



School of Business,
Economics and Law
GÖTEBORG UNIVERSITY

**A Critical Review of Swedish Patent Bureaus'
Services**
**-An evaluation of the market situation and tools
for improved communication and quality of
patenting services**

Maria Winckler and Claes Ruth

Graduate Business School

Intellectual Capital Management
Master Thesis No. 2006:16
Supervisor: Lars Andersson

Abstract

Patents are a central part of the increasingly intellectualized economy. However, little has been done within the industry to ensure that the creation and management of patents are working properly. The purpose of the thesis is to identify problems in the Swedish patent bureau market and present a remedy for identified problems.

The empirical studies conducted show that the patent bureaus and their customers do not perceive the situation in the same ways. They do not consider the same issues to be of relevance nor do they have the same idea about the quality of the services given by the patent bureaus. The communication between the two groups is poor and there is an evident lack of certain competences among the patent attorneys. This leads to unsatisfied customers. The conclusion is that it is of high importance that the patent bureaus improve the situation in order to remain competitive and keep customers satisfied. There is a need for improved communication and tools for follow-up of given services. In the end of the thesis two developed tools are presented.

Table of Content

1. Introduction	4
2. Background	5
2.1. Patents – a Complex and Eminent form of IP	5
2.2. The Swedish Patent Bureau Market	6
2.3. The Thesis	7
3. Problem Definition	7
3.1. Purpose	8
3.2. Limitation	8
3.2.1. Limitations in the Empirical Research	9
4. Methodology	9
5. Theoretical Framework	11
5.1. IP Management	11
5.1.1. Definition of Intellectual Property	11
5.1.2. The Role of the Patent Attorney	12
5.1.3. Intellectual Property Creation	13
5.1.4. Patent Portfolio Thinking	14
5.1.5. The Importance of Patent Portfolio Management	14
5.1.6. Strategic IP Development	15
5.1.7. IP as an Integrated Business Asset	16
5.1.8. Visionary Organizations Focusing on IP as the Model for the Future	17
5.1.9. Conclusions	17
5.2. Theory on Services	18
5.2.1. Importance of Consumer Confidence	18
5.2.2. Key Aspects of Customer Satisfaction	19
5.2.3. Patent Bureau Services	20
5.2.4. Problems in Service Industries	20
5.2.5. Comparisons to Manufacturing Industries	21
6. Industry Framework	22
6.1. The Regulatory Framework for Swedish Patent Attorneys	22
6.1.1. Regulatory Frameworks in Sweden	23
6.1.2. Regulatory Frameworks in Europe	24
6.1.3. Potential Consequences of a Community Patent	24
6.1.4. Comparison with Regulatory Framework for Swedish Lawyers	25
6.2. Implications and Conclusions	26
7. Qualitative Interviews with Customers	27
7.1. General Lack of Competence	28
7.1.1. Cost Related Issues	28
7.1.2. Lack of Effective Communication and Follow-up	29
7.2. Inconsistent Responses	29
7.3. Conclusions	30
8. Quantitative survey	30
8.1. Aims of the Survey	30
8.2. Respondents and Questions	30
8.3. Potential Errors	31
8.3.1. Consequences due to Limitations in the Surveys	32
8.4. Responses from Patent Managers	32
8.5. Responses from Patent Bureaus	33
8.6. Conclusions and Implications	34

9. Qualitative Interviews with Patent Bureaus.....	34
9.1. Customer Contact	34
9.2. IP Awareness and Competence	35
9.3. Cost Issues.....	36
9.4. Improvement and Development	36
9.5. Conclusions	36
10. Potential Solutions to Identified Problems.....	37
11. Tool for Improved Communication.....	39
11.1. The Aims of the Tool	39
11.1.1. Benefits for Patent Bureaus.....	40
11.1.2. Benefits for the Customer	40
11.2. Design and Usage of the Tool	40
11.3. The Tool as Presented to the Users	41
12. The Tool for Service Evaluation	47
12.1. The Balanced Scorecard.....	48
12.1.1. Design of a Balanced Scorecard.....	48
12.2. SERVQUAL.....	49
12.2.1. Design of the SERVQUAL Tool	49
12.3. Problems Identified with Existing Tools.....	49
12.3.1. Problems Identified with the Balanced Scorecard	50
12.3.2. Problems Identified with SERVQUAL.....	50
12.4. Conclusions	50
12.5. The Quality Assessment Tool	51
12.5.1. The Aims of the Tool	51
12.5.2. The Scale of the Tool	51
12.5.3. The Tool as Presented to the Users	52
13. Conclusions	54
13.1. Proposal for Continuous Research	56
Bibliography	57
Appendixes.....	63
i. Code of Conduct for Lawyers	63
i.i. The Code of Conduct	63
i.ii. The Limitation of Lawyers' Business.....	63
i.iii. Conclusion	63
ii. The Quantitative Survey	65
iii. Interview with Sweden's Leading Patent Bureaus.....	67

1. Introduction

This thesis is reviewing the issues that the Swedish patent bureaus are facing today. The thesis is written with the interest of protecting the future of the Swedish industry including the Swedish patent bureaus. It will face important topics for continuous discussions as well as present new tools that will help the Intellectual Property (IP) related service sector to develop and improve.

Patenting activities are highly complicated procedures that are very costly and time-consuming. As patents are becoming more and more valuable to companies today there is a very high dependency on the actors assisting the companies in the patenting procedures; the patent bureaus. Due to miscommunication and lack of sufficient mutual understanding of each others situations, there is a widespread dissatisfaction among the customers concerning the current services offered. As patent bureaus and patent attorneys are the most valuable link between the process of innovation and the process of value creation, it is crucial to overcome the existing problems. The humanity's progress and the development of the industry as well as the society are to a large extent dependent on companies' ability to innovate. It is in this process the patent attorneys' ability to contribute in best possible ways has an important role. The attorneys must enable the individual inventor's innovations to be commercialized efficiently in order to diffuse technological knowledge and progress.

As the competition on the market for patent bureaus increase, the bureaus must put effort into securing the relations that bring value, both international relations with other bureaus as well as relations with customers. If the bureaus' relations to customers are not sound there is little chance to survive in the fierce competition. The large Swedish patent bureaus might live longer due to their size and brand value. However, in case of a European Community patent their relative size might not be enough to secure the bureaus' future. If the sometimes problematic relation between the industry and the patent bureaus is not cured and improved, the Swedish industry as well as the Swedish patent bureaus will probably face a troublesome future. There is a risk that some innovations fail to take place in the industry's value creation process. There is also a risk that Swedish company's turn to patent bureaus abroad in order to seek more competent or less costly attorneys.

2. Background

The knowledge economy has led to the fact that Intellectual Property (IP) is a subject that becomes more valuable for companies to focus on. The possession of tangible assets is seldom enough to maintain a competitive advantage in relation to competitors. The management and control of knowledge is more or less vital in order to succeed.¹ IP is becoming evermore integrated in the business plans and strategic patenting and strategic IP management are vital parts of management of a business.²

There are different kinds of consultancy firms offering somewhat overlapping services within the area of IP. One can find four major different types of consultancy firms that in one way or another are involved in the processes concerning a company's IP matters. These are; patent bureaus, law firms, accounting bureaus and management consultancy firms. The four fields of services are to some extent overlapping. The most evident example is law firms and patent bureaus, both offering legal advice within the area of IP and various trade mark services.³ Also some management consultants offer advice on innovation management and intellectual capital management similar to the advisory services offered by patent bureaus. Most of the major accounting bureaus are similarly to the management consultants also offering strategic advice in many matters and at the same time legal advice competing with the law firms. This means that within the consulting industry the actors are competing both internally within their respective segments but also against other kinds of firms. However, all of the mentioned categories have their respective core services where they hold strong competitive advantages against firms outside their own sector. This is particularly true for patent bureaus, which have an almost exclusive position in writing and filing patents.⁴

2.1. Patents – a Complex and Eminent form of IP

Patents have an inherent value that can be exploited in many different ways. That is the reason why patents are very important assets to technology based companies, the possibilities for value creation are several. Often patents are the greatest concerns for companies due to the complexity of the patent system as well as the huge costs related to patenting activities. It has become increasingly important for companies to obtain knowledge and experience within the field of patenting- and licensing strategies.

The intellectualized economy allows to be divided into three different spheres, the business, judicial and administrative sphere. The business sphere means the market arena, where companies and customers meet, act and compete. The administrative arena may in brief be described as various administrative systems, such as the patent system, which usually are regulated by laws, governmental organs or international organizations. The legal arena is in fact the various legal systems and the courts. The creation and usage of patents concern all of these settings making patents very complex.⁵ As patent law is very complex and the prerequisites for obtaining patent protection for an innovation are many and hard to fulfil, the administrative process when applying for a patent is very long, complex and costly. The

¹ Petrusson, Ulf, *Intellectual property & entrepreneurship; creating wealth in an intellectual value chain*, CIP Working Paper Series, Göteborg, 2004

² Affärsvärlden, <http://www.affarsvarlden.se/art/85675>, 2005-10-26

³ Affärsvärlden, <http://www.affarsvarlden.se/artKg.jsp?article=131588&konsultguiden=1>, 2006-03-08

⁴ Based on the home pages belonging to the leading actors within the four consulting niches, see the bibliography "Consulting bureau homepages".

⁵ Petrusson, Ulf, *Intellectual property & entrepreneurship; creating wealth in an intellectual value chain*, CIP Working Paper Series, Göteborg, 2004, p.104 ff

communication between inventor or company, patent attorney and the patent office is extensive. Further, on the judicial sphere where litigations and infringement cases appear, the characteristics are similar to the administrative arena. Proceedings regarding patents are often very time consuming and particularly costly. However, as mentioned there is an inherent value in patents that can be exploited in many ways. If the patent is used in the right way in the business sphere the possibilities are endless and value creation is a fact. This will be discussed below in chapter 5.

The patent industry is currently developing rapidly with new kinds of patents; biotech-, software- and business model patents are relatively new topics for discussion in the industry. At the same time the demand for consultancy services in the IP area increases and creates new demands on the actors in the segment. This is connected to the fact that the industry is about to realize that the management and development of a company's patents can be decisive for the company's future. Patent activities are international matters, i.e. the protection must be obtained and maintained in each country of interest to the patent holder. Globalization, EU and WTO are a number of phenomena that constantly expand companies' markets and possibilities for business over the borders. This creates a huge pressure on the patent bureaus to obtain the right competences and services demanded by the clients in need of global assistance and thinking. They must have the understanding of technology, law, the administrative framework of patents as well as they must obtain business understanding, both nationally and internationally.

2.2. The Swedish Patent Bureau Market

There are around 20 patent bureaus with a yearly turnover of more than 20 million SEK in Sweden. There are two clear market leaders on the Swedish market, which are Awapatent followed by Albihns which still is considerably smaller.⁶ Patent bureaus are assisting a wide range of different companies in their patenting activities. Their clients are both small start-ups with one patent as well as large corporation with thousands of patents and many different patent portfolios.⁷ Large corporations often develop internal patent departments taking care of most of the work related to patenting activities. However, due the fact that the companies do not possess the capabilities to take care of all the work related to their patent portfolios, there is a need for larger corporations to obtain assistance from patent bureaus. It is not uncommon that larger firms use several different bureaus in order to be able to use the best possible attorneys at each bureau.

The very hard and long way to become an EPO attorney⁸ limits the number of authorized EPO attorneys. There are about 270 EPO attorneys in Sweden today⁹, which means that there is a lack of certified attorneys¹⁰. This puts the buyer of services from patent bureaus in a vulnerable situation. There are few to choose from as well as the switching costs are very high. The huge switching costs are due to the fact that it takes a lot of time for a patent attorney to gain knowledge and understanding for the client and its existing patent portfolio. As soon as the company has several applications pending as well as patents granted, it would take a lot of time and money in order to change attorney. Hiring a new attorney would mean a lot of working hours and effort in order to obtain knowledge of the client and his previous applications and patents.

⁶ Affärsvärlden , <http://www.affarsvarlden.se/konsultguiden/rankning.jsp?bransch=Patent>, 2005-10-26

⁷ Qualitative interviews with patent attorneys.

⁸ A patent attorney authorized to represent the applicant before the European Patent Office.

⁹ EPI, http://216.92.57.242/patentepi/data/epi_01_2006.pdf, p.8

¹⁰ See the qualitative interviews with patent managers, chapter 5.1.

2.3. The Thesis

We initiated our work by performing in-depth interviews with 7 customers that have experiences from using patent bureaus services. This was to give realistic input on the current issues on the market. These customers were both senior patent managers at major companies in the Gothenburg area as well as CEOs at smaller firms in the start-up phase. The initial idea was to investigate the IP consulting market in Sweden by analyzing the four major groups of consultancy firms mentioned above. We thought the companies or customers would express a need for full-service consultancy firms within IP, offering legal, strategic, management and accountancy advice focused on IP. We thought that the customers would find the fact that they use several different consultants offering overlapping services as a problem, both due to extra administrative work and extra costs. However, we soon realised that our assumptions seemed correct in our initial discussions; although in most cases the problem was overshadowed by another problem more evident and defined. Although many customers were interested in services integration, almost all expressed a clear and strong expression that they were not satisfied with their patenting processes today. Not all, but most of the interviews resulted in a conversation about the need of a change within the patenting industry to improve the quality of produced patents as well as the relation and communication between patent bureaus and their customers.

We decided that we had to reconstruct our hypothesis and we changed direction by focusing solely on the patenting industry and the problems that have emerged the last couple of years. We have made the conclusion that integration of services, especially strategic advisory services is needed but that it is more necessary to look at the core business' functions before trying to develop new integrated services.

3. Problem Definition

In order to understand the current situation, it is necessary to identify how the patent system functions, the principal actors in the processes and their roles. Patent attorneys are essential to understand in this aspect. A patent attorney's task is first and foremost to help the client with the drafting of a patent application as well as guiding the client through the complex procedures of filing and maintaining a patent. As the patent systems, both in Sweden and internationally, are very complex and requires many years of education and experience to manage, the client is in a very vulnerable position when entrusting the attorney with sensitive information about his/her invention and his/her company. The attorney must possess a various range of knowledge and skills. He must be skilled in the relevant technology, the industry, the administrative and legal part of patenting activities as well as he must obtain understanding for strategic business thinking. As IP is becoming a more essential part of the economy and companies' business plans, the advice given by the attorney will be of more value if the strategic part of patenting is considered as well. In order to give valuable strategic advice the attorney must have good insight in and understanding of the clients company.^{11,12}

As companies are becoming increasingly dependant on their intellectual properties, they are showing an increased interest in how these are best created and managed. This in turn means that Swedish companies will become both more demanding towards and dependant on the patent bureaus supplying and managing their intellectual assets. The main problem in the

¹¹ Petrusson, Ulf, *Intellectual property & entrepreneurship; creating wealth in an intellectual value chain*, CIP Working Paper Series, Göteborg, 2004, p. 110 f

¹² Affärsvärlden, <http://www.affarsvarlden.se/art/85675>, 2005-10-26

industry today seems to be that the service providers and their customers have different views on how the services shall be conducted. This means that the two parties are striving towards different goals, thus rendering results the clients are potentially discontent with. If customers' dissatisfaction is allowed to continue over time, customers' willingness to try different solutions to their problems is likely to increase. This is a threat to the Swedish patent bureaus as major companies may make efforts to build their internal patent divisions alternatively turn to foreign bureaus. A profitable and easily penetrated market due to unsatisfied customers may attract new entrants such as foreign competitors or start-ups. However, a situation where Swedish companies are unable to find necessary specialist competence is also potentially damaging to the Swedish industry. If Swedish companies can not stay competitive in the modern economic climate, they may either lose ground towards their competitors or be forced to move. It is therefore in everyone's interest that the patent services are well functioning.

The current development in the industry shows a tendency of integration of different services and as well a diversification of the service offer. This is probably a step in the right direction as modern economical theories and many successful firms are claiming the need for integration of intellectual properties strategy in the general business strategy.¹³ However, before this transformation of the service offer may be performed successfully, one has to analyze to what extent the patent bureaus meet the client's needs today. It is also very important to analyze why there is dissatisfaction among the patent bureaus' customers. We believe that it is vital to ensure that the core functions within patent bureaus are functioning well before a successfully diversification of the service offers may occur. The main issue of concern among patent bureaus customers today does not seem to be their diversification but their lack of quality within their core services. The customers we have come in contact with have prioritized issues such as communication as an area of concern. We have therefore chosen to analyze the relations between patent bureaus and their clients in order to try to find solutions that will in the end cure the current issues.

3.1. Purpose

The purpose of this thesis is to identify problems and conditions in the relations between Swedish patent bureaus and their clients. The thesis also provides suggestions and tools to improve said relations. Our aim with the thesis is also to initiate a valuable discussion between patent bureaus and their clients in order to enable an improvement of the current situation.

3.2. Limitation

This thesis focus on patents as it is the most important form of intellectual property rights for many companies. By focusing on patents, we have limited ourselves to focus on patent bureaus' service offers in detail and how their clients experience these services. Patent bureaus are today the leading providers of patenting services and many of the patent bureaus have ambitions to become full service companies within IP consulting. The thesis will comprise tools for improving the services in the patent bureau industry, based on the theoretical and empirical findings we have made in our research. The tools shall help customers and patent bureaus to communicate more effectively and is limited in its area of

¹³ Petrusson, Ulf, *Intellectual property & entrepreneurship; creating wealth in an intellectual value chain*, CIP Working Paper Series, Göteborg, 2004
Davis, Julie L. and Harrison, Suzanne S., *Edison in the Boardroom: How Leading Companies Realize Value from Their Intellectual Assets*, New York, John Wiley & Sons 2001

usage as the tools may not be used in all situations at all times. However the tools may be used as the foundation for further discussions and as a basis for customized tools.

3.2.1. Limitations in the Empirical Research

The qualitative interviews with customers are limited to a smaller number of senior patent managers at larger companies and CEOs at smaller companies. These all come from the Gothenburg region due to logistical reasons. However, most of these firms have international operations meaning that their physical location in Gothenburg is deemed to have limited impact on their view on patent bureaus. The number of interviews has been limited as the opinions given by the interviewed persons have been surprisingly clear and similar. We have thereafter limited our two quantitative studies to include randomly picked patent bureaus and randomly picked customer companies. The limitation is made to all the companies having a patent application published between the 1st to the 14th of September 2004. This has limited the number of companies while at the same time gave us randomly selected firms obviously engaged in patenting activities since some time ago. Their diverse nature and anonymous responses are deemed adequate to provide a view of the general opinions on the market. We have also limited ourselves to perform qualitative interviews with a limited number of the leading patent bureaus to gain input on the tools and theories developed. We have made this decision as it will provide us with the insights from the most important actors that have the greatest potential on influencing the market.

We have limited our comparisons of the ethical frameworks to the closest competing industry; law firms. This limitation is made as these industries are the easiest to compare to the patent bureaus.

4. Methodology

The thesis is based on information from qualitative and quantitative interviews, literature analysis, analysis of tools provided by the Center for Intellectual Property Studies and homepage investigations. The foundation of the thesis is based on qualitative interviews with key actors at major firms in the Gothenburg area as well as CEOs and senior managers at start-up companies. The results from these interviews gave us a picture of important customer group's opinions concerning the services performed by patent bureaus.

The qualitative interviews with the customer groups where prepared with a few key questions that where to be answered. However, the main part of the interviews where rather open in order to allowing the managers to discuss matters most important to him/her and his/her company. This was to give the interviewed person a possibility to speak openheartedly, thus providing great insight to industry specific problems.¹⁴ From the interviews' results we could create a problem definition based on the key issues that had been brought up by the interviewed persons.

¹⁴ Rasiel, Ethan M., *The McKinsey Way*, New York, McGraw-Hill, 1999, p 77 ff

We have conducted literature searches primarily based on university libraries and databases as well as industry actors' and organizational homepages. The databases used are primarily ABI/Inform Global¹⁵ and Emerald Insight¹⁶ as these have been recommended by Chalmers Library staff, as they are the widest and best databases available. These databases have provided the bulk of the articles used in this thesis, stemming from recognized journals. We have also used Chalmers Library, Gothenburg University's Economics Library as well as e-books from books24x7.com¹⁷ and ebrary¹⁸.

