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THE LEGAL PROTECTION OF STRUCTURAL CAPITAL

Thesis in Law 20 p

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1 Preamble

In the business world today many people talk about different intangible phenomenon in their business practice. We hear about IPR (intellectual property rights), Intangible Assets, different kinds of knowledge, competence, relations, values of agreements, good company management etc. All of these are together often summarized into the concept of Intellectual Capital (IC).¹

In the first part of this thesis I will make an attempt to straighten out a few common question marks about Intellectual Capital as a phenomenon. I will try to divide it into different parts so that we easier can understand the thoughts behind different central terms. It will also make it easier for us to understand the different kind of impact the parts can and will have on a company's on-going business.

In the next part of the thesis I will examine three different attempts in literature which aim is to explain the use of IC in the company. In this part I will further present a model which makes it easier to examine a firm's IC and how to take advantage of those results.

In the last part I will investigate more thoroughly the Structural Capital (SC) and the possibilities there are to protect it by using legal means. In connection to this different legal tools which can be used in the protection of the SC will be presented. There will also be a discussion about the interrelationship between the IC and the legal tools, i e how they influence each other in the daily business life. Lastly there will be a part about how legal tools can give economical values to the company and make the business more profitable.

I have during the investigation of the topic been in contact with three different companies and a research institution. I have interviewed one small software company, (Computer Service AB) one medium sized IT-consultant company (Adera AB), one large IT-manufacturing company (Ericsson Microwave Systems AB) and the research institute is the Viktoria Institute in Gothenburg. These interviews are not reviewed or directly referred to in the thesis. Instead they are incorporated into the ongoing discussion and argumentation which I present.

1.1 Background

The development in the western society has during the last years implied that knowledge, information and services have become increasingly important for companies. Today we are on the edge of leaving the traditional industrial society in order to enter the postindustrial knowledge society. This development has led to many large changes in today's active firms, and old patterns must therefore be changed. Whether a company becomes successful or not in the 21st century depends on other factors than those that were predominant earlier during the 20th century.

A company's values and assets are usually divided into financial assets and non-financial assets², today popularly called Intellectual Capital (IC). This is also the term I will use in this thesis. IC can be divided into three different sub-headings, called Structural Capital (SC), which consists of assets directly related to and usually owned by the company,³ Human Capital (HC) which consists of people's skills, knowledge and experiences etc within the organization. The third part of IC is Relationship Capital (RC) which is the company's external relations.

¹ Edvinsson L. & Malone M.S., p 28ff

² Hansson J. & Andersson P.E., p 126f

³ Roos J. et al, p 42

HC is closely connected to the employees and is because of this very difficult for companies to govern and control. Comparing to HC the SC is easier to adjust into traditional definitions of assets, this because of its close relation to the firm as an entity. An asset's cardinal feature is that it means future economical advantages for the company, but the definition also says it has to be controlled by the company and being a result of an earlier transaction or event.⁴

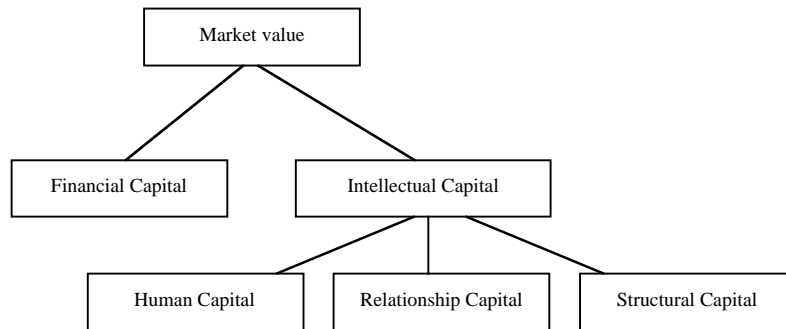


Exhibit 1.1 A company's different sorts of capital

Among the elements of Intellectual Capital in a firm mentioned can be the knowledge and skill among the employees, company image, agreements with customers, suppliers and distributors, competent management, efficient processes, R&D etc. Most of these resources are difficult to value and control. Nevertheless they do play a central role both in the company's business today and for the future development. The company must therefore manage, be able to control and govern these in their on-going business. A problem which one will face when trying to manage IC is the limited abilities and different difficulties there are to identify and value these parts within the company, to be able to control its activity in the most favorable way. From the above it is clear that there are external and internal aspects of the problem for the company. I suppose however that a use of the resources on an internal level must come first in order to also be able to use it on an external level in the future. In this thesis I will therefore only discuss the internal issues for the firm and leave the external issues out.

