X?
2. Has the business changed from the time of establishment?
3. What has made Company X successful?
4. What factors are holding Company X back?
5. What are the visible opportunities and threats in the future?
6. What kind of experience does Company X have with patents?
7. Could you introduce the patent in question?
8. Describe the journey of the patent

Appendix 4

Semi-structured interview with Jukka Jaala from Berggren

1. What is the impact of patents for the society
2. How patents help companies?
3. What kind of characteristics should patent have in order to be commercialized?
4. How an idea invention should be analyzed before making the decision to apply for patent?
5. What kind of skills does a company need when dealing with patents?
6. How important is outside help?
7. Assignment vs. licensing?
8. How to find possible buyer for the patent?
9. If my patent is violated by another company, what should I do?