We have performed a quantitative survey, based on questionnaires with about ten questions, directed to patent managers and patent attorneys. This was performed in order to get a wide foundation for identifying the key problems in the relation between clients and patent attorneys. The survey aimed to investigate the clients' expectations of the service and the attorneys' ability to meet the expectations. It also had the ambition to investigate the importance of different issues in the patenting process. The survey was a web based survey with questions measuring fulfilment and importance of key issues among both patent bureaus and their customers. This method allowed us to see where there is a lack of quality of the services and understanding between the parties. The survey and the results are demonstrated in appendix ii.

The conducted investigations laid the foundation for the Communication Tool and the Quality Assessment tool. The tools have been built on the conducted surveys as well as a theoretic framework stemming from literature. This literature is mostly recognized literature within the field of IP management, quality improvement and the field of service operations management used by various master programs at Chalmers. The tools have been verified through qualitative interviews with service providers to enhance the tools' appropriateness and usability. The interviews have been conducted during October 2006 using a number of set questions to ensure that our answers are comparable. Most interviews have been face to face interviews, but some telephone interviews due to logistical issues. The interviewed persons have all been given great freedom to elaborate with their answers to ensure that their opinions are fully disclosed. The set of questions are available in appendix ii. The formalities in the thesis have been made in accordance with Siv Strömquist's *Uppsatshandboken*. The formalities for the Oxford reference system as well as other citations and other formalities for essays have been used in this thesis in accordance with Strömquist's instructions.¹⁹

¹⁵ <http://proquest.umi.com.proxy.lib.chalmers.se/pqdweb?RQT=302&cfc=1>

¹⁶ <http://www.emeraldinsight.com.proxy.lib.chalmers.se/Insig>

¹⁷ <http://library.books24x7.com.proxy.lib.chalmers.se/login.asp?ic=0>

¹⁸ <http://site.ebrary.com.proxy.lib.chalmers.se/lib/chalmers>

¹⁹ Strömquist, Siv, *Uppsatshandboken*, Hallgren & Fallgren Studieförlag AB, Uppsala, 1999

5. Theoretical Framework

The modern economy is becoming increasingly dependant on intangibles as the economy is moving from traditional value chains to become more and more dependant on the assets of an immaterial form. For many companies their economical reality is that their intellectual properties are the very foundation for their business and that their intellectual properties stand for the real value of the company. The understanding of intellectual property (IP) and the management of IP is therefore becoming increasingly important. However, IP is a field of high complexity that usually involves many actors in various settings.²⁰ Like few other phenomena, intellectual property is built upon and dependant on various systems within three different spheres for its creation and utilization. These spheres are the administrative sphere, the judicial sphere and the business sphere. The term sphere means the structures upon which the intellectual properties are created and used such as the national and international patent bodies, courts and the market. To successfully create wealth using intellectual properties, it is important to use these sphere's norms and systems efficiently and cunningly.²¹ This theoretic framework will give the reader an introduction to how patents fit into this important system.

5.1. IP Management

For companies that are dependant on intellectual properties it is of great importance to know what they really own and to have a plan for how to use them. This field is still under explored in the literature, making it hard to find good examples of companies and organizations that effectively use their assets to generate wealth. However, as mentioned more and more companies are totally or partly depending on their intellectual assets in their business.

This chapter will introduce the reader to how IP is defined, why it is increasingly important to manage a company's IP carefully and how the literature suggests that IP shall be created and managed to create success and ensure value.

5.1.1. Definition of Intellectual Property

There are many varying definitions of what exactly intellectual property is, depending on the authors view on the subject. However, common to all found definitions is that intellectual properties are assets where the value does not lie in the physical embodiment of the properties. The properties do at the same time enjoy protection by law as a property right for their owners. The intellectual properties referred to in this paper are seen in a broad sense as the intention of this paper is to view the possibilities of emerging markets and fields of operations. We have chosen a definition presented by Granstrand (1999) to serve as definition for this paper. According to Granstrand IP may be defined as follows;

“Certain creations of the human mind are given the legal aspect of a property right. Intellectual property is an all-encompassing term, which includes patents, copyrights, trademarks, trade secrets, rights to fair competition and moral rights.”²²

²⁰ Petrusson, Ulf, *Intellectual property & entrepreneurship; creating wealth in an intellectual value chain*, CIP Working Paper Series, Göteborg, 2004, p.1 ff

²¹ Petrusson, Ulf, *Intellectual property & entrepreneurship; creating wealth in an intellectual value chain*, CIP Working Paper Series, Göteborg, 2004, p.102 ff

²² Granstrand, Ove, *The Economics and Management of Intellectual Property*, Cheltenham, UK; Northampton, Mass, E. Elgar, 1999, p 413

We have chosen this definition as it is a clear and practical definition which effectively covers the most important forms of intellectual properties. Through this thesis it is this definition which should be considered.

5.1.2. The Role of the Patent Attorney

The patent attorney plays one of the most important roles, in many aspects, when it comes to patents and the different spheres mentioned above. The patent attorney's main task is to ensure the customer, claims protecting the different valuable features of the innovation. Patent attorneys have been helping their customers with these tasks for over 100 years. The claims are supposed to give the customer freedom to operate. However, the *value* that the patent attorney brings to his customers is not only dependent on how fast the attorney can write an application, that the application is accurate and ensures a quick grant of the application at the patent office. This is just one part of the value of a patent. The main *value* of the patent depends on the patent's usefulness in different situations that can arise in the future. In other words a valuable patent suits the customer's business model, now and in the future.

The patent, in order to be a valuable patent, must be useful when it comes to situations that take place within the administrative, judicial and business sphere. The wording of the claims and the patent in general must be drafted in a way that ensures that the patent will be granted by the patent office, which is within the administrative sphere. Further the patent must be drafted in a way that enables the patent to be used in order to extract value from different business opportunities, within the business sphere. It must be suitable for licensing if that is what the customer will use it for. If the customer what to use the patent for standardisation work, then the claims must be drafted in way that suits that specific standardisation work etc. Since the patent can be used in many different ways, depending on what business opportunities the customer meet – the value of the patent is determined by how well the claims support the companies' business. Further the customer might end up in legal proceedings regarding infringement issues. In that case, the value of the patent depends on how well the patent will hold up in court. If the patent attorney has only drafted the claims in order to ensure that the patent will be granted by the patent office, the value of the patent can be very low if it shows that the patent is useless when it comes to licensing, litigation, standardization processes etc.

A patent attorney that posses the skill to write claims valuable and suitable for the customer's business model, will probably bring the customer more value than an attorney that does not understand the business opportunities and commercialisation aspects in connection with a patent. But who is the patent attorney? What is his background and does he posses the right knowledge and education in order to be able to manage all the different business aspects when drafting claims? The traditional background of a patent attorney is that he has a master of science. He is an engineer, in physics, mechanics, electronic etc. The education that many future patent attorneys today obtain is via IP-Akademin or from internal educational programs at larger patent bureaus or companies. IP-Akademin's educational program for patent attorneys includes the following subjects,²³

- Basic law
- EU-law
- Patent law
- Patents

²³ IP-Akademin, Education Program for Patent Attorneys,
<http://www.ipakademin.se/home/page.asp?sid=2609&mid=2&PageId=20710> 2006-11-23

- Patents – international
- Claims drafting
- Intellectual Property Rights
- EQE-preparation

In order to be permitted to take these courses the person must have a master of science or similar education. None of these courses include any introduction to business strategy or commercialisation aspects of patents. Despite this, the patent attorney often plays a very important role when it comes to the IP creation and business opportunities concerning patents.

5.1.3. Intellectual Property Creation

To understand why and how the patent bureaus and patent attorneys play an important role in the value creation processes related to patents, it is important to understand the importance of IP creation. Companies creating intellectual assets may often choose to create various forms of intellectual properties to protect their innovations. The intellectual properties are sometimes overlapping as one property may be protected by various forms of property rights. The value in the assets may not lie where one may think spontaneously wherefore certain intellectual properties such as trademarks may have a much more significant impact on an innovations value than its technical features. The owners to intellectual assets must therefore make an analysis in every case of how to best protect the asset of concern. By using creative thinking and use the different legal, administrative and business spheres in strategic ways one may achieve an effective protection of the innovation that may be used for various business purposes. The usage of bundles of intellectual properties allows the owner to create portfolios of intellectual properties, most notably patent portfolios. So called “portfolio models” are abstract models of ways companies attempt to protect their inventions.²⁴ Concerning patents, the patent attorney’s competence and experience can influence how well the different patents suits a certain portfolio, and how well the patent support the company’s business model.

Intellectual properties are not only means to block competitors but also a means to be used in the exploitation of R&D and transformation of the results into products, ventures and markets. As a part of the knowledge economy, companies must today develop management systems and structures that stimulate the creation and development of intellectual properties. The IP can be used in various ways in order to enable the company to extract value form it.²⁵ The intellectualized economy has opened up for new ways of creating wealth and business thanks to its unique characteristics and possibilities. IP is one of the most valuable corner stones when building a business today. Therefore, patent matters and issues concerning the services given by the patent bureaus, are important and crucial matters that ought to be carefully considered and managed.

²⁴ Petrusson, Ulf, *Intellectual property & entrepreneurship; creating wealth in an intellectual value chain*, CIP Working Paper Series, Göteborg, 2004, p. 110ff

²⁵ Petrusson, Ulf, *Intellectual property & entrepreneurship; creating wealth in an intellectual value chain*, CIP Working Paper Series, Göteborg, 2004, p. 4

5.1.4. Patent Portfolio Thinking

Managing IP without a structure and strategy can be costly. As patents activities are very expensive, it is advisable to have an outlined strategy for how to manage the filing, maintenance and the over all management of patents. Companies must create a system in order to keep track of their patents, both old ones and new. If not being in control of the company's patents there is always a risk of paying high renewal fees for a patent that is not being used, neither for own benefit nor being licensed to another company.²⁶

A patent portfolio is a strategic legal and business tool. The portfolio can be of substantial value and can be used for a variety of business objectives. Bolstering market position, protecting R&D efforts, generating licensing revenue, encouraging favourable cross-licensing agreements, create barriers to entry for competitors etc.²⁷ The patents in the portfolio can be used offensively, defensively and for market reasons.²⁸ For example a patent portfolio being used in an offensive manner, includes asserting the patent rights against competitors, in order to prevent the competitors to make, use, sell, or import products and/or services that are covered by one or more patents in the company's patent portfolio. In addition the patents in the portfolio can be used to offer a license deal to companies that desire to acquire a right to it. In comparison the patent portfolio can be used in a defensive way, meaning that the patents are used in a defensive way against companies using their patents in an offensive way alternatively invalidating other companies' patents. This often leads to cross-licensing deals with other parties. A market directed patent portfolio is aimed to be used in order to communicate a value proposition to a third party, such as attracting investors and show the ability to create barriers to entry in an industry. There is also an alternative to create a cost-effective portfolio, potentially best used in case of a start-up with limited resources. A cost-effective portfolio focus on obtaining a few quality patents that cover key products and technologies, in alignment with the company's business objectives. A combination of the different strategies can help companies to manage their patent portfolios the right way in order to establish and maintain a competitive advantages over others.

5.1.5. The Importance of Patent Portfolio Management

A patent portfolio that is expanded without reflection will in the end probably diverge from what is important to the company's success. To develop an effective patent portfolio, companies must devise a patent portfolio strategy that is aligned with the company's business objectives.²⁹ When analysing a patent portfolio the most interesting issue is usually not to analyze how many patents there are or how much they have cost to obtain. The most important issue is the usefulness of the patents from a strategic and economic point of view. If the recourses are unlimited, of course it can never be negative to own as many patent as possible. There is always a possibility that the patent may become important in the future. However, no company has the privilege of operating without limitation of its resources or without owners demanding return on investments. In order to extract as much value as

²⁶ Frank, Steven J., *Intellectual Property for Managers and Investors: A Guide to Evaluating, Protecting and Exploiting IP*, Cambridge University Press, Chapter 3

²⁷ Patel, Rajiv, *A Patent Portfolio Development; Strategy for Start-Up Companies*, Fenwick and West, can be found at: http://www.fenwick.com/docstore/publications/IP/IP_Articles/Patent_Portfolio_Dev.pdf#search=%22Patent%20Portfolio%22, 2006-09-27

²⁸ Patel, Rajiv, Partner at Fenwick and West, Aspatore Books Staff, *Inside the Minds: Developing a Patent Strategy*, Aspatore Books, 2005, Chapter 1

²⁹ Patel, Rajiv, *A Patent Portfolio Development; Strategy for Start-Up Companies*, Fenwick and West, can be found at: http://www.fenwick.com/docstore/publications/IP/IP_Articles/Patent_Portfolio_Dev.pdf#search=%22Patent%20Portfolio%22, 2006-09-27

possible from the patents previously granted or recently filed for, it is good to know the company's patent portfolio.³⁰ Although it is clear that the utility of a patent is essential, the bulk of patents may sometimes become important as well. This has been seen in for instance research intensive areas where patent portfolios have become necessary bargaining tools in cross licensing, standardization or for profit generation measures. Examples of such situations are the telecom sector where giants like Nokia, Ericsson and Motorola has created massive patent portfolios thus forcing possible entrants or competitors into costly licensing. Even in these situations it is important to hold the right kind of patents though.³¹

Good thinking when managing a patent portfolio is to consider 'Where is the company now?' and 'Where do the company want to be in a few years of time?'³² Patent Portfolio Management is a way to make the patents not only secure the company's freedom to operate but also a way of securing the return of investments. There are many companies that possess many unexploited patents which cost the company large sums every year. The company could, if using a patent strategy and patent portfolio management, make sure to get rid of the patent if not useful in any way alternatively sell or license the patent to another party that is willing to pay for it.³³ The important long term thinking and integration of business strategy and patenting is clearly visible at Ericsson where Anders Molker witnessed to that "some of our most profitable patents are over ten years old".³⁴

Involving the different parts of the company in the patent portfolio thinking is a way to improve the patent management. Top managers, engineers, R&D personnel etc. must be familiar with the company's clear patent objectives.³⁵ Therefore it is highly important to also make the assisting patent attorneys a part of the patent portfolio management. They should be let in "behind the scene" in order to enable them to give the best strategic advice possible.

5.1.6. Strategic IP Development

IP is not just protection anymore but a part of the business. The idea of patents used to be protection of an innovation by using the possibility of excluding others from using, selling, making the innovation. However, as we have entered into and adopted business to the knowledge economy, it is time to realize that IP is not just a way of protecting the business, IP *is* the business. In the knowledge economy the competitive advantages are not only market shares or segmentation but also a function of learning and knowledge.³⁶ Strategic patenting means that the patenting activities are more controlled and not randomly performed. The patent strategy is always dependent on the overall business strategy.³⁷ The development and usage of a patent portfolio assist in achieving strategic patenting that match the set business objectives. The business must be the driving force, rather than the quantum of technological

³⁰ Davis, Julie L. and Harrison, Suzanne S., *Edison in the Boardroom: How Leading Companies Realize Value from Their Intellectual Assets*, New York, John Wiley & Sons 2001, Appendix A

³¹ Lecture, Sven Lindmark, Chalmers University of Technology, Fall 2005

³² Jolly, Adam. *Handbook Intellectual Property Management : Protecting, Developing and Exploiting your IP Assets*. London, GBR: Kogan Page, Limited, 2004. p. 68

³³ Granstrand, Ove, *The Economics and Management of Intellectual Property*, Cheltenham, UK; Northampton, Mass, E. Elgar, 1999, p. 264 ff.

³⁴ Interview with Anders Molker, Ericsson AB, 2006-09-06

³⁵ Granstrand, Ove, *The Economics and Management of Intellectual Property*, Cheltenham, UK; Northampton, Mass, E. Elgar, 1999, p. 264 ff.

³⁶ Smith, Michele and Hansen, Fredrick, Managing intellectual property: a strategic point of view, <http://www.emeraldinsight.com/1469-1930.htm>

³⁷ Jolly, Adam. *Handbook Intellectual Property Management: Protecting, Developing and Exploiting your IP Assets*. London, GBR: Kogan Page, Limited, 2004. p. 52

<http://site.ebrary.com.proxy.lib.chalmers.se/lib/chalmers/Doc?id=10078125&ppg=66>

merits involved, i.e. patent protection should not only be reserved for giant technological leaps forward.³⁸ The main consideration is how the patent will be used to support a business directed portfolio of patents.

Some argues that there is no such thing as patent strategy. They think of the patents as playing important roles supporting the business strategy.³⁹ However, there are also many companies that separate the business strategy and the patenting work. The patenting department is just there to make sure that the R&D results get patent protection.⁴⁰ The strategy of the business is controlling the R&D and the R&D is controlling the patenting activities. Although, to succeed in the knowledge based economy it is of outmost importance to keep the company as flexible and profitable as possible. IP integration in business strategy is advisable in order to gain economic results from the investments and to ensure that the company has the assets that are needed to support the business model. In order to perform more strategic and efficient patenting, the companies must match the patenting activities with their business strategies and objectives. Any kind of system that increases the degree of alignment of the patent portfolio with business strategies will improve the patenting actives.⁴¹ To use a system or scheme in order to categorize current or prospective patents (and innovations) in a way that facilitate both tactical and strategic decisions about the patents in their portfolio will improve the companies' to succeed in patenting activities.⁴²

5.1.7. IP as an Integrated Business Asset

IP as an integrated business asset can be used in different ways, such as a negotiation tool as well as a way of positioning the company strategically.⁴³ The assets are valuable both tactically and strategically as it has the possibility to change a company's position on the market both in a long term perspective as well as giving the firm possibilities in various short term situations. IP management and strategic reasoning must be part of the overall business strategy. All parts of the firm must be aware of the IP management's strategic agenda and objectives. When a company has full control over the patents in the patent portfolio the most interesting question will be "What new intellectual property do we want to create?". To be able to give a good answer to that question it is necessary to be aware of where the company is heading strategically, what its corporate goals are and be aware of what roles that IP can play in enabling the goals. One has to look at where the portfolio is today, and where one expect to be tomorrow. Then the company has got to go into the various departments and set goals and targets. Then inventory and filing of patents in specific areas that are parts of the company's goals for the next years has to take place.

³⁸ Jolly, Adam. *Handbook Intellectual Property Management: Protecting, Developing and Exploiting your IP Assets*. London, GBR: Kogan Page, Limited, 2004. p. 53

³⁹ Stasik, Eric, *Practical Patent Strategies Used by Successful Companies*, books24x7, ALTHOS, 2004, chapter 2

⁴⁰ Interview conclusions with patent managers, chapter 5.1.

⁴¹ Davis, Julie L. and Harrison, Suzanne S., *Edison in the Boardroom: How Leading Companies Realize Value from Their Intellectual Assets*, New York, John Wiley & Sons 2001, Chapter 2

⁴² Davis, Julie L. and Harrison, Suzanne S., *Edison in the Boardroom: How Leading Companies Realize Value from Their Intellectual Assets*, New York, John Wiley & Sons 2001, Chapter 2

⁴³ Davis, Julie L. and Harrison, Suzanne S., *Edison in the Boardroom: How Leading Companies Realize Value from Their Intellectual Assets*, New York, John Wiley & Sons 2001, Chapter 4

5.1.8. Visionary Organizations Focusing on IP as the Model for the Future

The most advanced firms in the market are according to Davis and Harrison⁴⁴ companies that see their intellectual properties as assets fully integrated in the firm and as the means to drive both the company and the industry forward. These companies are actively generating new technologies and solutions, protecting them by strategic patenting and other protection methods which then are used to generate new businesses and business models. This means that IP has taken the centre position in the company, thus being used to keep the firm competitive by creating the necessary assets and properties for the future needs. Highly developed firms are also realizing that it is important to leverage on the investments in asset creations. This means that truly successful firms see to that all functions work in the same direction with a high degree of communication and integration towards profitable business models. It is therefore also very important to create a successful reporting and measuring model to evaluate and track results of the investments. If no follow-up is performed, it is impossible to really measure which actions that is successful and which is not. To succeed one has to identify and exploit the valuable assets in the company.