When we now have made it clear that firms have IC it is of course of great interest to define and develop analytical methods for the use of IC, and directions in how to use it in the company. The development of methods inside the company regarding IC-identification and use are very important regarding the success of the company and for future profit-generation. When companies are able to evaluate and focus their business not only on direct profit generating activity in the short-term, but also being able to identify profit generating factors in the long-term, IC will then be of high significance for the company's business decisions.

1.2 Problems

In order to handle the increasing competition companies today faces it must use its intellectual capital even more effectively.⁵ Many companies invest a lot of money to protect and nurture its IC.

⁴ Mathews M.R. & Perera M.H.B., p 148ff

⁵ Hansson J. & Andersson P.E., pp 23

Human Capital is much more risky than SC because it can disappear very quickly from the company when employees decides to quit their employment or even worse, when employees decides to move to a competitive company. If the company relays on its HC this can mean that the business gets a lack of competence and a large part of the company's skill disappears.

Ways to decrease this element of danger for the company is:

- Protect important knowledge that can have industrial application by patents
- Using other legal methods to protect the knowledge, for example agreements, IPR:s and Business Secrecy Acts.
- To have generous incentive programs for the employees
- Spread knowledge in the organization through education
- Actively trying to transfer the employees' competence into the organization as information in computer bases.

All of these statements have the purpose of keeping the competence within the company regardless whether the employee leaves or not. The main focus in this thesis is on the first two statements, but all of the above statements are interlaced together and must be seen together to gain the most of the protection. By using legal methods firms can protect its SC, and at the same time the SC affects and strengthens the legal tools. How does this interrelationship affect business decisions and how can the firm take full advantage of this relation.

1.3 Questions of Research

The questions this thesis is discussing are

- What does today's IC-literature say about Structural Capital?
- Can we protect a firm's Structural Capital by using legal tools?
- Can we use the legal tools to generate values in the business?
- How does the Structural Capital and the legal tool interact?

1.4 Purpose

The purpose of the thesis is first to compile the different directions among doctrine and practice that exists in the IC-area. I will after that concentrate upon the topic in how to use legal grounds to protect and govern the Structural Capital in the company. There are unfortunately not much written on this topic with a legal approach and much of the thesis will therefore be based on economical theories. My aim is however to give a legal perspective to the problem. I will also try to make some suggestions about the practical use of this.

1.5 Delimiter

I have in the thesis first and foremost focused on management problems within companies where IC is concerned. Therefore the thesis will mainly treat internal accounts within companies and not focus so much on external problems. The protection of SC will as mentioned be the main issue in this thesis and therefore competition regulations, contractual laws and employment regulations will only be mentioned very briefly, although these different laws are of course important for the company when evaluating the SC.

Other limitations will be made continuously in the thesis.

1.6 Method

This thesis has been done in a project group called Law Management and Corporate Governance at the Institution of Law at the School of Economics and Commercial Law at Gothenburg University. It has a Law Management perspective. This is a different way of how to write a thesis in law. In the centre for the analysis is not the legal problem but instead a real situation or phenomenon. From this starting-point the different legal methods, tools, possibilities and problems are treated. Consideration is also taken to other parts that will have impact of the subject, f e technical or economical aspects.

The aim for this perspective is by using a strategic and creative legal analysis create new business- and market structures, a so-called business creation. In this way the law will be a powerful tool in a company's strategic planning.

In the thesis I have used traditional legal- and economical sources, such as legal and economical books, legal and economical journals and articles. Internet has also been to my help especially in the early research.

In order to obtain a general picture over the phenomenon of the control and protection of SC I have done some empirical studies, which foremost consists of four different interviews with persons involved in the information technology business.

2 Intellectual Capital

2.1 *Historical Background*

The concept of Intellectual Capital may seem to be a new invention in the economical theory and debate since about a decade back in time. This is, however, not quite true. Already in the 18th century the concept of intelligence was used within manufacturing as an explanation why English shipyards built ships faster than the Swedish ones.⁶ Another example is at the medieval universities where there was a principle which said that a person with great knowledge in his studying field (these people were usually monks or professors) should consequently document his research so others could continue where he ended.⁷

2.1.1 The industrial-era

To give a complete background to the Intellectual Capital we will now make a historical retrospect and start in the industrial revolution. It is about two century ago and it was at this point in history the industry was growing to be mass-producing and effective improvements in the production were explosive. One significant example of the industrial revolution was the increase in efficiency among companies due to the manufacturing process, i e the introduction of the assembly production line.

Since than we have in the western world lived in what we have called the industrial-era. One distinctive feature for this era, regarding economics and especially the financial accounting, has been the financial focus that have saturated the entrepreneur-ship. Investment and evaluation decisions for companies have f e always been in monetary terms. The result of this has been that everything had to have a financial value to be called an asset. In other words, if it could not be valued in money it had no value. Typical for this era was the creation of more modern and accurate bookkeeping systems that in our days has resulted in all our accounting theories and systems. A very clear connection has also been made in the accounting theory between material and financial assets. “You cannot give something intangible a value because you cannot see it.”

2.1.2 The service-era

In the middle of the 20th century a change occurred in the industry correlated to the end of the Second World War. The service-era made its entry into the world, and changes in economical perspectives were evident. It started in America and a few years later it had also spread to the Western Europe. More people began to be more stable financially and were able to spend more time on other things than their works. People started to go out to restaurants more often, enjoying holidays etc. The increasing wealth also created more demands for, and higher consumption of services. If there were a specific problem to be solved the expert in that field was the one asked for and wanted.⁸

Companies soon realized what their customers demanded and rapidly changed their attitudes. Many so-called service-companies were created because of this. Who has not heard about McDonalds or Hertz? A new way of thinking was beginning to grow in the business world; the business became more and more customers related. It now

⁶ Stewart T., p 40

⁷ Stewart T., pp 42

⁸ Hansson J & Andersson P.E., p 24

became lucrative to serve others. In the 1970th this way of looking at business experienced an increased interest with the printing of some books and debate-articles.⁹

Up till today the competition has become much harder in the service business and new ways of how to increase profit or cutting costs have been sought out. An obvious example of this we can see today when companies are trying to automatize many of their services and make us, the customers, more involved in the transactions, for example when you withdraw money from the cash dispenser or refuel your car.

2.1.3 The knowledge-era

We are still living in the service-era with all its attributes but at the same time we are entering a new era where each product and service must be designed for the individual customer. We are now on the threshold to what we can call the knowledge-era.¹⁰ Something radical is happening in the business world today. We are experiencing a revolution, or perhaps a very fast evolution where more than ever it is the customers who is in charge and control the marketplace. If a company shall succeed in the future it has to be customer focused. However, at the same time the firm has to minimize its costs by making the customer a participant in the services.

The knowledge-era that we are entering has some typical attributes, which you can easily observe today in your own environment.

Some of these are:

- Distance does not matter any longer; it is possible to perform a task far from where you at the moment physically are, f e by using the Internet.
- Everyone, or almost everyone, can get hold of the information they are looking for.
- Information is rapidly travelling all around the world. The knowledge-era is a global phenomenon.¹¹
- The words education, competence and knowledge are fundamental and seem to be used in all different possible situations.

We can also see the change to the knowledge-era inside the companies. The key concept, or shall we call it philosophy, is an apparent focus on the Intellectual Capital. Instead of short-term investments giving revenues today companies focus more on long term investments that will give potential future revenues. In 1991, for the first time, US companies invested more in information technologies than in any other form of investments.¹² The information investments were f e the building of large customer-records and the construction of brands. The change in focus influences how companies run their business. The management must today also use future valuing key-figures instead of, as before, financial figures and reports in their decision-making.

At the same time as companies are trying to cut costs by making the customers do much of the service-work as mentioned above, customers on the other hand are becoming more fastidious and demand more specialized services because of the higher technological envelopment.¹³ So when the service-era and the knowledge-era clash some conflicts between the companies and the customers are inevitable. This is today one of the trickiest questions in corporate governance.

⁹ www.sveiby.com.au/IntellectualCapital.html Sveiby K-E, article "Intellectual Capital and knowledge Management"

¹⁰ Hansson J. & Andersson P.E., p 24

¹¹ Halal W.E., p 100

¹² Halal W.E., p 99

¹³ Hansson J. & Andersson P.E., p 24

The IC-perspective can in many ways be seen as a reaction to the immense cost cutting in many companies during the last decades. Today many companies have reached the limit in how much they can cut its costs. Instead they now have to find other ways of keeping high profitability. One new way is by using Intellectual Capital. The building blocks for the future economy will not be the Financial capital but will instead consist of innovation and knowledge, this also in the traditional industry.