5.1.9. Conclusions

Patenting activities shall be a part of any company's overall business plan and patenting decisions shall be a part of strategic business management. It is crucial that the patent attorneys assisting in patenting errands are familiar with their customers' business plans and objectives. In order to make sure that the attorneys have the full picture before giving strategic advice concerning patenting or patent portfolio building, the communication between the client and the attorney must be very good. If the communication between a client and a patent attorney is thorough, the understanding of the clients' situation and agenda will be better. Thereby the attorney has a better chance of giving the client suitable and valuable advices concerning strategic patenting activities and portfolio managing. The attorney must also be familiar with the different commercialisation possibilities related to patents, and how the claims can be drafted in different ways to support different commercialisation opportunities. In addition it should be mentioned that in order to get the most out of the services offered by the patent bureaus, it is important that the customer has an understanding of their own patents and or patent portfolio. The customer must have a strategy for development of the portfolio to gain results from the investments in patenting activities.⁴⁵

⁴⁴ Julie L. Davis and Suzanne S. Harrison, *Edison in the Boardroom: How Leading Companies Realize Value from Their Intellectual Assets*, New York, John Wiley & Sons 2001, Chapter 5

⁴⁵ Jolly, Adam. *Handbook Intellectual Property Management: Protecting, Developing and Exploiting your IP Assets*, London, , GBR: Kogan Page, Limited, 2004, p. 67
<http://site.ebrary.com.proxy.lib.chalmers.se/lib/chalmers/Doc?id=10078125&ppg=81>

5.2. Theory on Services

As patent bureaus are service providing companies, one may learn from existing literature to find examples and lessons for how to run such companies as efficiently as possible. This chapter therefore aims at presenting modern theories on how service operations shall be managed.

All companies offering services are without doubt aiming to meet the customers' expectations. If the customers feel that their expectations are met they usually become more willing to remain as customers and order more services. This makes satisfied customers, profitable customers. When a customer is not satisfied with a received service this comes from a gap between the expected service and the delivered service alternatively a gap between the delivered service and the customer's perception of the delivered service. There can also be a combination of these two situations.^{46, 47} The problem concerning the gap between expectations and delivery may be traced to three underlying causes. These are either that the task is "inappropriately specified or designed", i.e. has been performed with too little resources or due to a lack of adequate expectations from the customers.⁴⁸ The other situation, when there is a gap between the delivered service and the perception thereof, may be caused by either poor service delivery or lack of correct interpretation. Either case is equally engraving as service providers must fulfil the perceived reality of the client as it is what they will be judged on.⁴⁹ Despite the need of satisfied customers, there exist several examples of companies that even for quite long periods have managed to maintain high profitability despite (or perhaps because of) providing services and products the customers are dissatisfied with. However, these companies have a tendency to be late to adopt when there is a change in market. This put them in a difficult situation as newcomers or competitors may put the company into a crisis rapidly.⁵⁰ Therefore has delivering high quality services become a mean for diversification, maintaining profitability and in many cases crucial for survival.⁵¹ It is therefore vital to always remain close to the customers in order to ensure that they do not leave.⁵²

5.2.1. Importance of Consumer Confidence

Service providers must also establish confidence among the customers that they are suitable for the job. The level of confidence, which is a subjective feeling among the customers, will impact how they perceive the provider and its services. There are six main factors influencing the notion customers have about a company, that is; personal belief, media, word of mouth, visibility, familiarity and communication. The three later are possible to influence directly

⁴⁶ Johnston, Robert & Clark, Graham, *Service Operations Management*, Pearson Education Ltd., Essex, England, 2001, p. 105 ff

⁴⁷ Parasuraman, A.; Zeithaml, Valarie A.; Berry, Leonard L., *SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality*, Journal of Retailing, 1988, Nr. 64, p 12 f.

⁴⁸ Johnston, Robert & Clark, Graham, *Service Operations Management*, Pearson Education Ltd., Essex, England, 2001, p. 105 ff

⁴⁹ Johnston, Robert & Clark, Graham, *Service Operations Management*, Pearson Education Ltd., Essex, England, 2001, p. 108 f

⁵⁰ Kaplan, Robert & Norton, David, *The Balanced Scorecard*, Harvard Business School Press, 1999, p. 29 ff.

⁵¹ Parasuraman, A.; Zeithaml, Valarie A.; Berry, Leonard L., *SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality*, Journal of Retailing, 1988, Nr. 64, p 12 f.

⁵² Kotler, Philip, Armstrong, Gary, Saunders, John and Wong, Veronica, *Principles of Marketing*, Pearson Education Ltd., Essex, England, 2002, p. 355

whereas the first three is to a higher extent outside the companies control.⁵³ Especially in business to business services, relations between the parties have a tendency to grow deeper compared to when services provided to end customers. This has the effect that both companies and customers become more dependants on each other, thus making a loss of a customer graver and switching costs higher for the client.⁵⁴ This usually has the effect that customers do not change service providers as frequently as they would if switching costs were low.⁵⁵

The customers' expectations will be affected by the price, alternative services available, the marketing, word of mouth, previous experience, customer's mood, attitude and confidence.⁵⁶ However, in the case of lack of confidence, lack of distinction between services or weak connections between providers and buyers there is a risk of bewilderment among the customers. In the mentioned cases purchasers often find it hard to know which product to invest in as none of the available seems appealing enough to create a decision. This may deter the buyer from purchasing altogether as it appears to be less risky.⁵⁷ It is therefore important that service providers manage to package their offers in a way that seems to be appealing to the customers and inspire confidence among the customers. This is usually done through differentiation, i.e. finding an alternative way of providing a higher quality of services than the competitors. If a service provider manages to differentiate himself from his competitors, he may achieve a competitive advantage which may be very important on a competitive marketplace.⁵⁸

5.2.2. Key Aspects of Customer Satisfaction

As the key to success in a competitive market is to create consumer confidence and consumer satisfaction all companies must establish how to achieve this via diversification. This is done by understanding what the customers want and what they value and appreciate. All clients value services according to a long list of parameters that includes subjective and objective parameters called service objectives parameters. These may be divided into four categories, divided by their possibility to "delight" the customers or to "dissatisfy" them. These four categories are hygiene factors, critical factors, neutral factors and enhancing factors.

- The hygiene factors are factors that needs to be in place not to dissatisfy but that has a low potential to satisfy.
- Critical factors can turn both ways, thus both "delight" and "dissatisfy".
- Neutral factors have little impact on either "delight" or "dissatisfaction".
- Enhancing factors have the possibility to give the customer "delight", but its absence has a low impact on creating "dissatisfaction".⁵⁹

⁵³ Johnston, Robert & Clark, Graham, *Service Operations Management*, Pearson Education Ltd., Essex, England, 2001, p. 112

⁵⁴ Mehta, Subhash C. & Durvasul, Srinivas, *Relationships between SERVQUAL dimensions and organizational performance in the case of a business to business service*, Journal of Business & Industrial Marketing, Vol. 13 No. 1, 1998, p. 40-53

⁵⁵ Aydin, Serkan, Özer, Gökhan, Arasil, Ömer, *Customer loyalty and the effect of switching costs as a moderator variable*, Marketing Intelligence & Planning; 2005; 23, 1; ABI/INFORM Global, p. 89ff

⁵⁶ Johnston, Robert & Clark, Graham, *Service Operations Management*, Pearson Education Ltd., Essex, England, 2001, p. 115 f

⁵⁷ Zine-Danguir, Samira, *Modèle de structure du marché non symétrique fondé sur le concept « d'hésitation »*, La Revue des Sciences de Gestion : Direction et Gestion; Jul-Oct 2005; 40

⁵⁸ Kotler, Philip, Armstrong, Gary, Saunders, John and Wong, Veronica, *Principles of Marketing*, Pearson Education Ltd., Essex, England, 2002, p. 360

⁵⁹ Johnston, Robert & Clark, Graham, *Service Operations Management*, Pearson Education Ltd., Essex, England, 2001, p.119 f

A service provider must ensure high quality and effective transitions of the whole process of a service in order to ensure customer satisfaction. This means that functions must be coordinated and the service offer thought through. It also means that the service provider must take a general responsibility over all processes and actions concerning the case on a client to client basis.⁶⁰

5.2.3. Patent Bureau Services

Patent bureaus operations may best be described to be of high complexity but fairly low volume companies. Their uniqueness comes from their competence and ability to solve problems for the client. It is therefore of high importance that the competence is kept high and that the customer expectations are met. As patenting often is a reoccurring event for most companies, it is important to take into consideration both the long term and the short term perspective when evaluating the service quality. A short term evaluation checks the last job(s) done whereas a long term analysis considers the cumulative effect.⁶¹

Although patenting is a reoccurring event for most companies, the service segment in general traditionally have to manage two quite different types of clients which also may be seen among patent bureaus.⁶² These are the regular clients and the highly irregular clients. The later group makes it hard to keep a high competence in their specific area. The category is also characterized by few standardized services.⁶³ Patent bureaus may also be described to be in so called “service partnerships” as the patent attorneys are closely involved with the clients. The role of the patent attorneys is most often involved in their clients’ decision making both as advisers and as representatives for their clients. As patent attorneys most often meet the client acting as sole representatives or as members of small teams, the attorneys’ personal match with the customers will have a great impact on the relationship. This means that it is relevant to discuss the patent attorneys on an individual level within the frame of their respective bureaus.⁶⁴

5.2.4. Problems in Service Industries

Services are to a much greater extent than other forms of the industry, most notably manufacturing industry, regarded to be intangible in the sense that there is no tangible output. This has in many cases led to that the organizations has been less reviewed compared to manufacturing industries, resulting in poor organizations and poor quality.⁶⁵ In order to improve the service, a provider may take several actions. For many industries it is important to review the service processes and to analyze what kind of services one wishes to achieve. It is also important to identify key functions that must keep high quality and that are valued by the customers. Another method is to personalize the service offers by having personal

⁶⁰ Johnston, Robert & Clark, Graham, *Service Operations Management*, Pearson Education Ltd., Essex, England, 2001, p. 180ff

⁶¹ Johnston, Robert & Clark, Graham, *Service Operations Management*, Pearson Education Ltd., Essex, England, 2001, p. 133

⁶² See qualitative interviews with customers, chapter 7.

⁶³ Johnston, Robert & Clark, Graham, *Service Operations Management*, Pearson Education Ltd., Essex, England, 2001, p. 187f

⁶⁴ Johnston, Robert & Clark, Graham, *Service Operations Management*, Pearson Education Ltd., Essex, England, 2001, p. 196

⁶⁵ Johnston, Robert & Clark, Graham, *Service Operations Management*, Pearson Education Ltd., Essex, England, 2001, p. 206

contacts or account managers looking into the clients needs.⁶⁶ Service industries are also troublesome since diversification is hard to achieve as it usually is impossible to patent service methods. This has as a consequence that competitors rather easily can follow or imitate. Creating competitive advantages may therefore be both hard to achieve and take considerable time as it requires the company to do something others can see but not copy, such as delivering superior service or creating a strong brand.⁶⁷

5.2.5. Comparisons to Manufacturing Industries

Patent bureaus today are faced with the challenge of keeping a high pace due to increasing demands and shortages in staff while at the same time adapt to the clients individual needs and deliver high quality solutions. These are challenging demands that put patent bureaus and patent attorneys at test. This situation has been experienced by many manufacturing companies in the post industrial era wherefore there has emerged best praxis methods to overcome these issues. Although there are great differences between the two industrial segments, there are possibilities to draw parallels between the two in order learn from best praxis.

Many manufacturing industries have moved away from mass production of goods and specialized in mass customized goods. This means that the company still may produce high volumes of goods but at the same time individualize it for the customers needs. The critical factor is to minimize the waste of time and resources the changes between products will mean. Although the difference between manufacturing industry and patent consulting is great, there are lessons to be learned. Chosen potentially applicable solutions are;

- There are several ways of customizing while maintaining efficiency high and costs low. Most notably is to create modules that easily may be modified or changed.
- The use of effective IT solutions for coordination and for spreading important information.
- The use of external suppliers of services (back office, specialists etc.).

The most important improvements experienced by mass customized manufacturing companies are higher customer satisfaction, increased market share and increased customer knowledge.⁶⁸ If one compares the manufacturing industry to the service sector, one can see that they have striking similarities in the sense that adapting to the customer is very appreciated and there are means of doing so by using the resources more effectively.

The conclusions that may be drawn from comparing the service sector to the manufacturing sector is that one shall try to minimize efforts that result in reinventing or reconstructing the same solutions over and over again. This is potentially difficult as patent errands usually are quite different from each other. However, there may be solutions to implement that may minimize the time patent attorneys must spend with each case as their time both is more expensive than administrative personnel and as patent attorneys currently is perceived as a shortage on the labour market today⁶⁹.

⁶⁶ Johnston, Robert & Clark, Graham, *Service Operations Management*, Pearson Education Ltd., Essex, England, 2001, p. 210 ff

⁶⁷ Kotler, Philip, Armstrong, Gary, Saunders, John and Wong, Veronica, *Principles of Marketing*, Pearson Education Ltd., Essex, England, 2002, p 549 f

⁶⁸ Åhlström, Pär and Westbrook, Roy, *Implications of mass customization for operations management*, International Journal of Operations & Production Management, Vol. 19 No. 3, 1999, pp. 262-274

⁶⁹ See qualitative interviews with both patent managers and patent attorneys, chapters 5.1 & 5.3.

Although these are important findings, it is clear that the most important lesson to learn from the mass customizing industries is the lesson of customer involvement. In order to succeed with creating truly adapted products or services, the customers must be involved in the process from the early stages.⁷⁰ The key factor in this process is effective communication between customers and service providers.

6. Industry Framework

As mentioned before the patent attorney plays an important role when it comes to value creating processes concerning patents. Naturally the behaviour of the patent attorney is influenced both by his/her background (mentioned in chapter 5.1.2.), the long history of the industry as well as the regulatory frameworks surrounding and controlling the patent bureaus' activities. In order to fully understand the patent bureaus' situation it is important to understand the environment they operate in. This chapter aims at introducing the reader to the different regulatory frameworks that the patent bureaus are controlled by.

Swedish patent bureaus are regulated by various Swedish and international regulatory frameworks that greatly influence how patent bureaus and patent attorneys work. These frameworks of governmental and organisational regulations are also present in various other consulting professions. For this reason a comparison with the regulatory framework controlling lawyers will take place, as they are the closest adjacent consulting group.

6.1. *The Regulatory Framework for Swedish Patent Attorneys*

The work performed by patent attorneys is very complex and demanding. A good patent attorney has obtained knowledge during many years of both training as well as work experience. A client is forced to reveal sensitive information about the innovation he wants to protect as well as information about his company in order to get the best service and advice from the attorney. The client must trust that the patent attorney knows what he is doing, and it is very hard for the client to question the result or the work performed by the attorney since the client often do not has enough knowledge about the processes in order to be able to control the attorney's performance.

As the work performed by the attorneys are controlled by different established norms, regulatory frameworks and organisations it is vital to obtain an understanding of these in order to understand the environment in which the patent attorneys act. It is a very long and hard way to become an EPO attorney, and the road may influence the opinions and values of the attorneys. It is also interesting to compare the regulatory framework that surrounds patent attorneys with the regulatory framework that influences the lawyers' business. The roles of a lawyer or patent attorney are very different in many aspects, however somewhat similar when looking at the legal and strategic part of the consultancy services offered. It could probably be informative to look at differences and similarities between the different professions.

⁷⁰ Duray, Rebecca, *Mass customization origins: Mass or custom manufacturing?*, International Journal of Operations & Production Management; 2002; 22, 3; ABI/INFORM Global, p. 314 ff

6.1.1. Regulatory Frameworks in Sweden

Anyone can file for a patent via the Swedish Patent and Registration Office, PRV. Compared to the authorization of lawyers in Sweden, done by the Swedish Bar Association, there is no such authorization procedure for Swedish patent attorneys today. However, as a patent attorney it is common to become a member of the Association of Swedish Patent Attorneys (SPOF). The Association of Swedish Patent Attorneys, founded in 1884, is an association of patent and trade mark attorneys at Sweden's leading patent bureaus.⁷¹ The Association is aiming at guaranteeing that the members possess the “necessary knowledge”⁷². The guarantee is made both nationally towards customers as well as internationally, aiming at ensuring the attorneys’ competence on a world wide arena. The majority of the members are certified European Patent Attorneys. The regulatory framework for the attorneys’ activities, when being a member of SPOF, is to be found in SPOF’s regulations. One part of the regulations is dealing with the ethical rules; this was added to the regulations 1990. The regulations are complemented with the “General conditions for cases handled by the Association of Swedish patent attorneys”.

However, the situation for Swedish patent attorneys concerning different organisations, authorizations and rules is about to change. Recently the Swedish Intellectual Property (IP) Attorneys Association (IP-Samfundet) was founded.⁷³ The Association is open for different professionals within the IP area, both patent attorneys as well as lawyers. Some of the functions that SPOF manages today will be transferred to the Swedish IP Attorneys Association.^{74, 75} The Swedish IP Attorney Association will probably take over a lot of responsibility for establishing codes of ethics for practising attorneys. The Association will also manage an authorization procedure of IP-attorneys. A member of the Association will be authorized as an IP attorney and the ambition is to maintain professional skill and a fair and just IP attorney profession.⁷⁶ The ambition is also to protect the customers and guarantee services of certain quality. The certain qualities that are being secured by the Swedish IP Attorneys Association are the following;⁷⁷

- A thorough and in depth knowledge within the IP attorney’s field of competence (patents or trademarks).
- Basic knowledge within other intellectual property rights.
- Knowledge of the judicial system, such as procedural law, contract law etc.
- An understanding of commercial aspects in connection with IPRs.

The Association will authorize attorneys that possess these qualities and the members have to comply with the ethical rules setting the framework for the activities the attorneys will perform. Soon there will also be a certain course in ethics that the IP Attorneys must take. As the Swedish IP Attorneys Association is a rather new institution it has recently started to accept applications. This first year (2006) around 600 applications were filed.⁷⁸

⁷¹ SPOF, www.spor.se 2006-10-13

⁷² Karin Lehander, European Trademark attorney at Valea, E-mail interview, 2006-10-24

⁷³ IP-Samfundet, <http://www.ip-samfundet.se/home/index.asp?sid=3080&mid=1>, 2006-10-24

⁷⁴ Chairman of IP-Samfundet, Lars Estreen, EPO Attorney at Kransell-Wennborg, Telephone interview, 2006-09-26

⁷⁵ Karin Lehander, European Trademark attorney at Valea, E-mail interview, 2006-10-24

⁷⁶ IP-Samfundet, <http://www.ip-samfundet.se/home/page.asp?sid=3080&mid=2&PageId=22832>, 2006-10-24

⁷⁷ These are not established prerequisite in writing yet, however they are mentioned by Lars Estreen Chairman of IP-Samfundet, in an Email interview 2006-10-25.

⁷⁸ Chairman of IP-Samfundet, Lars Estreen, EPO Attorney at Kransell-Wennborg , Telephone interview, 2006-09-26

The ongoing changes of the attorneys' different organisations make it hard to draw any further conclusions or to make an analysis of how the Swedish regulatory framework influence the patent bureaus and the work performed by patent attorneys. However one can see a structural change and improvement of the different organizations and a will to enhance the safeguarding of the professions reputation.

6.1.2. Regulatory Frameworks in Europe

In order to work as a European Patent Attorney, that is, being able to assist clients with filing for patents in European countries via EPO, the attorney must be authorized by EPO. Persons that will act as representatives must take the European Qualifying Examination (EQE). This international non-governmental public law corporation has its own rules and code of professional conduct. The way to become a European Patent Attorney is as mentioned rather long and tough. To become an attorney one has to accomplish different steps, each taking many years. A candidate must first obtain a suitable qualification in the field of science and technology. After that, the candidate must undergo a period of professional activity under the supervision of a professional representative or an employee dealing with patent matters of a European industrial cooperation for three or six years depending on the academic qualifications. Last but not least the candidate must pass the EQE. The EQE is designed to establish whether the candidate has the necessary skills and knowledge to represent applicants before the EPO.⁷⁹ Candidates need to be particularly familiar with; European patent law, the Patent Cooperation Treaty (PCT), the Paris Convention, EPO board of appeal case law and certain national laws in so far as they apply to European patent applications and European patents.

6.1.3. Potential Consequences of a Community Patent

Something that might change a lot of existing norms and regulations concerning patents in Europe, as well as in Sweden, is the creation of a possible Community patent. Discussions concerning a Community patent have been going on in several decades but the process has been slow due to conflicting opinions and interests.⁸⁰ However, in year 2000 the EC Commission proposed a Community patent.⁸¹ The aim is to create a united patent system for all member states. The Swedish government decided in 2003 to support the development of a European patent system and a Community patent and stressed the important aspects of having a European Patent Court.⁸² A community patent would bring value-added for the European industry as well as it offers unitary, affordable and competitive patents as well as greater legal certainty through a united community jurisdiction.⁸³ Further, a Community patent would strengthen the positioning of EU on the global market as both the union and the industry would gain homogeneity. However, the establishment of a Community patent is not obvious to everyone and discussions are still ongoing. One of the most common counterarguments is the issue with precise legal translation. The wording of a patent claim can get different meanings when translated into the different languages of Europe.

⁷⁹ EPO, <http://eqe.european-patent-office.org/site/>, Last modified: 2003-09-18

⁸⁰ SOU 2002:57 (can be found at <http://naring.regeringen.se/content/1/c4/20/87/be108e53.pdf>)

⁸¹ Per Holmstrand, Expert opinion, public statement by Head lawyer at PRV, 2006-04-06, AD 411-2006/896, p. 4 ff

⁸² Faktapromemoria Upprättande av gemenskapspatentdomstolen, 2003/04:FPM68
http://www.riksdagen.se/webbnav/index.aspx?nid=251&dok_id=GR06FPM68&rm=2003/04&bet=FPM68, 2006-10-17

⁸³ Per Holmstrand, Expert opinion, public statement by Head lawyer at PRV, 2006-04-06, AD 411-2006/896, p. 4 ff

The establishment of a Community patent would affect the Swedish patent bureaus in several ways.⁸⁴ The most eminent is that their income will decrease due to that fact that the amount of translation work will decrease drastically. There would no longer be a need to translate the applications into as many different languages as before.⁸⁵ A Community patent, with a more homogenised patent system within Europe, will probably also result in an increased competition among patent bureaus and patent attorneys over the borders. As of today, foreign companies and foreign patent bureaus are dependent on Swedish bureaus to assist them when filing patent application via PRV for protection in Sweden. In case of a Community patent, this will not be necessary any more. Companies with a need for patent protection in more than around 5 countries in Europe will probably save time and money if applying for a Community patent.⁸⁶ In that case, it does not matter which patent bureau or attorney they use. The Swedish patent bureaus will compete with all other patent bureaus in Europe. This is one of the reasons to the foundation of the Swedish IP Attorney Association. The Association is established with the (among others) aim of securing the attorneys' competitive competences on a more homogenized market.⁸⁷

6.1.4. Comparison with Regulatory Framework for Swedish Lawyers

As lawyers' and patent attorneys' roles are somewhat similar since they both act as representatives for their client in different legal and administrative tasks it is interesting to notice that there is a difference between the two professions when it comes to code of conduct and authorization. As mentioned before there has not until today been an authorization of Swedish patent attorneys as there is for lawyers. In order to be an authorized lawyer one has to become a member of the Swedish Bar Association and comply with the Association's rules and Code of Conduct.⁸⁸ There has always been a tradition of praising the Association's "Code of Conduct". A lawyer shall be someone trustworthy and his foremost duty is to always put his client's interest first. The objectives of the Swedish Bar Association are to "*maintain high ethical and professional standards in the legal profession, to monitor legal developments and endeavour to ensure that they benefit from the Bar Association's experience, to safeguard the general professional interests of its members and to further unity and consensus between members*". The Association has drafted the "Code of Conduct for Members of the Swedish Bar Association". The Code of Conduct forms the framework for the working member of the Association and was drafted 1984. It aims at giving guidance to the members and is designed through the acceptance by those to whom they apply to ensure the proper performance by the lawyers. A lawyer always has to act in accordance with the Code of Conduct, a failure to observe the rules must in the last resort result in disciplinary sanctions.

The Association does actively work in order to influence established and developing norms within the profession.⁸⁹ This does to some extent differ from the patent attorney's organization SPOF and SPOF's objectives and activities. (See Regulatory frameworks in Sweden, chapter 6.1.1.) SPOF has not been engaged in any authorization of attorney's in order to safeguard ethics and skills within the profession. However, this is about to change as the foundation of the Swedish IP Attorney Association is aiming at managing these issues and

⁸⁴ SOU 2002:57 (can be found at <http://naring.regeringen.se/content/1/c4/20/87/be108e53.pdf>)

⁸⁵ SOU 2002:57 p. 49 ff (can be found at <http://naring.regeringen.se/content/1/c4/20/87/be108e53.pdf>)

⁸⁶ Per Holmstrand, Expert opinion, public statement by Head lawyer at PRV, 2006-04-06, AD 411-2006/896, p. 4

⁸⁷ Chairman of IP-Samfundet, Lars Estreen, EPO Attorney at Kransell-Wennborg, Email interview, 2006-10-25

⁸⁸ Advokatsamfundet, <http://www.advokatsamfundet.se/customer/index.asp>, 2006-10-17

⁸⁹ Advokatsamfundet, <http://www.advokatsamfundet.se/platform/components/news/consume/item.asp?nid=999>, 2006-10-12

related matters. However, it will certainly take time before the patent attorney's norms and regulatory framework resemble the lawyer's.

In order to become an authorized lawyer, one has to pass the examination.⁹⁰ The examination is not first and foremost focusing on the candidates' legal skills, but more on ethical considerations and different legal procedures and techniques. The education that precede the examination aims at giving the lawyers the necessary knowledge within areas such as; the code of conduct for lawyers, negotiation technique, hearing and presenting procedures in court as well as knowledge of the business of a law firm business, European law and counsellors' liability. The authorization differs a lot from the authorization of European Patent Attorneys, where the technical skills are decisive. At EPO's webpage it states that the aim of the EQE is to "establish whether the candidate has the requisite aptitude and knowledge to represent applicants before the EPO".⁹¹ The tests are very complicated and many candidates do not pass the first time they take the exam. Contrary to the examinations test for lawyers, little focus is put on ethics and customer relations in EQE. In other words, the aims of the examination tests are quite different. Patent attorneys are predominantly tested on their knowledge in the patent system and legal knowledge whereas lawyers are mainly tested on ethical standards and different procedures.

This demonstrates a difference in attitude towards the question what a "good" patent attorney and a "good" lawyer are supposed to know. In the first case the focus is on technical skills whereas the later focus on behavioural patterns. This difference may be influencing the industries as whole as the self image might be different in the two industry segments. As lawyers in an early stage are reminded of the important role they play in society and the importance of nurturing this responsibility in a professional and ethical way. The patent attorneys' environment is more focused on the technical skills and the high complexity of their work, lacking a discussion of their "monopoly position" and what this might imply in their day-to-day work. It is possible that the difference in focus also influences how much focus the two segments put on customer satisfaction. The lawyers' tests are much more focused on understanding their clients and gaining their trust besides from their skills in the relevant subject matter. However, this is highly speculative as we have found no analysis or investigation of customer satisfaction with comparative studies between the two industry segments.

6.2. Implications and Conclusions

As the services that patent bureaus offer are of such complex nature, the competition is not extensively fierce on the Swedish market. If an inventor or a company needs help and advice in order to obtain patent protection in Europe, there are no alternatives. The person or company needs help from an authorized European Patent Attorney.⁹² If the Swedish patent bureau or patent attorney does not meet the clients need, the client can only turn to another patent bureau or try to seek help outside the borders of Sweden. This puts the client in a vulnerable position since there is a limited number of European Patent Attorneys in Sweden.⁹³ This also means that the bureaus and attorneys are in a monopoly-like situation. A patent attorney possess knowledge that no one else does and the client often knows too little to be able to control the work performed by the attorney. Organizations such as EPI, SPOF and

⁹⁰ Advokatsamfundet,

http://www.advokatsamfundet.se/platform/components/cm/consume/index.asp?doc_id=764, 2006-10-17

⁹¹EPO, <http://eqe.european-patent-office.org/site/index.en.php>, Last modified 2003-09-18

⁹² If applying via EPO.

⁹³ About 270 authorised, http://216.92.57.242/patentepi/data/epi_01_2006.pdf, p.8

Swedish IP Attorney Association are all aiming at securing the patent attorneys' competences. As the EQE today does not touch upon the important issue of customer relation or the delicate matter of being in a monopoly like situation, this might influence the working environment for patent attorneys. Since there are almost no possibilities to obtain patent protection outside Sweden unless you consult a patent bureau, the patent bureaus and attorneys anchor a huge responsibility when being the link between innovative ideas and commercialization. The attorneys must make sure to stimulate and enable innovative ideas to become publicly known and commercialized. This is a necessary building stone in society and very important in order to ensure that the economical growth shall continue.⁹⁴ As the legal framework for patent protection is complex and difficult to manage for a person unskilled in the art, it is important that patent bureaus and patent attorneys make sure to offer the services small companies with limited resources need and at the same time make sure to match large companies' quite different needs. The European Commission discusses this issue in 2001 and mentioned that national patent bureaus must play a more active role in order to spread and promote systems for industrial rights and knowledge. This should be done in cooperation with organisations representing SME and other organisation representing different professions as well as individual inventors and universities.

The latter discussion is touching upon issues and thoughts that are all left out of the examination process of attorneys and the safeguarding procedure of patent attorney's competences. This might be one of many factors leading to the fact that the patent bureaus today fail to successfully meet the markets needs.

7. Qualitative Interviews with Customers

In order to verify our hypothesis it is imperative to investigate the conditions on the market. This has been solved by conducting several empirical studies with the aim to investigate how the different actors on the market regard the market situation today. In order to gain a wide but at the same time thorough understanding of the situation we have used both quantitative as well as qualitative studies with both patent bureaus and their customers.

To gain a deep insight into the customers' perspective of how the consulting market is working we conducted a series of interviews with senior managers in the end of August and early September 2006. We interviewed both patent managers at large corporations as well as CEOs representing small start-ups. The interviews aimed at investigating how the companies use their external consultants, with specific focus on patent bureaus and how these firms perform their tasks. During the interviews we put special focus on asking about the results of the services, costs and the level of understanding among the consultancy firms for the customers' various needs. As most of the respondents are predominantly working with patents, most of the material found is directly commenting patent bureaus and patent attorneys working methods and results. Although the number of interviewed people is fairly limited, we believe that we did important findings from this survey which will allow us to draw conclusions about the market in general. As the respondents answers and comments were very similar, we believe that there is a general opinion on the market concerning the operations of patent bureaus. All respondents except one had similar views on the issue. The responding companies are representing a major part of the industry due to their different size and variety.

⁹⁴ KOMMISSIONENS RAPPORT TILL RÅDET, EUROPAPARLAMENTET, EKONOMISKA OCH SOCIALA KOMMITTÉN OCH REGIONKOMMITTÉN Att skapa ett företagervänligt Europa, Europeiska unionens verksamhet för små och medelstora företag (Bryssel den 01.03.2001 KOM(2001) 98 slutlig), p. 38

The overall impression is that customers find the services performed by patent attorneys to be of poor quality in different aspects. Many of the interviewed patent managers mentioned that they think that many attorneys today lack crucial competences. Further, one can see that there is a general opinion that the switching costs are so high, that the customers feel somewhat “stuck” with their attorneys. Some of the large companies are starting to develop in-house patent departments, in order to avoid being dependent on the patent bureaus. They argue that this limits the costs as well as it improves the results. This development is not sound. In order to clarify the situation the main complaints put forward by the customers will in this chapter be specified one by one.

7.1. General Lack of Competence

The most important findings were that the industrial patent managers consider it to be a great lack of competent patent attorneys in Sweden. Many of the respondents witnessed to have serious difficulties to find patent attorneys capable of understanding their technology in general and their innovations in particular. This issue was particularly stressed among the smaller firms with high-tech and bio-tech inventions who are low volume clients. The high specialization combined with low volume makes it hard for the patent bureaus to specialize in their technology. However, also major firms said that they do not feel that the patent attorneys understand the technology. One senior patent manager said; “I don’t expect them to understand so I tell them exactly what to write. I can do this as I know IP, but I feel sorry for those who don’t.”

The patent managers also expressed that they think that there is a lack of strategic business understanding and reasoning among the patent attorneys. The patent attorneys are not perceived to be making an effort to understand neither the potential use of the patent, nor if the patent would be valid in court in case of a legal dispute. However, it must be said that some of the interviewed managers were reluctant to involve external parties into their business thinking which was perceived as threatening. Paradoxically the same managers introduced external patent attorneys to their state-of-the-art technologies without these reservations.

Besides the lack of technical and business competence among patent attorneys, there is a general lack of patent attorneys. The need of EPO certified patent attorneys is described to be particularly troublesome. This has the effect that prices are kept high and that companies are bound to rely on external competences as it is hard to recruit.

7.1.1. Cost Related Issues

Patent attorneys are according to the interviewed customers paid variously much but most customers agree upon the notion that it is quite substantial sums that are invoiced. This does not seem to be the problem in itself but there is a widespread feeling that the quality of the services does not always motivate the costs. As all interviewed feel that the costs are very high, the issue becomes critical in the cases where the quality expectations are not met as the customers feel great disappointment. There are more diverged opinions when it comes to specifications of the invoices. Major companies seem to get more specified invoices, giving them a higher understanding for the costs involved. This might be a consequence of their better understanding of what they may expect and demand from the patent bureaus thus asking for more detailed invoices. Small firms seem to be upset about the costs and the fact that the patent bureaus seems to not take the customer’s financial position into account when providing services. Small firms also feel that they are met with incomprehension when trying

to discuss the issue. However, it seems as the willingness to make investments in patents is high and that customers are willing to pay if they gain high quality services for their money. It is therefore reasonable to think that the costs are bearable as long as the quality is high.

7.1.2. Lack of Effective Communication and Follow-up

The dialogue between customers and service providers seems to fail in many important aspects. Patent managers claim that there are few effective communication tools for facilitating the dialogue and only one of the interviewed managers mentions a follow up process. There seems to be a poor communication between the patent attorney and the customers leading to the fact that the customer does not feel that their expectations and needs are being met. One example of this is the costs and invoices. Many customers, mostly smaller firms, state that they lack information and explanation to the reasons behind invoices. They feel that the attorneys charging system are insufficiently motivated. The customers also complain about the attorney's lack of understanding of the company's situation, something that probably is partly because of a poor dialogue between the two parties.

As there are no established procedures for follow-up of finished patenting work, one can conclude that the industry lack effective evaluating tools which in the end makes improvements difficult. The customers also lack the ability to compare one attorney with another in an efficient way. It seems like the communication concerning complaints or improvements of services is very limited. The issue of evaluation does not seem to be something one discusses with the attorney. The only customer, among the interviewed persons, that performs quality examination of their patents, is doing that on own initiative.

7.2. *Inconsistent Responses*

Although almost all managers gave the same image described above, there were other opinions expressed. One manager expressed that he felt that his company received value for money while patenting, despite high costs. He also considered the link between the business strategy and the R&D strategy to the IP strategy to be weak wherefore he did not feel a demand for consultancy on these areas together. He felt that their patenting situation was rather easy, wherefore they could manage without input from external management consultants and strategists making more detailed IP plans.⁹⁵ This interview demonstrates that not all clients have poor relations with the service providers and that their needs are fulfilled. Our analysis is that this industry have managed to get good performance by developing close contact to the patent firm (one exclusive used) thereby building a high degree of understanding. However, we also fear that this company underestimates the importance and complexity of patenting based on the answers we gained from this manager. Few other firms have expressed that they feel that patenting is easy and that they do not have the need for external input on their operations.

⁹⁵ Interview with a senior manager at a large firm, fall 2006.

7.3. Conclusions

The interviews with the patent managers showed that the relation between patent bureaus and their customers has several problems. The issues are mainly concerning costs, competence and communication. The common issue in all of the mentioned issues is a lack of efficient communication and follow-up measures. Although it is hard to easily find remedies against the issues, such as lack of enough patent attorneys, on a short term perspective, it is important to optimize the functions in the established relations. By improving the relations between customers and service providers it is possible to improve service quality and efficiency. These parts are imperative to increase customer satisfaction.

8. Quantitative survey

In order to obtain a broad base of information about common perceptions concerning services given by patent attorneys, we conducted a web based survey with around 10 questions that we asked patent managers and patent attorneys to answer. The result of the survey is anonymous and it is impossible for us to obtain information about which respondent that has given what answers. The questionnaire was presented at a web page that easily could be accessed through entering a link that we e-mailed to all patent managers and patent bureaus that we asked to participate.

8.1. Aims of the Survey

The aims of the survey was to be able to compare the patent bureaus perception of what is relevant and essential when giving advice to a client, with customers opinion of what is relevant and essential when consulting a patent bureau. Further the survey aimed at giving us a picture of how well the patent bureaus, according to the customer as well as to them selves, fulfil the matters relevant and essential to the customers. We strived to investigate if there is a difference between the patent managers' and patent attorneys' perception of what is relevant and essential as well as analyse these gaps. Further the survey aimed to reveal information about potential gaps between the patent attorneys' and customers' view of fulfilment. This information together with the other empirical studies enabled us to develop tools to improve the situation, which will be demonstrated in chapters 11 and 12.

8.2. Respondents and Questions

Since we wanted to reach a large number of randomly picked customers and patent bureaus, we decided to use PRV's database and search for patent applications that were published during a specific period of time. This way we could reach a wide range of different companies as well as patent bureaus without influencing the selection of companies. We made the choice to look at patent applications that where published in the beginning of September in 2004. This specific time period was chosen just to make sure that the patent application at least had been published, as well as the memory of the impressions of the services given by the patent bureau were some what fresh in mind. In total we approached 41 companies that had had a patent application published at that time, and we contacted 19 corresponding patent bureau that had handled the specific applications. As the selection was made randomly we reached different types of companies, large firms as well as small firms down to private firms. Further we could pick the patent bureaus that had filed the applications. The patent bureaus also varied in size, from the leading bureau on the Swedish market that has developed advanced it-systems as well as really small patent bureaus.

Even though the selection of respondents is based on certain patent applications, the questions in the survey are *not* related to a specific patent application. The questions, presented in Appendix ii, cover issues related to services given by patent bureaus in general. The content is based upon key issues brought up during our qualitative interviews with patent managers. Each question has two parts, one part dealing with the respondents' view of how important a certain issue is (i.e. certain tasks performed by the patent attorney) and one part dealing with the fulfilment of this issue.

The customers had 11 questions to answer. The first part of each question focus on how important it is that the patent attorney obtains understanding of a certain issue or actually gives advice within a specific area. The second part of each question focus on how well the patent attorney has fulfilled this task, i.e. how well the customer feels that the attorney has satisfied the needs of the customer's company. The patent attorneys had 10 questions to answer. The first part of each question, focusing on the attorneys view of the importance of the different tasks (i.e. importance of obtaining certain understanding or giving certain advice within specific areas) and the second part focusing on how well the attorney feels that he has satisfied the need of the customer concerning the different tasks. The questions relate to earlier identified key issues, such as business understanding, technological understanding, strategic advice, costs as well as ethics and communication in general. The questions presented to the patent managers correlates to the questions presented to the patent attorneys enabling us to identify potential gaps between the patent attorneys' and patent managers' opinions. (The questionnaires can be found in Appendix ii.)