2.2 What is Intellectual Capital

A company's value can be divided into Financial and Intellectual Capital. Since I will not discuss the Financial Capital in this thesis it is enough to establish that it consists of physical capital and monetary capital. With physical capital is meant assets like real estates and machinery, and with monetary capital is meant money and other financial claims.

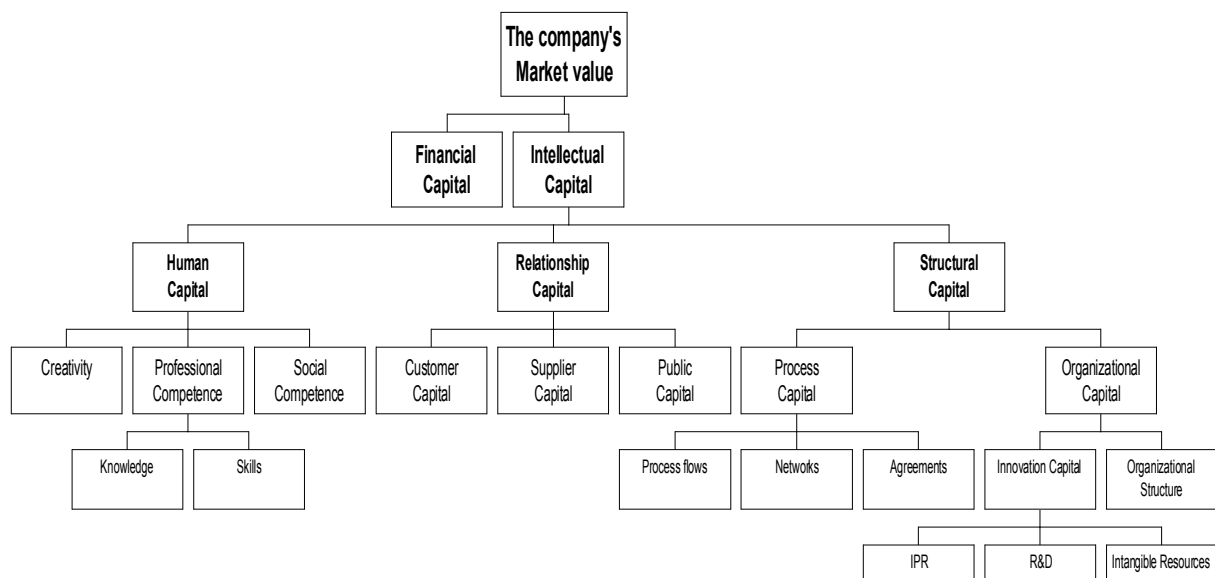


Exhibit 2.1 The IC-table¹⁴

The Intellectual Capital can, as mentioned earlier be divided into different sub-headings, (see exhibit 2.1): *Human Capital*, *Relationships Capital* and *Structural Capital*. Of course companies vary regarding which resources or how much of the different resources they have within the different sub-headings. It is all dependent on what kind of business the firm is active in.

The Human Capital is the employees' different skills and competencies in the company, and it is an essential part in the creating of values for the company in a future perspective. Relationship Capital is the value derived from the company's external relations. This may consist of customers or the suppliers' loyalty to the firm. Many companies make large investments with the purpose of creating a positive picture of the company in the view of the general public. This is because a large RC is vital for a company in the long-term. Structural Capital is the part of the IC that directly can be controlled and is thereby the easiest part to identify, evaluate and to later on give a financial value. SC is everything that has been built up in the company during its existence, f e

¹⁴ The table is my own design but has large assembles with the one you can find in Edvinsson L. & Malone M.S.

company culture or computer bases, patents and manuals etc, but SC needs constant maintenance by the HC to develop in a good way.

The foundation for all IC is the HC. The Human Capital may exist without other forms of IC, for example as personal knowledge or experiences, but Structural Capital and Relationship Capital are directly dependent on the Human Capital for their existence. A company is ultimately created by a person or a group's idea. Not until the creation of a company or any other organization of a business idea the other parts of IC will be developed. Financial Capital will obviously also be needed in the start process of the company. However, nowadays it is not the Financial Capital that is the critical factor for many new and expanding companies, instead the critical factor is the access to competent personnel.