8.3. Potential Errors

Unfortunately the respondent rate was rather low. Only 29% of the 41 patent managers and 37% of the 19 patent bureaus completed the questionnaire. We expect that there are several reasons for why the rate is not higher. Some of the approached customers informed us about that they found them self not to be able to contribute with relevant answerers. These responses were either due to the fact that their company was an affiliate in a bigger corporation and did not handle the filing of patent applications them selves or that the company where using in-house attorneys and were not able to answer questions about external patent bureaus. One potential reason why those who actually were relevant respondents did not answer might be that the questionnaire was presented in a too complicated or diffuse way. The wording and structure of the questions might have influenced the rate in negative ways. One patent attorney informed us about that he found the questions very complicated and diffuse. He mentioned that he was not interested in participating since he could not understand the aim of the survey.

The fact that the questionnaire was web based might have influenced the rate in both positive and negative ways. For some it is probably easier and quicker to fill in a form on the web and it is not perceived as a big deal to participate. For some, it might be very stressful to enter a web page and fill in a form via the Internet despite the fact that no papers have to be managed. They might find it more complicated since they do not have a hard copy of the questionnaire and they might feel that it would have been easier to be asked to fill in a printed version of the questionnaire. However, the most common reason to not participating is probably lack of time or interest as most patent managers are very busy.

As mentioned above, the participating customers were randomly chosen. As we did not exclude the companies with filed patent applications that had been handled internally, there is a potential risk that some of the participating companies have internal patent attorneys

handling their patenting activities. This fact could influence the results of the survey, as some of the respondents might have evaluated their internal services. This would probably mean that some of the answers, where the customer has shown an extra great satisfaction with the attorney's work, is due to that the respondent have reflected over internal and maybe his/her own contributions and actions. However, these companies' answers and opinions could be of interest to the survey anyway if they also have consulted external patent bureaus. The number of potential error sources is limited as few of the targeted customers are known to have the capacity of internal patent bureaus or to be of the size that this kind of departments requires.

Another potential source of errors is the inherent subjectivity in the scale. The respondents were asked to set scores after a five step scale. It is naturally impossible to create a scale which is estimated identically by all respondents. It is also hard to say whether the respondent has actually made a serious attempt to give his over all picture of the situation or has just used the last case as gauge when responding. However, as the survey is aiming at finding tendencies and not absolute answers, the scale was chosen as most people are well familiar with this kind of methodology.

8.3.1. Consequences due to Limitations in the Surveys

As the response rate was limited and as there were potential error sources in the surveys, the survey becomes limited in its ability to serve as basis for our conclusions. As both the number of respondents is lower than intended and thus the percentage of respondents lower than optional, the uncertainty of the questionnaire increases. The question is whether those who have not responded share the views of those who have or not. This is of course impossible to say, but one may make hypotheses. One hypothesis is that people with extreme opinions have a higher tendency to answer as they feel more strongly for the subject. This would potentially mean that the answers would either be very positive or very negative among both patent attorneys and managers. This hypothesis is contradicted by the fact that most respondents have total scores that lies quite close to the others within their branch. There are some outliers both upwards and downwards as well as variations within certain questions but the overall picture speaks of a general coherency.

However, there is a possibility that our selection and the responding part thereof by chance and influence has a diverting opinion from the larger masses. Even though there is little indication that the responses would be of various extreme opinions, it is possible that the respondents have a similar view that is not representative for the full population. The conclusion is that we can not draw certain conclusions from the survey. The survey may only show tendencies among the respondents for differences in opinions and in values. We are despite these weaknesses convinced that the general impression is correct as there are striking similarities among the results found in the quantitative and the qualitative studies.

8.4. Responses from Patent Managers

Although the survey only had a response rate of 29%, there are important lessons that may be learned from the answers. For instance, 70% of the respondents had a total awarded score within 10% difference from the average for both categories.

The customers have in general given the questions concerning the relevance of the asked questions high scores (average 4.2 of 5). This indicates that the clients consider the subject of importance higher in general. However, we have due to peaking scores identified five questions rewarded significantly higher scores than the others (see Appendix ii). The subjects touched upon in these questions are;

- How well the patent manager has understood the technology in the innovation.
- How well the patent bureaus work has motivated the cost.
- The overview of the costs prior to patenting.
- How well the patent bureau has taken consideration to and acted to meet the customers interest.
- The patent bureaus treatment and understanding of the clients' situation.

Surprisingly, the clients mark the importance of the patent attorney's input on business model or business strategies as low. The customers have also marked the importance of discussions concerning patent portfolios and patent management low. This indicates that the customers possibly lack confidence in the patent bureaus ability and cunning in the fields of strategy and business. Another possible reason may be that it is the customers that do not see the connection between the business strategy and the IP strategy.

The customers view on the patent bureaus performance is significantly lower than the grade on the importance (average 3.5 compared to 4.2) and no single questions' average is above 4. This indicates a significantly lower grading of the patent bureaus' ability than the importance of what they do. The best graded categories are the ability to protect the inventions, the descriptions of the costs prior to patenting, the various routes trough the patent systems before patenting and the attorneys consideration to and acted to meet the interests of the clients to the best of their ability. Although these are important issues that have been given fair grades, the customers have given the patent bureaus very low marks on the issues concerning patent portfolio management and creation, their performance in business strategy development and development of business models. The question concerning if the work performed has motivated the costs, the clients gave the third lowest score indicating an unhappiness with the cost/performance situation.

8.5. Responses from Patent Bureaus

The response rate among the patent bureaus, 37%, is higher compared to the customers, although the absolute number of respondents is lower. The respondents are like the customers similar in their total score setting, although lower in their totals than the customers.

The patent bureaus have a quite different appreciation of which areas are of major concern than the previous group. Patent bureaus mark that the most important issues to them is their business ethics and to specify the costs of patenting prior to the process. On the other hand, patent bureaus have marked the subjects concerning understanding of the clients' technologies, business models, patent portfolio building and financial situation to be of little or moderate importance. The patent bureaus also consider the customer's business models to be of low relevance to them in their work. There is a clear correlation between these results and the opinion on their own results. The bureaus are very pleased with their results and believe they are working with an ethical approach. They are also satisfied with their ability to explain the costs on beforehand and the complexity of the work they perform. Interestingly is that many firms are more pleased with their own ethics than their colleagues in competing firms. Most bureaus show that their work with patent portfolios is not well functioning, resulting in a remarkably low score (2.9 in fulfilment grade compared to 3.8 average for all the questions concerning fulfilment).

8.6. Conclusions and Implications

The surveys indicate that there are differences in the way patent bureaus and their customers regard the services. It is clear that there is a gap between what the patent bureaus consider important and what the customers believe is of importance. Patent bureaus do not think that it is as important as the customers do that they understand the clients' situation. This is true for the fields of technological understanding, business models and financial situation. This has the result that both clients and suppliers consider strategic business advice from patent attorneys to be both of little interest and of little value. Another malfunctioning area is clearly patent portfolio management. If the attorney does not understand his/her customers, he/she can not help them manage or design patent portfolios, which both customers and attorneys agree to be of little value and interest in today's business. The greatest difference between expectations and result is in the communication concerning cost and the cost efficiency among the patent bureaus. Both parties find these two questions to be of high importance. However, whereas the patent bureaus consider themselves to be clear and well performing, the customers are unsatisfied resulting in a gap between the two groups' opinions. This is a problematic situation as it may easily leave the customers unsatisfied although other functions may work better.

The results from this survey, indicating the customers' and the patent attorneys' different opinions, are important to utilize in the development of the tools mentioned for improving the relations between patent bureaus and their customers. This survey has provided an indication on which areas that is the most problematic. This will be used in the tool which purpose is to improve customer satisfaction.

9. Qualitative Interviews with Patent Bureaus

Our interviews with Swedish patent attorneys demonstrate two quite different attitudes and level of awareness among the respondents. Some express that their services are good and that their clients are very content. Others are more willing to admit that they have come to the realization that there is some dissatisfaction among the clients concerning various issues. Those who claim that all is fine often rely on the bureau's relative size and the fact that most clients seem to remain faithful to their patent bureau. However, the very same patent attorneys also remark that switching costs are very high and that clients in general seldom change firms unless there is a grave problem at hand. All interviewed attorneys belong to the leading Swedish patent bureaus. The set of questions used for the interviews can be found in Appendix iii.

9.1. Customer Contact

The patent attorneys describe their initial contact with the customers to be very depending on the prior relations to the client and to the characteristics of the client. New clients are given much more attention and all respondents say that they investigate who the client is and the client's situation. The patent attorneys said that they always tries to understand the client's situation, business model, intended usage of new patents and the clients understanding of IP in general and patents particular. Although they all perceived that they have a good understanding for how to approach new clients, no bureaus had a defined procedure for how to do so.

The size of the client firm has great impact on the attorneys approach. First of all, the initial meetings look quite different depending on the client's size. As the understanding about IP usually has a direct correlation with the size of the firm, the level of integration with the patent bureau varies. Smaller firms need more help and more introductions whereas large firms often just need labour force. Another difference in the approach is the willingness to attract them as customers. All patent bureaus accept all kinds of clients as long as the client has ability to pay. Many firms approach larger clients with a team of attorneys often complemented by lawyers, instead of a single attorney. How the teams are created and when this is done varies from time to time and substantially between the different firms.

9.2. *IP Awareness and Competence*

Almost all patent attorneys witness to the lack of skilled patent attorneys in Sweden. There is a high demand for patent services whereas the number of persons educated to become patent attorneys has been too low for a considerable time. This means that most patent bureaus have a hard time recruiting competent staff. Competence and experience is also admittedly variable among the active patent attorneys in Sweden. Many in the "young" generation have often work experience from the industry, thus better business understanding. However, many of the present patent attorneys have a weak understanding of business thinking and even fewer see the connection between patenting and business strategies. Many of the patent attorneys that express the relevance of creating patent portfolios in alignment with their client's business strategies sometimes feel excluded from these tasks by the customers themselves. That is true especially for large firms, using patent bureaus as ghost writers, thus limiting their involvement in the business thinking to a minimum.

Most of the patent attorneys express that the clients are becoming more and more aware of the fact that intellectual properties are important assets. The clients have begun realizing that especially patents are very useful in business and that it is important to gain strong patent positions. However, most customers' (especially smaller customers') knowledge about the patent system and effective usage of intellectual properties is low. This creates problems as the demands are high but the expectations are based on limited or wrongful information. Several patent attorneys say that the customers have a poor understanding of what they really purchase and how the patent system really works. The patent sector is hard to understand and it is outside the competence area for many purchasers. This means that many customers put too much faith into the patent bureaus ability and put too vague guidelines into their hands to be able to expect a successful result. Only a few of the contacted patent bureaus have taken the step to actively educate the public in IP issues. Some actors are doing this via lectures at universities and engagement in local entrepreneurial activities. Some bureaus also have certain "IP days" and forums inviting a wide range of (potential) customers and colleagues. Very few have any traditional direct marketing activities in large scale, which could be one factor that keeps the public rather unfamiliar with IP issues and the business of a patent bureau.

One of the most important issues for Swedish patent bureaus seems to be their ability to build successful networks with other firms and customers. Several patent attorneys have said that their international contacts are very important as it brings customers from abroad which secures a certain amount of customers. Also networks in Sweden seem to be very important for many bureaus that do not hold all necessary competences in-house. There are bureaus with strong alliances with law firms and other companies thus allowing them to offer wider ranges of services and to secure business as the companies in the alliance link customers to each

other. Several attorneys claim that these networks are highly demanded by their clients as they allow them to become international and efficient.

9.3. Cost Issues

All patent attorneys claim that they always present time lines and cost estimations for clients that either demands this information or that seem to have little understanding of the situation. For the later category, most patent attorneys claim to give an introduction to the patent system and the available options. However, one of the interviewed persons said that some attorneys at his bureau complained about repeating this information for their clients over and over again which put their communicative skills in question. When asked about the costs, all interviewed persons claim that their firm present highly specified invoices when asked to. Some send detailed invoices to new clients irrespective of asked for or not, in order to demonstrate how they operate. All respondents claim that the invoices usually are well accepted by the clients. Especially large companies are said to give little complaints about costs. Small firms are though sometimes more concerned about the invoices they receive. The received complaints are according to the respondents a weak understanding among the clients of why certain costs arise at certain points in time.

9.4. Improvement and Development

None of the patent attorneys had any form of follow-up systems in place. A few claimed that they “give their clients a call from time to time”. These calls were though not made in any structured way and without a fixed agenda. This means that even though many patent attorneys are aware of that their clients are not always satisfied; none has a structured improvement plan in place. Several of the respondents stressed the need of effective tools. The view on the future is generally a positive view where almost all feel that there is great progress going on in their bureau and in the business in general. The competition between patent bureaus does not lie within the attraction of new customers, but rather within the recruiting of competent staff. Measures that are mentioned are new recruiting routines to attract more people with industry experience. Another measure is internal education and increased usage of new services and IT solutions. Some claims to see rejuvenation in the industry which will lead to better business thinking among patent attorneys as “young people often have better inherent business thinking than older generations”.

9.5. Conclusions

The interviews above showed a difference in attitude among the patent attorneys towards the market today. Some were well aware of problems and saw their possibility to grow by improving these parts others were content with the current conditions and saw little reason to listen to criticism. Among those that hold a content attitude, it is hard to see that any change will be made to improve their services or relation to their customers. Although there appears to be a general movement among patent bureaus to improve their services or the range of offered services, an unwillingness to identify problems will not help to make any change efficient. Many in the industry believe that the current recruitment of younger attorneys will help change attitudes and improve business awareness among the attorneys.

Even among those who have identified problems none has effectively implemented tools or routines to improve communication or feedback, areas vital for improvement. It is remarkable that there are no follow-up tools or communication tools in place in the industry otherwise known for good routines and good organisational skills. Some bureaus claim on their homepages that they conduct “thorough evaluations after every case”, but during the interviews with representatives from the same companies they admit to not having any tools in place and refer to ad hoc telephone calls.

10. Potential Solutions to Identified Problems

With basis in the empirical and theoretical studies we have found that there are some problems in the patenting industry. Patent bureau’s customers show clear signals of being dissatisfied with the received services. We have made the conclusion that these problems have their cause in a poor communication between the patent bureaus and their customers and a lack of follow-up routines for performed services. It is clear from previous chapters that not all problems may be related to these two areas. However, most of the current dissatisfaction among the customers seems to be a result of poor contact and understanding between the parties.

There are probably several solutions to the current problems in the industry. As mentioned, there are several reasons to why there is dissatisfaction among the customers and these reasons may be addressed differently. There are opinions within the patent bureau industry that indicate that there will be a change and improvement of the situation as soon as the younger generation enter into the industry. The younger generation of patent attorneys has, according to some patent attorneys, a better understanding of business thinking and the commercialisation aspects of IP in general and patents in particular. However, this is a solution to current problems that are far from present or applicable today. This argumentation means that the bureaus have to wait and see. This chapter will provide a discussion and arguments for a more rapid and more effective solution the current situation. Service improvement is of course of concern for both the service providers and the customers wherefore one may suggest recommendations for both parties. However, as the patent bureaus are the one offering the services, they are the party in charge of the situation and posses a better possibility to change the current situation. Therefore this chapter mainly focuses on the patent bureaus’ possibilities to influence the situation.

Patent bureaus are today controlled by three levels of control and management settings. The first is the national and international laws. The laws that are the most relevant for Swedish patent bureaus are naturally the Swedish laws. This system is effective for creating binding regulations for all patent bureaus operating in Sweden. This has the effect that a change of existing laws is a way of controlling all actors on the market. In order to evaluate the potential effect of improving the services by help of legal instruments it is important to identify which areas one might regulate and the causes of these actions. However, the use of legal instruments is not only difficult in respect of Sweden’s open economical system but also from a perspective of actual effect on the service. The identified problems on the market concerns mainly issues concerning competence, communication and costs. The most effective use of the legal system is most likely to legislate that patent attorneys must hold some form of accreditation from, and membership in, an industry organisation in order to hold the right to present cases before PRV. This would have the positive effects that there would be one forum for ensuring quality, education and standards that could act as the industry representation before the customers. One may also argue that invoices must follow a legislated format to

ensure industry transparency and comparability. The downside of using the legal system to ensure quality improvement is that it risks becoming inflexible and unnecessarily forcing without creating real improvements.

The second regulatory system for patent bureaus is the industry organisations, such as IP-Samfundet and SPOF among others in Sweden. The characteristics of these organisations have been discussed before. However, although the organisations actively work with quality in form of education, discussions and guidelines in ethics and business regulations they have done little to make their members improve the customer satisfaction. As most patent attorneys in Sweden are members in one or both of these organisations, their relative power over the Swedish patent bureaus is vast. These organisations may therefore be used to launch educational programs to improve business understanding among active patent attorneys and also implement various routines to ensure quality improvements. These routines may for instance be tools for improved communication and follow up. The downside of forcing these measures to be taken may be that there might not be any enthusiasm for the implementation of the tools, wherefore their expected effect might become very limited. Although the usage of tools in itself may be a potentially successful idea, it is likely that their success is dependant on a voluntary acceptance and implementation from the patent bureaus them selves.

This means that the most promising method for rapidly improving quality in the patenting process in Sweden is by directing tools towards the third level of management, namely the patent bureaus' management. It is the leadership of the patent bureaus that have the closest contact with the patent attorneys and thus the highest potential of successfully implementing new tools. For this reason we have developed a Tool for Improved Communication. This tool is aim for both the customers as well as the patent attorneys. The management of the patent bureau can rapidly improve the situation by implementing the tool and make sure it will be a natural part of the bureau's patent attorneys' day to day work. In order to also give the customer a chance to influence the improvement of the situation, the Quality Assessment Tool is created. This is aimed to be used by the customer in order to evaluate and follow-up the attorney's work. However, the patent bureaus and attorneys may also use the tool by asking customers to fill in the form for the sake of the patent bureau.

To sum up, the tools presented in the following chapters, are means to improve the situation in a rather easy and rapid way. The two persons most engaged in patenting work, the customer and the patent attorney will be able to improve their relation to each other.

11. Tool for Improved Communication

To improve this situation, we have developed two tools designed to act as instruments to improve communication, understanding and reflection. The tools may be used separately but most effectively together. The two tools are quite different wherefore they will be presented in two separate chapters. The first tool is a communication tool and the second a quality assessment tool. The communication tool is a tool based upon the most critical questions that patent bureaus and their customers must talk about prior to patenting. The tool shall act as a checklist for advanced or moderately IP cunning customers and as a guide for inexperienced customers. The tool therefore contains relevant topics and best practice information. The quality assessment tool is a tool that shall help patent bureaus and their customers to review the performed services in order to identify problems and to improve future patenting processes. The tool is designed to be useful for all kinds of customers in their feedback and reflection processes concerning conducted patenting. This chapter will present the Tool for Improved Communication. Chapter 12 will present the Quality Assessment Tool.

11.1. The Aims of the Tool

The qualitative interviews with patent managers show that many buyers of patent bureaus' services feel that their needs are not being met sufficiently. Among other things, the analysis of the results shows a lack of effective communication between clients and patent bureaus during the ordering process. This leads to the fact that the understanding of each others situation is very low. The perception that there is a lack of competence among the patent attorneys might to some extent exist due to miscommunication. The customers expectations are not being communicated in a clear and precise way or the attorney's acts are not motivated and explained in a way that the customers understand sufficiently. For example, some of the problems with surprisingly high invoices during the patenting procedure could probably to some extent be cured with better initial discussions concerning costs. When and why they will appear and how they can be spread over time etc. This would prepare the customer in a better way, and he/she will not be as chocked as before when the invoices arrive. Our belief is that many of the problems experienced in the segment today are related to a lack of effective communication and a lack of established communication tools. The dissatisfaction among the customers could probably be cured with a better communication in the initial phase between the two parties. A better communication during the ordering process would give the customer more realistic expectations. It would also lead to the fact that the patent attorney is more informed about the client's company and will therefore be able to meet his clients need in a better way.

The Communication Improvement Tool is created with the aim of making sure that all relevant and vital parts of a fruitful discussion are touched upon in the initial discussions between a patent attorney and the customer. Both parties are "forced" to discuss the most crucial topics that should be discussed. The intended user is the buyer of patent bureaus services, probably a SME with limited experience of patenting procedures and the patent bureau industry. If a customers goes through the checklist *before* having the first meeting with his attorney he will be better prepared. He will be able to give the attorneys better answers to his/her questions as well as he will be able to ask better questions. The tool is also developed with the aim of that it should function as a checklist *during* the first meeting.

11.1.1. Benefits for Patent Bureaus

As most patent bureaus are dependant on a fairly small number of long term customers, a tool for improved communication may help the firm to specialize and develop. An improved communication with the clients will also improve the relationship with the clients and help the patent attorney meet the client's individual needs. This will lead to the fact that patent bureaus will keep their clients longer and in the long run increase profitability. The risk of bad communication and unsatisfied customers is that the customers might turn to some else instead. The study shows that some Swedish companies, both large and small, have started to use services from other countries. This is a threat to the Swedish patent bureau industry that must not be neglected. By improving the communication with the clients the patent attorneys can make sure that the client is satisfied with the services offered and that the client does not turn to any one else in order to get better help. The study shows that many companies are prepared to pay rather high fees as long as they get "value for money" which they mean to be "high quality patents" and valuable strategic advice.

11.1.2. Benefits for the Customer

From the customers' point of view this tool is meant to increase their ability to make the most out of the services and competences the patent bureaus offer. As mentioned it might not be so that the patent attorney does not posses the right skills and competence, it might be so that the communication is so poor that the patent attorney does not understand the actual need of the customer and his/her company. From the perspective of a smaller company, the tool is also intended to strengthen the small firms bargaining position against the bigger patent bureau. If the customer uses the checklist before entering into discussions and negotiations with the attorney, the customer is better prepared and will be in a better position when it comes to making decisions as well as having a giving discussion. For persons unskilled in this subject the tool can be used as a guide through the different issues. The tool is also meant to increase the patent attorney's understanding of the small company's concerns, such as financial limitations. If these parts are thoroughly discussed, the service given by the attorney can be adjusted to the financial limitations. The tool is also to some extent educational, since it contains short explanations to each topic; why it is important and how one can reason in different situations. This will give the customer better knowledge and understanding of patenting activities in general. Larger companies with greater financial resources and potentially more knowledge and experience in the patenting work, will maybe benefit in other ways as the communication tool will lay the foundation for more advanced discussion and more strategic reasoning and input. It will also make sure that the relationship will be healthier and last longer since the risks for misunderstandings and miscommunication will decrease with every new patent.

11.2. Design and Usage of the Tool

The tool is built in two levels. The first level is made out of six general areas with important questions that must be covered during the initial communicative phase. Some of these six areas have a number of sub topics which holds a theoretical and empirical background that in further detail will help the user to develop the discussion with the patent attorney. These sublevels may be too detailed for experienced users and people highly skilled in patenting procedures. However, it is recommendable to read these paragraphs the first time the tool is used in order to understand it better and therefore be able to use it in a better way. For small and medium sized firms without extensive experience in patenting procedures, it is recommendable to use the supporting information extensively as it contains key issues recommended and highlighted by experts in the field.

The list of important issues and questions are to be used as preparation before and during the discussions with the bureau's patent attorney. It is supposed to prepare the customer in a better way in order to improve the initial discussions and communication between the customer and the attorney. However, it is also recommendable to use the tool together with the patent attorney as it concerns both parties. The tool can be used as a checklist, however it is of course not an exhaustive list and it must be used adapted for the needs of every individual company and situation.

11.3. The Tool as Presented to the Users

Follow up of Previous Patenting

Investigate results from the quality assessment tool.

This initial part of the checklist is to be used only if there has been a prior relation between the patent attorney and the client.

If there has been prior patenting using the same patent attorney, it is important that both parties discuss the results from this experience. One shall therefore begin with analyzing which errors that has occurred and make a plan for how to improve before a new case is commenced. By using this communication tool and the quality assessment tool before and after every patent case, both parties hold a higher chance of improving the quality of the patents.

General Company Information

Information about the company in order to enable the attorney to understand the client's situation

- General business information

In order to enable the patent attorney to give appropriate and valuable advice to the client, it is necessary that the attorney gets to know the client, i.e. obtains an as fair picture as possible of the company and its business.⁹⁶ To enable the attorney to do his or her job effectively as well as in order to make sure to be content with the advice given, the client must give the attorney the answers to basic questions concerning the company's present and past.⁹⁷ Discussions should comprise questions like;

- What is the company's business model?
- What does the company do/sell/produce...?
- What is the core business?
- What are the value creating factors in the current business model?
- What is driving the business?
- How are business decisions made?
- Which are the company's main markets?
- Who are the company's main competitors?

⁹⁶ Hunt, Dale, Partner at Knobbe Martens Ohlsson & Bear LLP, Aspatore Books Staff, *Inside the Minds: Developing a Patent Strategy*, Aspatore Books, 2005, Chapter 3

⁹⁷ Kennerly, Chris, Partner at Baker Botts LLP, Aspatore Books Staff, *Inside the Minds: Developing a Patent Strategy*, Aspatore Books, 2005, Chapter 2

- What aspects of the company's products or services that distinguish the company's from its competitor's?

- Information about the Company's Strategy and Vision

Since patenting activities are, or at least should be, a part of the company's business strategy and/or the patent strategy, it is advisable to inform the patent attorney about the company's present patent strategy if there is one.⁹⁸ If there is none, the attorney might possess the knowledge to help the client with such. The advice that will be given to the client will heavily depend on the objectives with patenting; therefore the company's vision must be presented.⁹⁹

- What are the aims of the company in general?
- What are the aims of patenting?
- What are the company's short, medium and long term goals?
- Does the company have a patent strategy? If yes, what does it look like?

Information about the client's previously experience of patenting processes and the patent systems.

In order to help the attorney to meet the client's need in a more adequate way it is vital to give the attorney an idea of how familiar the client is with patenting processes.

- Has the client been involved in patenting work before?
- What is the client's knowledge in, and experience from, patents and the patent systems?
- What are the client's expectations when it comes to time and money?
- What are the clients expectations when it comes to protection – what values does the client believe that a patent will bring the company?
- What contributions does the client believe is expected from him/her?

General Information about Patenting

Most attorneys give their clients a "lecture" in patenting regarding practical, administrative and legal issues. How it works and what is needed from the client. It is crucial that the client takes the time to listen and understand. This is important in order to be able to make better decisions during the process.

Strategic Information about the Patent

The patent

- The patentable parts of the invention and an evaluation of such patent's strength and value

An invention is something that is novel and thus something not yet obvious in its scope.¹⁰⁰ It is therefore important that there is a dialogue between the client and the patent attorney regarding what aspects of an invention that really is patentable. Outer facts and

⁹⁸ Kennerly, Chris, Partner at Baker Botts LLP, Aspatore Books Staff, *Inside the Minds: Developing a Patent Strategy*, Aspatore Books, 2005, Chapter 2

⁹⁹ Hunt, Dale, Partner at Knobbe Martens Ohlsson & Bear LLP, Aspatore Books Staff, *Inside the Minds: Developing a Patent Strategy*, Aspatore Books, 2005, Chapter 3

¹⁰⁰ Granstrand, Ove, *The Economics and Management of Intellectual Property*, Cheltenham, UK; Northampton, Mass, E. Elgar, 1999, p. 58

circumstances such as patent law, rules from the patent offices and maturity of the industry have to be taken into consideration.¹⁰¹ Following questions are questions that should be considered by the attorney and the client together.

- What will be the strength of a granted patent (such as height of innovation, risk of invent around etc.)?
- Will the patent match coming developments of the technology?
- Will the patent match the future needs of the company?
- How can the patent be as broad as possible without rendering it unenforceable?
- What is the risk of litigation and possibility to defend the patent in court?
- What kind of structure should the patent application have in regard of claims and sub-claims?

○ Alternatives to patenting

Patents are often the strongest form of IP protection, but it is not the only form of protection and not always the most suitable one. As an example, there is sometimes no point in applying for a patent if the risk of someone inventing around is very high. One should therefore consider the use of other IP protections either to replace patents or to complement them.¹⁰² The attorney and the client should discuss questions like;

- Is patenting the most favourable way to protect the invention?
- Is it more advisable to publish the novel information in order to prevent others to patent?
- Is it more advisable to keep certain valuable information as trade secrets? Consider the time limit of a patent versus an unlimited time of protection in case of using trade secrets.
- Is it more advisable to use another form of IPR protection, such as copyright, trademark, design right or utility model?
- Can some parts of the invention be protected by patents and other parts by other means?

○ The intended use of the patent

In order to create high returns of an investment, the innovation should offer the client a unique value. It is therefore important to look at the inventions at hand in order to find how this will be delivered to the customers already when patenting. This means that one must consider what will generate value in the intended business model and how these value mechanisms are best protected.¹⁰³ The client should consider questions like the following;

- How will the patent fit into the company's business model?
- Is the intention to use the patent to;
 - *Protect business i.e. prevent others from making, using, or selling the company's innovations,*
 - *Collect royalty income from out-licensing,*
 - *Create conditions for cross-licensing with competitors,*
 - *Be sold,*
 - *Use in defensive legal actions,*

¹⁰¹ Granstrand, Ove, *The Economics and Management of Intellectual Property*, Cheltenham, UK; Northampton, Mass, E. Elgar, 1999, p. 76

¹⁰² Chinying Lang, Josephine, *Management of intellectual property rights*, Journal of Intellectual Capital, 2001, Vol 2, Nr 1, p. 9

¹⁰³ Smith, Michele and Hansen, Fredrick, *Managing intellectual property: a strategic point of view*, Emerald Insight, Journal of Intellectual Capital, 2004, Vol 3, Nr 4, p. 366-374

- *Establishing alliances and joint ventures,*
- *Be used in standardization work,*
- *Increase the value of the company, when negotiating with company's investors or board of directors?*

Further, the attorney and the client shall together discuss questions like;

- What kind of patent is then advisable – patent for a method, process and/or a device?
- Should it be one patent or several?
- How should the claims be drafted in order to support the intended use of the patent?

The patent's connection to the patent portfolio

There is a correlation between successful firms and firms that pay attention to R&D and creating patent portfolios protecting the outcomes from the investment in R&D.¹⁰⁴ In order to be successful one has to consider how the patents should be connected to each other to ensure maximum effect. When creating a patent portfolio it is important to create a cover for an invention or a group of inventions so that the patents support each other and at least the key elements of the innovation. The attorney should give advice concerning issues such as;

- Should the innovation be protected by one broad patent or several narrower?
- Are there gaps in the portfolio?
- Does the patent support previous patents, i.e. are they complementing each other or overlapping?
- Is there a strategy for creating a strong defence, i.e. blanketing strategy, fencing strategy, flooding etc?

The patent portfolio's connection the IP strategy

When creating a patent portfolio it is important that it serves a higher purpose. It is important that the portfolio is designed according to the company's assets, the company needs and business strategy. While analyzing the patent portfolio it is also important to review what is not needed in the portfolio and thus may be either sold or abandoned.¹⁰⁵

- How does the link between the IP strategy and the IP portfolio look, and how does it affect the patenting activities that now will take place?
- How shall the patent be designed in order match and support the link between the IP strategy and the IP portfolio?

The timing of the patent and the choice of route through the patent systems

Patenting leaves many decisions to be made concerning when and where to patent. Sometimes it is crucial to get the patent granted fast; sometimes it is more important to succeed with very broad claims.¹⁰⁶ There is always a balance act. It is important that patents are sought in a manner that matches the company's strategy and is adopted for the company's situation.¹⁰⁷ The attorney and the client should together consider the objectives for patenting as well as the company's limitations due to time and costs. Questions that should be discussed are;

- When is the best time to commence patenting?

¹⁰⁴ Ernst, Holger, *Patent portfolios for strategic R&D planning*, Journal of Engineering and Technology Management, 1998, nr15, p. 280ff

¹⁰⁵ Intellectual Asset Magazine, October/November 2004, Issue 8, p. 30ff

¹⁰⁶ Hunt, Dale, Partner at Knobbe Martens Ohlsson & Bear LLP, Aspatore Books Staff, *Inside the Minds: Developing a Patent Strategy*, Aspatore Books, 2005, Chapter 3

¹⁰⁷ Chinying Lang, Josephine, *Management of intellectual property rights*, Journal of Intellectual Capital, 2001, Vol 2, Nr 1, p. 19

- Which route is the best suited for the company? (Consider factors such as the different qualities of different patent offices, present and future key markets for the company and its competitors, financial limitations and time.)
- How will the potential threat from competitors affect the choice?
- How will the company's R&D status affect the choice?

Financial Framework

Company's resources and limitations

All companies have limited resources for their operations. However, the recourses at hand vary greatly between companies depending on size and financial situation. As this influences what the company can do in the patenting area, it is important that the patent bureau has an understanding of what the client can afford to invest. It is especially crucial that the attorney regard the company's financial framework when the client is a start-up company. The company's objectives and prioritization might be very different, compared to a large company, due to its limited financial recourses. This could also affect the time framework as it might be crucial to the company that some patents get granted as soon as possible in order to be able to succeed when seeking venture capital.¹⁰⁸ The understanding of the company's financial framework must lead to a discussion about what to patent, since not all innovative parts of the invention, despite being important, should be patented in order to cut down on costs. The company's financial situation does also affect when and where to patent.

- Which way through the international patent systems is preferable?
- Will the company's financial resources match the short and long term costs of acquiring and maintaining a patent?
- Has the company the capability to defend the patent in case of litigation?

Communication concerning charging system and rules

Patenting activities are often considered to be costly and unpredictable. This results in confusion when the invoice arrives as the understanding of the costs behind the invoice is not sufficient. Therefore it is recommendable to have an open dialogue about costs to avoid surprises, misunderstandings and irritation.¹⁰⁹ A patent attorney shall always provide a written schedule of services and standard charges for those services that "enable an applicant to readily assess the cost\benefit advantage of the services offered at the very beginning of the process"¹¹⁰. The attorney should inform the client of when and why certain costs can arise and preferably present a schedule presenting the costs over time. In order to do prepare the client good enough the patent attorney should be able to answer the following questions;

- What pricing model does the patent attorney use?
- What are the patent bureau's policies concerning the charging of the services?
- How well specified will the invoices be?

¹⁰⁸Hunt, Dale, Partner at Knobbe Martens Ohlsson & Bear LLP, Aspatore Books Staff, *Inside the Minds: Developing a Patent Strategy*, Aspatore Books, 2005, Chapter 3

¹⁰⁹ Conclusions from the qualitative interviews, see chapters 5.1 & 5.1.

¹¹⁰ Jaiya, Singh, Guriqbal and Kalanje, Christopher M., *Managing Patent Costs: An Overview*, World Intellectual Property Organization (WIPO), 2006-09-12

Estimation of the initial costs

Although most customers consider it to be of high importance to get an estimate of the costs prior to patenting, it still seems like it is not properly communicated. It is strongly advisable to discuss these matters; the attorney should try to make an estimation of initial costs.

- What is the estimated time that will be used on drafting and filing the patent?
- What is the cost per hour?
- What fixed fees will be charged?
- When is it expected that the costs will occur (including costs due to replies from the patent office)?

Technical Understanding

The patent attorney's adequate technical knowledge and competence

In order to ensure that the patent work is done correctly, it is important that the patent attorney has a high degree of technical understanding in the relevant subject. The technical competence of the patent examiner has a direct impact on his or her ability to determine the relative novelty of the invention, thus directly affecting the quality of the patent¹¹¹. It is of great importance that the patent attorney understands the technology as it otherwise is hard to design high quality patents. The patent attorney shall have technical competence in the field of the invention, and be open for discussions.¹¹² It is very important that the client consider;

- What technical competences are needed?
- Are the needed competences matched by the attorney?

The patent attorney's understanding for the core innovation

Most technologies may be used in different ways, therefore opening up various ways of writing the covering patent. It is therefore important that the client has a thought through plan of usage and that the patent attorney has a good understanding of which of these options to pay special attention to.¹¹³

The client's understanding for the need of abstraction and its consequences

Many people who have never come in contact with patents before experience the language and the methodology for describing something in abstract words as strange and confusing. When drafting patent claims it is often crucial to be as abstract as possible when describing the inventions features. This is done in order to avoid narrowing the protection more than necessary. It is therefore important that the patent attorney explains to the client why the claims are written the way it they are and what the consequences are.¹¹⁴

¹¹¹ Chinying Lang, Josephine, *Management of intellectual property rights*, Journal of Intellectual Capital, 2001, Vol 2, Nr 1, p. 19

¹¹² Jaiya, Singh, Guriqbal and Kalanje, Christopher M., *Managing Patent Costs: An Overview*, World Intellectual Property Organization (WIPO), 2006-09-12

¹¹³ Granstrand, Ove, *The Economics and Management of Intellectual Property*, Cheltenham, UK; Northampton, Mass, E. Elgar, 1999, p. 337

¹¹⁴ Petrusson, Ulf, *Intellectual property & entrepreneurship; creating wealth in an intellectual value chain*, CIP Working Paper Series, Göteborg, 2004, p. 12 ff

Reaching a joint view of future development of the technology

The technological development is fast in many areas rendering many technologies obsolete relative rapidly. However, many users see their patents becoming really valuable only after considerable time as the income generated grows as the technology becomes more and more adopted.¹¹⁵ It is therefore hard, but at the same time necessary to try to analyze the future development of the technology as well as future market development. It is crucial that this remains an open dialogue. If the objectives of patenting and the intended usage of the patent changes during the patenting process it is crucial that the attorney is informed. The communication must take place in order to be able to redraft the claims or reconsider certain strategic decisions. The attorney and the client should agree on some kind of routines for having an open dialogue concerning potential changes in the business plan over time.

12. The Tool for Service Evaluation

No company can serve all customers needs and at the same time remain profitable. Companies therefore naturally define customer segments and service offers they want to excel in and to gain profits from.¹¹⁶ In the patenting business segment it is clear that most companies develop or tries to develop long term relations with patent attorneys. As the customer satisfaction is low, there is a need to improve this area wherefore a tool for evaluation of the provided services are needed. Measurement of quality when it comes to services is a measurement of the difference between the customer expectations and the perceived delivered services. There are various models for measuring service quality, different models focusing on different aspects and industry segments. Investigation of service quality may contain both objective observations on what has been delivered and subjective judgements on the quality.¹¹⁷ There are three categories that are constantly important to measure when improving a service independent of which business segment it is according to Kaplan and Norton. These are defined to be;

- The properties of the product or service
- Customer relations
- Image and reputation¹¹⁸

Most theories for improving quality are based on the notion that it is one of the parties, the seller of a service, who must take the steps to improve customer relations. Although there is a clear situation of customer – service provider also in the patent consultant industry, it is not clear that one should exclusively approach the patent bureaus. There is an identified need for understanding of technology, financial situation and strategic plans.¹¹⁹ These are areas that can not fully be discovered without the cooperation of the other party. We have therefore aimed at developing a tool that may be used by both customers and service providers to help them improve their collaboration. The customers may use the evaluation scores internally to keep track of their service providers and the patent bureaus may present the tool to their customers as a follow-up measure. The tool developed is founded on the result of various inputs from both literature and empirical findings. From the literature we have chosen to further investigate the Balanced Scorecard and SERVQUAL as these are proven tools for business and quality development. However, neither tool is in their current shape adequate for

¹¹⁵ Anders Molker, Ericsson AB, 2006-09-06

¹¹⁶ Kaplan, Robert & Norton, David, *The Balanced Scorecard*, Harvard Business School Press, 1999, p 69 ff

¹¹⁷ Franceschini, Fiorenzo, Cignetti, Marco, Caldara, Mara, *Comparing tools for service quality evaluation*, International Journal of Quality Science; Volume: 3, Issue: 4; 1998

¹¹⁸ Kaplan, Robert & Norton, David, *The Balanced Scorecard*, Harvard Business School Press, 1999, p 73 ff

¹¹⁹ Qualitative interviews, chapters 5.1 & 5.3.

improving the described problems in the patenting business, but they may serve as inspiration for design of new tools for similar problems. We have used these tools as they are well known in the fields of quality improvement and management. The tools have been used for many years and have been very successful in various situations. Although there are other tools available, these two present interesting possibilities in the sense that they may be transformed to be used in various ways not initially intended by their creators.

12.1. The Balanced Scorecard

The Balanced Scorecard is a tool for evaluating processes based on key figures to make companies move towards their goals and visions. The tool is founded on four perspectives; financial, customer, process and learning. The idea is to set goals for various company functions within these areas that are in line with the company goal and vision. A Balanced Scorecard is constructed on both quantitative and qualitative data which are balanced to allow the company to get a full picture of the progress. This picture is helping the management to direct the company. The management is improved as the management must gain a joint view on key issues and must join up around which questions that is key questions in the company. The process is also a good way for a company to identify an acknowledge “blind spots”, i.e. under focused areas in need of attention. These blind spots often arise due to a focus on the core business and thus core problems leaving other problem areas unattended.¹²⁰

Once the tool has been designed on managerial level it must be communicated through out the organization. This has the impact that all employees may follow how the firm is doing, what issues that are important and how their work is helping the company. The tool is thus a help for the management to communicate the company goals and visions.¹²¹

12.1.1. Design of a Balanced Scorecard

The design of a Balanced Scorecard is a process in several steps. Firstly, the senior management must create a joint view on the key issues and the long term company goals for the company on a 3 to 5 year horizon as well as short term financial goals.¹²² These parameters are then put together in a matrix where the key questions defined by the management within the four categories. The questions are then scored after four parameters; objective, guide figure, goal, initiative making them comparable over time. The Balanced Scorecard is then used as the cornerstone in the development work where the management over time shall drive the company forward by;

1. “Clarify and reform vision and strategy”
2. “Communicate and connect strategic goals and key figures”
3. “Planning, formulating goals and coordinate strategic initiatives”
4. “Strategic feedback and learning”

These four steps shall then be used as a loop thereby improving the company over time.¹²³ If the tool is correctly designed it shall help managers to gain a both long and short term cause and affect perspective. This will ideally allow the organization to evaluate both processes and decisions.¹²⁴

¹²⁰ Kaplan, Robert & Norton, David, *The Balanced Scorecard*, Harvard Business School Press, 1999, p. 17 ff

¹²¹ Kaplan, Robert & Norton, David, *The Balanced Scorecard*, Harvard Business School Press, 1999, p. 22

¹²² Kaplan, Robert & Norton, David, *The Balanced Scorecard*, Harvard Business School Press, 1999, p. 18 ff

¹²³ Kaplan, Robert & Norton, David, *The Balanced Scorecard*, Harvard Business School Press, 1999, p. 19 ff

¹²⁴ Kaplan, Robert & Norton, David, *The Balanced Scorecard*, Harvard Business School Press, 1999, p. 36 ff

12.2. SERVQUAL

The inventor of the concept of SERVQUAL, A. Parasuraman (1988), has taken the starting point in the notion that services have unique characteristics calling for unique measurement tools. The characteristics identified are “intangibility, heterogeneity, and inseparability between production and consumption”. As services are intangible, they are also hard to evaluate objectively as there are few parameters to quantify. This means that the best way available is to measure the customer’s perception of quality, which is exactly what SERVQUAL is aiming at. As there are many different definitions of quality it is complicated to use an effective communication between both researchers but especially between researchers and non-academia. Parasuraman also identifies the problem of finding a definition taking into account the full situation between a customer and a provider as the earlier easily only focuses on the last transaction made. To avoid this problem, the author has used the definition of quality “that service quality is an overall evaluation similar to attitude” based on the customers perception.¹²⁵

12.2.1. Design of the SERVQUAL Tool

The tool tries to achieve a high quality assessment by developing a well defined scale, based upon an 11 step model including quantitative questions to customers and qualitative diagnostics internally. The 11 steps begin with defining quality, the customer expectations and the services delivered. One shall there after define 10 key dimensions with a subsequent 97 sub questions divided on the 10 dimensions as a third step. After this is done one shall gather quantitative data from a large (200 suggested) customer group who’s results shall be used to verify and purify the scale. By alternating purification, matching against survey results and qualitative evaluation one shall slim the lit to 22 points. From these results one shall create a 22 point scale which shall be the foundation to the service evaluation. The benefit of this extensive process is that the tool is well adapted once finished and it has a high degree of reliability. Several of the steps on the way are statistically verifiable giving the user good argument strength for decision making.¹²⁶

12.3. Problems Identified with Existing Tools

The two tools described above have both been developed by recognized authors in the field of economy and management. Both tools have also been used in numerous occasions with reportedly successful results. However, they both demonstrate inherent weaknesses and are not necessarily appropriate for the case of patent bureaus and their customers. This claim is based upon the belief that patenting is not demonstrating the same characteristics as most other services which the named tools are built for. The basis for this reasoning is based on the qualitative interviews with patent managers who have given a clear picture of an industry based on long term contacts between clients and patent attorneys. There is a clear distinction between patent bureaus and their individual attorneys whom are tied together to a patent bureau. Several senior patent managers made the remark “I never call a patent bureau. I call someone I trust at a patent bureau”¹²⁷, clearly demonstrating the level of personal contact in the industry. This is important to keep in mind while analyzing the appropriateness of the quality tools.

¹²⁵ Parasuraman, A.; Zeithaml, Valarie A.; Berry, Leonard L., *SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality*, Journal of Retailing, 1988, Nr. 64, p. 12 ff

¹²⁶ Parasuraman, A.; Zeithaml, Valarie A.; Berry, Leonard L., *SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality*, Journal of Retailing, 1988, Nr. 64, p. 12 ff

¹²⁷ Qualitative interviews with patent managers.

12.3.1. Problems Identified with the Balanced Scorecard

The Balanced Scorecard has been used in many companies with success on corporate level. However, the tool is designed to be implemented within complete homogenised organizations where the top management via a direct involvement may align the full company towards the vision. This is perhaps helpful if the firm may be controlled and reviewed towards a joint goal that is measurable. As patent bureaus is much more dependant on a personal relationship between the attorney and the client, combined with specialized services the use of Balanced Scorecards may not be adequately fine tuned in to measure the individual contact. Although the latest version of the tool aims at allowing use “more deeply” in the organizations, it is still from the view of aligning every part of the firm towards the same goal.¹²⁸ As patent bureaus build more advanced service portfolios, there will probably be a higher degree of internal alignment. However, the core will still be specialized and individualized services for unique customers not easily aligned in all aspects.

12.3.2. Problems Identified with SERVQUAL

Although SERVQUAL has been reportedly reliable and has been used in various situations, the tool has several weaknesses. One reported problem is the foundation of the tool which is the dimensions upon which the subsequent questions are formed. It is unclear how many and what kinds of dimensions that are necessary, thereby putting the very foundation of the tool in question. Another criticism that has been put forward is the use of quality measurement instead of service performance, i.e. the perception of the service. As it is determined that it is hard to make good definitions on what quality is SERVQUAL uses extensive surveys to construct a clear view on perceptions and expectations. However, the gap between the services delivered and the expected services is invariably a gap in perceptions making the surveys unnecessary according to critics.¹²⁹ Other identified problems are that the development of the tool involves so many steps with so much work involved that repetition of the design is not easily done. This means that the tool is in risk of becoming static once in place and not easily adopted for various situations. The consequences of these problems are that it is hard to use it in case of rapidly changing, small group services as the patent bureaus are.

12.4. Conclusions

Although existing tools have proven themselves useful in the quality and management work for entire firms they demonstrate serious weaknesses in their usability in other situations. Patent bureaus do not demonstrate the characteristics of many other service companies with easily repetitive and comparable services where the customers are in high numbers. This has the consequence that procedures for quality follow-up must be made on a much “lower” level, between the patent attorney (or the group of service providers) and in a high qualitative dialogue with the customers. It is important to realize that one shall put attention both towards the customer and the service provider in the dialogue to achieve maximum result. The existing tools focus mainly on developing the internal processes to match the customer needs. However, it is clear that the patenting industry is moving towards a situation where a successful result only can be achieved if the customer also is involved in the development of the asset. The service provider must understand much more about the customer than just how to deliver a patent, as described in the communication tool. The customer in turn must be

¹²⁸ Colman, Robert CMA Management *Taking the scorecard deeper* Jun/Jul 2006, ABI/INFORM Global p. 45

¹²⁹ Mehta, Subhash C. & Durvasul, Srinivas, *Relationships between SERVQUAL dimensions and organizational performance in the case of a business to business service*, Journal of Business & Industrial Marketing, Vol. 13 No. 1, 1998, p. 40-53

invited to discussions with the patent attorneys and the other competences (mainly lawyers and potentially management consultants) that may be available at the patent bureau to change their own views and methods. It is therefore a need for a quality tool that helps customers and providers to measure and evaluate the performed services. This tool may not be used at senior company level but in the direct contact between consultants and the clients' representatives.

12.5. The Quality Assessment Tool

As has been mentioned before, the empirical studies revealed that the quality of the patent services does not live up to the expected quality. One of the major obstacles seems to be the lack of tools for follow-up on the services performed. This leads to a situation where the clients are chronically unsatisfied but at the same time continue to buy services due to lack of alternatives as well as high switching costs. Although it seems as if the industry has begun to understand the problem and the risk involved with having unsatisfied clients, few measures seems to have been taken to improve the core processes and the communication. Although there are quality and progress tools available as has been demonstrated we have concluded none of the existing tools are adequate, but there is a need for a new tool. Based on existing tools we have developed a quality evaluation tool adjusted to the relation between patent attorney and client.

12.5.1. The Aims of the Tool

In the patenting service industry there is currently a need to improve the relation between the individual patent attorney and his/her customers. This must not be done by using mass inquiry as the relations are unique. The tool shall also allow traceability, allowing the parties to see development over time. Another important aspect is the identification of the various key areas. The key areas must be individually identifiable and individually scored after a comparable scale. As the judgement is made by the clients with the standpoint from their experience it is hard to create an objective scale. However, as the quality assessment tool is aiming to be used in the dialogue between one client and one patent manager at the time the scale does not have to be objective. As long as the results are comparable from time to time and may help identifying where the major problem areas are the results does not necessarily have to be comparable to other companies' answers.

In order to meet the needs put on a new quality assessment tool, we have taken the basis in the key questions expressed during the qualitative interviews and the quantitative surveys. We have identified 7 aspects that will help strike a balance between a wide view risking to make the answers to fuzzy and a narrow view making it hard to use due to its inflexibility and complexity. The tool must be easy to use to inspire usage after every patenting. The aim is to identify problems and to prevent them from being repeated the next time. This is especially important as clients usually use the same patent attorney on several occasions and has high switching costs.

12.5.2. The Scale of the Tool

The tool is designed with three frames for scoring and score follow-up. The first frame will contain the score received on the latest performed job. The second frame will show the score for the occasion before that and the third shows the average put together. The later two scores shall not be seen by the customer before giving the score as it may affect his or her judgement of the situation at hand. The second score will be a helpful comparison to the last effort made, giving rapid feedback while reviewing changes. The average will provide two important pieces of information. The first is to see how well the attorney has performed during the relationship, providing a long term view of the situation. The second aspect is if the customer

companies keep track of their results, they may not only compare attorneys against one another, but also their separate qualities in specific issues. Although the score is subjective, it is reasonable to assume that clients judge patent attorneys similarly thus making the scores effective for comparing attorneys against each other.

The score will be set according to a 10 step scale which shall be fixed and communicated between patent attorney and customer. We have chosen a 10 step scale as it gives a sound balance between usability and details. A scale with fewer steps, for instance 5, may give too little information on development as the difference between each step might be perceived great. On the other hand, too many steps might be perceived as confusing as the difference between the steps becomes increasingly blurry and draw attention from the larger picture. The ten step scale which might be usable in many different situations is used as it is rather generic and provides information to both parties.

- A score from 1 to 2 means a very poor result, totally inappropriate or inadequate in any situation.
- A score from 3 to 4 means a poor result where the costs do not match the result.
- Score 5 means that the service matched a level acceptable to the client.
- A score from 6 to 7 means better than acceptable showing skills from the attorney.
- A score from 8 to 9 means above expectations making the client thrilled by the independent, skilful and developing input from the patent attorney bringing good value to the client.
- Score 10 means superior result where the patent attorney has demonstrated exceptional results providing great value for the client.

12.5.3. The Tool as Presented to the Users

Please score how well the patent attorney has managed to satisfy your company's needs in the following key areas;

Quality assessment

	Score	Last score	Average
1. Understand your company's situation (financial strength, events, location) prior to patenting			
2. Hold an adequate technical understanding in the field of the invention			
3. Understand your company's business model and market			
4. Understand and adopt to your company's strategic plans			
5. Regard the patents' importance and position in the patent portfolio			
6. Understand and adopt the costs to your company's financial position			
7. Show an interest in and loyalty to your company			

Explanations;

Point 1 is aiming at evaluating how well the communication regarding the customers' situation prior to patenting has functioned. The issue of concern is to evaluate if the patent attorney has grasped the necessary background information to ensure that he or she may adapt his or her work to the company's objectives and frameworks.

Point 2 is aiming at evaluating the discussions concerning the technical competence and technical understanding prior to patenting. To be able to correctly describe and protect the innovation in the patent application, the patent attorney must have a good understanding of the invention. Thus it is important to evaluate the technical discussions that occurred prior to patenting to evaluate if enough effort was spent and if the patent attorney has enough knowledge to continue with similar errands.

Point 3 is aiming at evaluating the discussion concerning the usage of the patent. Most inventions may be used in various different business models. The usage of an invention influences the needed protection of said invention. It is therefore very important the patent attorney has a picture as clear as possible of how the patent shall be used and has understood its implications. The score shall therefore be given on the patent attorneys' perceived understanding of the usage of the patent.

Point 4 is aiming at evaluating the communication concerning the customers' strategic plans. As patents form an important part of a company's strategy, it is important that the patent attorney understand the company strategies in a larger perspective. Unless there is an understanding of what the company intend to do in the future, it is hard to grasp separate actions.

Point 5 is aiming at evaluating how well the communication concerning the patent at hand was understood to fit into the client's patent portfolio and company strategy. As the strength of the protection of an invention often depend on several patents and other forms of intellectual properties, it is important that these are matched to gain a strong protection without obvious gaps. It is important to understand both micro and macro perspectives to ensure success.

Point 6 is aiming at evaluating the discussions concerning the costs of patenting. Especially smaller firms often consider costs to be too high and unmotivated. As patenting rarely is cheap, it is important that there is a clear communication concerning costs prior to patenting. Key issues to review are generated costs, timing of costs and the specification of the costs. Although it is hard for patent attorneys to give exact forecasts as there are several unpredictable steps during the patent process outside the attorneys' control, it is both possible and important to discuss prognoses and estimates.

Point 7 is aiming at evaluating the patent attorneys' ambition and ethical behaviour. A patent attorney is of course having a tremendous impact on the outcome of patent investments. To a large extent this impact will be determined by the attorneys' effort during the process and the sound advice given to the client during the process. Has the patent attorney managed to give correct advice regardless of personal gain?

13. Conclusions

This chapters aims at summarising our conclusions, presenting the most important findings of our investigations and especially commenting on the problems described in the problem definition, chapter 3.

Our empirical studies have shown that companies in the Swedish industry that use services provided by patent bureaus show dissatisfaction with provided services. Many of the patent bureaus' customers are dissatisfied with the patent bureaus';

- Lack of competence, both technical and business competence,
- level of understanding of the customer's situation and
- the costs for the services.

There is also a gap between the opinions concerning relevance of several areas of concern and the quality of the delivered services. Patent bureaus and their customers do not regard the same issues to be important which leads to miss focused efforts and dissatisfaction. As dissatisfaction grows, the costs involved in patenting become more apparent wherefore many customers consider costs to be too high and unmotivated. This situation has led to actions among the customers where some build in-house competence and some go to foreign service providers. We believe that there is always a great risk, in any industry, to over extended periods of time have dissatisfied customers. This risk is also expected to increase as the globalization makes companies less and less dependant to a single region. Another phenomenon that radically may change the business landscape is the expected introduction of a single European Community patent. The introduction of such patent will decrease the demand for country specific handling and translation services. A Community patent will probably also increase the competition among European patent bureaus since then all will operate on one single European market. In order to face these risks, Swedish patent bureaus must make an effort to improve their customer satisfaction.

The identified causes of dissatisfaction among the customers depend on a lack of understanding and communication between patent bureaus and their customers. Patent bureaus seem to among other thing to have a weak understanding of their client's financial situation, which is very troublesome for small firms. They are also considered to have a too weak understanding within various technical fields and business competence. This situation has it cause in a too poor communication between patent bureaus and their clients.

The parties' communication is today mannered in ad hoc approach that insufficiently provides both parties with necessary information. There is a lot of information among the customers that patent bureaus must have but today do not receive. Patent bureaus must be better at assuring that relevant information concerning technology, business plans, limitations in financial strength, time limits, strategies and patent portfolio situations are received from the customers. At the same time, the customers must receive much more information concerning the patent bureaus technical competence, underlying causes to costs, general information concerning the patent systems and information concerning limitations in the patent bureaus' abilities. It is clear that patent bureaus never will be able to gain the same level of technical competence as their clients, but if the client expects the attorney to have such capabilities and this is not corrected in time it will inevitably cause irritation. The same is true for many other areas in the customer-provider relation, were a lack of communication hurt both parties.

One of the identified causes to the current situation is the lack of effective tools on the market. Neither patent bureaus nor the customers claim to have tools for communication or quality follow-up in place. This causes a situation where the parties do not have joint references in their communication and made mistakes are likely to be repeated. Not much evaluation seems to be performed and there is also a tendency among certain patent bureaus to overlook the problems and avoid taking efforts to identify problem areas. There seems to be an attitude among some bureaus that “as business is good today, it will remain so tomorrow”.

It is hard to predict the outfall of the current changes among the patent bureaus as many bureaus seem to be internally fragmented. Many describe patent bureaus to be organizations of gathered individuals, not homogenous teams. This means that the bureau is perceived as a front whereas the outfall of a service is very much dependant on usually a single patent attorney. As the competence and attitudes among patent attorneys varies greatly due to various reasons, the results may do the same. Organization such as EPO, EPI, SPOF and the Swedish IP Attorneys Association are all striving to secure certain qualities within the profession. When an attorney becomes an authorized European Patent Attorney a customer is guaranteed that the attorney possesses the vital skills and knowledge within the field of patenting. Similarly the Swedish IP Attorneys Association is aiming at safeguarding certain competences and qualities of the members of the Associations by performing an authorization of IP Attorneys. However, one can notice that the organizations are having an approach and agenda that distinguish from the Swedish Bar Association. When it comes to the authorization of European patent attorneys the focus is on technical skills and in-depth knowledge of the patent systems and drafting claims. Though, the agenda for the authorization of Swedish IP Attorneys is to also to safeguard the attorneys’ knowledge of the judicial systems and other intellectual property rights. However, the Swedish Bar Association is not only focusing on legal skills and technical knowledge but also on ethics and crucial procedures that is are vital parts of a lawyer’s day-to-day work. As the customers are most often not dissatisfied with the attorneys’ ability to draft claims and handle the complex administrative process of filing a patent application, but more often dissatisfied with other competences they think an attorney should possess, the qualities that the organizations are aiming at safeguarding might not sufficiently meet the needs of the market.

Although there are a number of identified problems in the relations between the patent bureaus and their customers, patent bureaus are the leaders in Sweden when it comes to most forms of IP services. Patent bureaus are probably the most suitable firms to become full-service IP consultants and they are currently the most sophisticated within the field of IP services. In comparison to for instance Swedish law firms, Swedish patent bureaus generally have much wider service offers and a much greater freedom to act. This situation is very beneficial as they may develop much more dynamically from this position than law firms. However, there is a great need to fix the core functions before further diversification can be made successfully. Patent bureaus must build the trust and respect among their clients to be allowed to be a part of strategic and business decisions. This is unlikely to happen if their core services within traditional IP errands are not functioning.

13.1. Proposal for Continuous Research

In order to enter even deeper into the issues touched upon in this thesis it is recommended to continue research in the field on integration, both the integration of patent bureaus and other actors within IP related services but also the integration of patent bureaus and other societal institutions. The first issue is valuable as it would bring clarification of how the actors are competing and how they are complementing each others' services. This would enhance the development of full-service consultancy firms within the field of IP. This would probably also bring clarity to the patent bureaus about their positioning, i.e. what kind of services that they should offer in order to be able to differentiate and compete with other patent bureaus as well as other IP consultancy firms, both Swedish and foreign. The issue of integration of patent bureaus and other societal institutions is valuable as it would hopefully improve the patent attorneys' role as the important link between the innovative process and the commercialisation of innovative ideas and the value creating process. Integration with universities, research institutions, labour union, different professional and industrial organization etc. could bring valuable information and network for patent bureaus to use and develop in order to better give the customer the service they need, obtain the necessary skills (technical, business, strategic etc.) as well as they will better be able to serve the society as a whole. This would also improve the "unskilled persons'" knowledge about patenting processes and IP related issues.

Further, we see a need for further investigation in what actual competences that the different organizations are protecting and securing. As EPO and the Swedish IP Attorneys Association are aiming at securing certain quality towards the customer, it is important to make sure that the qualities and competences that the customers demand are the same being guaranteed and improved. It is important to investigate if the named organizations actually are solving the most important problem areas. Especially the Swedish IP Attorneys Association which is in a start-up phase has good potential opportunities to adapt their education and certification to meet the needs of the market and customers.

Bibliography

Printed Sources

Davis, Julie L. and Harrison, Suzanne S., *Edison in the Boardroom: How Leading Companies Realize Value from Their Intellectual Assets*, New York, John Wiley & Sons 2001, Chapter 2, 4, 5, Appendix A

Frank, Steven J., *Intellectual Property for Managers and Investors: A Guide to Evaluating, Protecting and Exploiting IP*, Cambridge University Press, Chapter 3

Granstrand, Ove, *The Economics and Management of Intellectual Property*, Cheltenham, UK; Northampton, Mass, E. Elgar, 1999, p. 58, 76, 264 ff, 337, 413

Hunt, Dale, Partner at Knobbe Martens Ohlsson & Bear LLP, Aspatores Books Staff, *Inside the Minds: Developing a Patent Strategy*, Aspatores Books, 2005, Chapter 3

Johnston, Robert & Clark, Graham, *Service Operations Management*, Pearson Education Ltd., Essex, England, 2001, p105 ff, 108, 112, 115f, 119f, 133, 180ff, 187f, 196, 206, 210ff

Jolly, Adam, *Handbook Intellectual Property Management : Protecting, Developing and Exploiting your IP Assets*. London, GBR: Kogan Page, Limited, 2004, p. 52, 53, 67, 68

Kaplan, Robert & Norton, David, *The Balanced Scorecard*, Harvard Business School Press, 1999, p. 17, 18, 19, 22ff, 29 ff, 36ff, 69ff, 73ff

Kennerly, Chris, Partner at Baker Botts LLP, Aspatores Books Staff, *Inside the Minds: Developing a Patent Strategy*, Aspatores Books, 2005, Chapter 2

Kotler, Philip, Armstrong, Gary, Saunders, John and Wong, Veronica, *Principles of Marketing*, Pearson Education Ltd., Essex, England, 2002, p. 355, 360, 549f

Patel, Rajiv, Partner at Fenwick and West, Aspatores Books Staff, *Inside the Minds: Developing a Patent Strategy*, Aspatores Books, 2005, Chapter 1

Petrusson, Ulf, *Intellectual property & entrepreneurship; creating wealth in an intellectual value chain*, CIP Working Paper Series, Göteborg, 2004, p.1 ff, p. 4f, 12ff, 102 ff, 104 ff, 110 ff

Rasiel, Ethan M., *The McKinsey Way*, New York, McGraw-Hill, 1999, p 77 ff

Stasik, Eric, *Practical Patent Strategies Used by Successful Companies*, books24x7, ALTHOS, 2004, chapter 2

Strömquist, Siv, *Uppsatshandboken*, Hallgren & Fallgren Studieförlag AB, Uppsala, 1999

Articles

Aydin, Serkan, Özer, Gökhan, Arasil, Ömer, *Customer loyalty and the effect of switching costs as a moderator variable*, Marketing Intelligence & Planning; 2005; 23, 1; ABI/INFORM Global, p. 89ff

Chinying Lang, Josephine, *Management of intellectual property rights*, Journal of Intellectual Capital, 2001, Vol 2, Nr 1, p 9, 19

Colman, Robert CMA Management *Taking the scorecard deeper* Jun/Jul 2006, ABI/INFORM Global p. 45

Duray, Rebecca, *Mass customization origins: Mass or custom manufacturing?*, International Journal of Operations & Production Management; 2002; 22, 3; ABI/INFORM Global, pg. 314 ff

Ernst, Holger, *Patent portfolios for strategic R&D planning*, Journal of Engineering and Technology Management, 1998, nr15, p 280ff

Franceschini, Fiorenzo, Cignetti, Marco, Caldara, Mara, *Comparing tools for service quality evaluation*, International Journal of Quality Science; Volume: 3, Issue: 4; 1998

Jaiya, Singh, Guriqbal and Kalanje, Christopher M., *Managing Patent Costs: An Overview*, World Intellectual Property Organization (WIPO), 2006-09-12

Intellectual Asset Magazine, October/November 2004, Issue 8, p. 30ff

Mehta, Subhash C. & Durvasul, Srinivas, *Relationships between SERVQUAL dimensions and organizational performance in the case of a business to business service*, Journal of Business & Industrial Marketing, Vol. 13 No. 1, 1998, p. 40-53

Parasuraman, A.; Zeithaml, Valarie A.; Berry, Leonard L., *SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality*, Journal of Retailing, 1988, Nr. 64, p. 12f.

Patel, Rajiv, *A Patent Portfolio Development; Strategy for Start-Up Companies*, Fenwick and West, can be found at:

http://www.fenwick.com/docstore/publications/IP/IP_Articles/Patent_Portfolio_Dev.pdf#search=%22Patent%20Portfolio%22, 2006-09-27

Smith, Michele and Hansen, Fredrick, *Managing intellectual property: a strategic point of view*, Emerald Insight, Journal of Intellectual Capital, 2004, Vol 3, Nr 4, p 366-374

Zine-Danguir, Samira, *Modèle de structure du marché non symétrique fondé sur le concept « d'hésitation »*, La Revue des Sciences de Gestion : Direction et Gestion; Jul-Oct 2005; 40

Åhlström, Pär and Westbrook, Roy, *Implications of mass customization for operations management*, International Journal of Operations & Production Management, Vol. 19 No. 3, 1999, pp. 262-274

Webb Sources

Affärsvärlden, *Patentbyråerna ökar tempot*

<http://www.affarsvarlden.se/artKg.jsp?article=131588&konsultguiden=1>, 2006-03-08

Affärsvärlden, *Patentkonsulter tappar fart*

<http://www.affarsvarlden.se/art/85675>, 2005-10-26

Affärsvärlden, *Rankinglist*

<http://www.affarsvarlden.se/konsultguiden/rankning.jsp?bransch=Patent>, 2005-10-26

Books 24x7, e-book library

<http://library.books24x7.com.proxy.lib.chalmers.se/login.asp?ic=0>

Ebrary, e-book library

<http://site.ebrary.com.proxy.lib.chalmers.se/lib/chalmers>

Emerald Insight, database

<http://www.emeraldinsight.com.proxy.lib.chalmers.se/Insig>

European Patent Institute

<http://216.92.57.242/patentepi/english/>, 2006-10-17

European Patent Institute, *Information 2006:1*

http://216.92.57.242/patentepi/data/epi_01_2006.pdf, 2006-03-01

European Patent Organization

<http://www.european-patent-office.org/index.en.php>, 2006-10-17

European Patent Organization, *The European Qualifying Examination*

<http://eqe.european-patent-office.org/site/>, Last modified: 2003-09-18

IP-Akademin, Education Program for Patent Attorneys,

<http://www.ipakademin.se/home/page.asp?sid=2609&mid=2&PageId=20710>, 2006-11-23

Proquest, database

<http://proquest.umi.com.proxy.lib.chalmers.se/pqdweb?RQT=302&cfc=1>

Svenska Patentombudsforening, SPOF (The Association of Swedish Patent Attorneys)

<http://www.sprof.se/>, 2006-10-13

Sveriges Advokatsamfund (The Swedish Bar Association)

<http://www.advokatsamfundet.se/customer/index.asp>, 2006-09-28

Sveriges IP-Ombuds Samfund (Swedish IP Attorney Association)

<http://www.ip-samfundet.se/home/index.asp?sid=3080&mid=1>, 2006-10-24

Consulting Bureaus' Homepages

www.awapatent.se, 2006-10-19

www.albihns.se/eng/start/index.asp, 2006-10-10

www.brann.se/sv/, 2006-10-12

www.zacco.com/sa/node.asp?node=677, 2006-10-12

www.groth.se, 2006-10-17

www.stromgulliksson.com, 2006-10-09

www.deloitte.com/dtt/section_home/0,1041,sid%253D38876,00.html, 2006-08-30

www.ey.com/GLOBAL/content.nsf/Sweden/Home, 2006-08-30

www.kpmg.se/pages/101274.html, 2006-08-30

www.accenture.com/Countries/Sweden, 2006-08-30

www.adlittle.se/about/, 2006-08-30

www.mckinsey.com/locations/sweden/, 2006-08-30

www.bain.com/bainweb/about/about_overview.asp, 2006-08-30

www.mannheimerswartling.se, 2006-08-29

www.vinge.se, 2006-08-29

www.maqs.se, 2006-08-30

www.setterwalls.se, 2006-08-29

www.wistrand.se, 2006-08-29

Oral Sources and Interviews

Anders Axelsson, CEO, Lamera, Interview, 2006-09-26

Anders Molker, Patent Department Manager, Ericsson AB, Interview, 2006-09-06

Fredrik Althoff, Patent attorney, Valea, Interview, 2006-10-12

Filip von Frisendorf, Head of patents, Ström & Gulliksson, Interview, 2006-10-06

Henrik Ohlsson, Head of Innovations & Patents, SKF AB, Telephone interview, 2006-09-07

Johan Wennborg, European Patent Attorney at Kransell & Wennborg, 2006-11-06

Karin Lehander, European Trademark attorney at Valea, E-mail interview, 2006-10-24

Kennet Blixt, Director Marketing & Communication Zacco, 2006-11-09

Lars Estreen, Chairman of IP-Samfundet and EPO attorney at Kransell-Wennborg ,
Telephone interview, 2006-09-26

Lars Henrikson, Head of Markets, AstraTech, Telephone interview, 2006-08-29

Olle Stenberg, CEO, Chalmers Innovation, Interview, 2006-09-05

Olof Skjöld, CEO, Denator, Interview, 2006-09-06

Per Andersson, CEO, Albihns Göteborg, Interview, 2006-10-10

Peter Freidrischen, CEO, Bergensträhle & Lindwall AB, Interview, 2006-10-11

Rikard Lundgren, Patent attorney, Awapatent, 2006-10-04

Sven Lindmark, Lecture, Chalmers University of Technology, Fall 2005

Ulf Kärn, Patent attorney at Groth & Co, 2006-11-06

Werner Fröhling, Head of Corporate Patents, Volvo Technology AB, Interview, 2006-09-04

Official Publications

Kommissionens rapport till Rådet, Europaparlamentet, Ekonomiska och Sociala Kommitén och Rregionkommitén, *Att skapa ett företagvänligt Europa, Europeiska unionens verksamhet för små och medelstora företag* (01.03.2001)

Per Holmstrand, Expert opinion, public statement by Head lawyer at PRV, 2006-04-06, AD 411-2006/896

SOU 2002:57, can be found at <http://naring.regeringen.se/content/1/c4/20/87/be108e53.pdf>

The Swedish Government, Faktapromemoria 2003/04:FPM68 *Upprättande av gemenskapspatentdomstolen*
http://www.riksdagen.se/webbnav/index.aspx?&nid=251&dok_id=GR0668 (2006-10-17)

Appendixes

*i. Code of Conduct for Lawyers*¹³⁰

All Swedish authorized lawyers are members of the Swedish Bar Association. In order to be an authorized lawyer one has to become a member of the Bar Association and comply with the Rules and Code of Conduct that the Bar Association has drafted. The objectives of the Bar Association are to “maintain high ethical and professional standards in the legal profession, to monitor legal developments and endeavour to ensure that they benefit from the Bar Association’s experience, to safeguard the general professional interests of its members and to further unity and consensus between members”.

i.i. The Code of Conduct

The Code of Conduct from 1984 forms the framework for the working member of the Bar Association and aims to give guidance to the Bar Association’s members.¹³¹ It is designed through the acceptance by those to whom they apply in order to ensure proper performance by the lawyers. A lawyer always has to act in accordance with the Code of Conduct, a failure to observe the rules must in the last resort result in disciplinary sanctions. However there are not rules governing all the various situations that may arise in a member's practice. The rules are not exhaustive and should not be interpreted as they mean that anything that is not expressly forbidden is permitted. However, the rules do not state that all deviation from the Code of Conduct will necessarily lead to disciplinary action. Each case must be judged on its merits.

i.ii. The Limitation of Lawyers’ Business

The general rule states that the practice of a lawyer must be within the limits of the law and professional ethics. A member of the Bar Association has as his or her primary duty to pursue his or her client's interests to the best of his ability. No irrelevant circumstances must influence his or her work. A member must not encourage wrongdoing. A law firm or partnership may not carry out any other business than business of assisting with legal advice. This restricts and defines the business of a law firm rather narrow. A rule that to a large extent effect the organisation of a law firm is in the Bar Association’s Code of Contact, which states that only a member may directly or indirectly, or through a company carrying on practice as an authorized lawyer, own shares in the company or be a partner. Further on, only a member may be a member or deputy member of the board, managing director or deputy managing director, or an authorised signatory or secretary of the company or the partnership.

i.iii. Conclusion

A lawyer is a person in a rather powerful position as people less skilled in legal issues will trust the person with crucial matters. In order to safeguard the layers’ reputation they have a long history of ensuring the trustworthiness of the profession. The strict guidelines for how a lawyer may and can behave and how he/she shall perform his job, has though led to the fact that the business of a lawyer is rather limited. The wording of the Code of Conduct for Members of the Swedish Bar Association has put restraint of the freedom of business for Swedish Lawyers. They are not as free as other consultants to offer different integrated services. An authorized lawyer may only give legal advice and nothing else. The objective of

¹³⁰ Advokatsamfundet’s webpage, <http://www.advokatsamfundet.se/customer/index.asp>, 2006-09-28

¹³¹

http://www.advokatsamfundet.se/platform/components/cm/consume/index.asp?doc_id=682&link=*681*1016*, 2006-09-28

this is as mentioned to secure the trustworthiness, however it strongly limits layers to participate in the competition concerning full-service consultancy within the IP area. The services a law firm may offer is strictly limited to legal advice and the freedom to operate and find a niche market is next to nonexistent.

ii. The Quantitative Survey

This appendix demonstrates the questions used in the on-line surveys and their results. The table below shows the average answers from the respondents. PB stands for patent bureaus and PM for patent managers. The difference marks the difference in average between their answers on comparable questions. This method is used to evaluate if there are any gaps in their view on relevant topics.

These are the questions asked to patent bureaus, each with a five step scale and a sub question asking how important they consider this question to be.

1. How well do you understand your customer's technology before you start the patenting procedure?
2. How well do you understand your customer's business model before you start the patenting procedure?
3. How well do you consider that you usually understand your client's financial situation?
4. To what extent do you involve strategic business advice in your contact with the client?
5. How often do you discuss alternative protection such as various IPR forms, trade secrets, publishing as well as alternative patent routes?
6. How well can you specify costs to the client on before hand?
7. How well do you think that that your customer understands the complexity behind patenting activities?
8. How often do you discuss patent portfolio building and management?
9. Do you measure and/or manage your customer satisfaction?

The following questions were asked to patent managers:

1. How well has the patent attorneys managed to protect your inventions by writing your patent application?
2. How well has the patent attorney understood the technology in the innovation?
3. How well has the patent attorney understood your business model and corporate strategy?
4. Has the patent attorney been helpful in the development of the business model or business strategy?
5. Have you had discussions concerning patent portfolio management and creation?
6. How well has the patent attorney communicated the various options of IP protection available?
7. How well has the patent attorney communicated the various patent routes and their implications?
8. Did you get a clear picture of the costs involved in patenting prior to the process?
9. Do you feel that the work performed by the patent bureau has motivated the costs?
10. Do you feel that the patent attorney has taken consideration to and acted to meet your interests to the best of his ability?
11. How do you feel that the patent bureaus treatment has been and the understanding of your situation?

	Importance PB	Importance PM	Difference	Result PB	Result PM	Difference
PB1 vs PM 2	3,3	4,7	1,4	4,1	3,8	-0,3
PB2 vs PM 3	2,9	4,2	1,3	3,3	3,7	0,4
PB3 vs PM 8	2,7	4,3	1,6	3,1	3,7	0,5
PB3 vs PM 11	2,7	4,5	1,8	3,1	3,6	0,4
PB4 vs PM 4	3,3	2,9	-0,4	3,4	2,8	-0,6
PB5 vs PM 6	4,1	4,2	0,0	3,9	3,6	-0,3
PB7 vs PM 7	4,0	4,2	0,2	4,1	3,9	-0,2
PB8 vs PM 5	3,6	3,8	0,2	2,9	3,1	0,2
PB10 vs PM 10	4,3	4,7	0,4	4,9	3,9	-0,9
PB10 vs PM 11	4,3	4,5	0,2	4,9	3,6	-1,3
PB6	4,3			4,6		
PM9		4,3			3,0	
Average	3,5	4,2		3,8	3,6	

iii. Interview with Sweden's Leading Patent Bureaus

This appendix demonstrates the questionnaire used for interviewing patent attorneys in various positions among some of Sweden's major patent bureaus conducted during October 2006. The interviews were all performed in Swedish, but for the sake of clarity this questionnaire has been translated as accurately as possible.

Purpose;

1. To investigate attitudes in the industry.
2. To verify and correct the tools.
3. To cause an interest for the problem.

Goal;

1. To gain enough input on the tools to make them practically applicable.
2. To gain the patent bureaus view on the market today.

Questions;

1. Please, describe yourself briefly.
2. How does the initial communication between yourself and a new client, alternatively an established client in a new errand look?
 - a. What do you cover during the first meeting?
 - b. Do you use some form of checklist?
 - c. Do you use the same procedure for all companies in all situations?
3. Do you treat small and major companies differently?
 - a. How much information concerning the client's company do you need in order to be able to give strategic and valuable advice?
 - b. How do you consider the demand for and reception of the offer of more services within strategy and business development?
4. How do appreciate costs before a case and how do you go about to inform the client about the costs.
5. Do you consider your clients to have a good understanding of the services they buy from you?
 - a. What services do you think a patent bureau/patent attorney shall offer to its clients?
 - b. How much shall a patent attorney be involved in the overall picture?
6. How do you follow up the results of the services and advice you offer?

Customer replies;

What do you think the cause is to;

1. The clients consider the patent attorneys to have weak advisory services in the areas of strategy, business development and patent portfolio development.
2. Very low opinions concerning the costs for hiring patent bureaus.
3. The great differences between what patent bureaus consider to be of importance and what the clients find important in technology, business models as well as understanding for the clients financial situation.
4. Do you think that the clients have unreasonably high expectations on the patent bureaus work today? How do you think that the gap has emerged?

Tool analysis¹³²;

1. Is a communication and quality follow-up tool usable to improve the relations to the customers?
2. Are the relevant areas covered in the tool?
3. How would you measure and follow-up the concerned areas?

¹³² *The tools are in this stage presented to the person interviewed.*