2.3 The newborn interest in Intellectual Capital

In most companies IC constitutes a significant part of company value and has therefore a large impact on the business result.¹⁵ This is the reason why IC is too important to be left to chance. A firm's management has to form a picture of what the IC looks like in the firm. This must be done in order to actively govern and manage its development in the ongoing business. The value of the Intellectual Capital lays in the expected creation of Financial Capital in the future, in other words, IC is the future profit of the firm. This value creating process is rarely done in one step but in many small steps where the different sorts of Capital cooperate.¹⁶

To divide a company's assets into the right part of IC is time-consuming and something that has to be done continuously. It is still probably profitable to do so because of the significance of IC. Some of the firm's resources may be placed in more than one part of the IC and a transition from one part to another is common over time. It is not critical to do a perfect classification, but it is crucial to have the Intellectual Capital under supervision, to govern it and to understand what it can create in the future. By obvious reasons it is difficult to present a complete and general model to show a company's IC. My classification above in exhibit 2.1 is mainly made in a pedagogical purpose to give the reader an overall understanding of the subject. The dividing of IC ought to be specific for each company.

2.4 Structural Capital

*"The Structural Capital is the business substance-value of internal non-financial assets"*¹⁷

SC is as mentioned above the part of IC that the company has in control. The SC is usually described as the support or infrastructure that firms provide for their HC.¹⁸ In other words it is what is left in the company when the employees have left for the day.¹⁹ It includes both physical and non-physical elements, f e computers and phones but also production procedures and marketing plans.²⁰ The control of SC can be on a legal level, by using ownership rights for the physical assets, patents, trademarks, rights to design, copyright etc. The control may also consist of the

¹⁵ www.cepro.se Hansson J., article "Har de förstätt det intellektuella kapitalet?"

¹⁶ Edvinsson L. & Malone M.S., p 68

¹⁷ Hansson J. & Andersson P.E., p 135

¹⁸ Sullivan P.H., p 23

¹⁹ Roos J. et al, p 42

²⁰ Hansson J. & Andersson P.E. p 134

fact that the structure does not disappear when important employees quit because the knowledge supporting the structure are connected to the company.

Another aspect on the control is that no one else has the possibility or right to use the asset without permission. This is most obvious in the legal control by the use of regulations to protect the company's rights. However, even when no direct legal control exists the SC can be protected by other means, f e by so called complementary resources.²¹ Complementary resources are f e the difficulty to copy a company's culture, or an image, or the fact that the company's production facilities are superior to the competitors.²² When no legal control exists it can of course be no absolute control, but the company can through long-term strategic work strengthen and develop its control by using different complementary resources.

2.4.1 Process Capital

As we can see in exhibit 2.1 SC can be divided into process capital and organizational capital. The dividing line between the two is not always clear but for a pedagogical purpose I will keep the two separated. The process capital consists of test and production processes and long-term agreements with suppliers or customers. The agreements can f e be made for the purpose of creating strategic alliances or networks.²³ The process capital further includes all other agreements for the firm, such as agreements with employees or ordinary daily business agreements. The process capital is the part of SC which focus on the company's activity today.

2.4.2 Organizational Capital

Organizational capital consists of the company's management philosophy, the organizational structure and the innovation activities inside the company.

The innovation capital includes both the process of innovation and the results of it, f e a patent. It also includes other non-precise resources, like the things that cannot be pointed out but obviously has a value, f e brands, quality and knowledge placed in the company. This part can be called intangible resources.

The organizational structure is the way in which the management leads the company and it consists among other things of the company's culture and spirit. Generally we can say that organizational capital is the part of IC together with the HC that determine the company's future, partly by strategic choices made by the management, partly through innovations.

2.4.3 The role of Structural Capital in the company

Without the other parts of IC the SC is worthless. SC not used by employees has no value. This is not completely true regarding intellectual property rights (IPR) and certain computer bases, but even they, if not being used in the company they will have very little or no value to the company.²⁴

²¹ Sullivan P.H., p 24

²² Sullivan P.H., p 24 & pp116

²³ More about strategic alliances and networks see section 6.2

²⁴ Glaizier S.C., p 4

The SC must constantly be maintained and nurtured to keep its value. While HC increases in value through more experiences of the co-workers, the value of SC does not automatically increase when being used.²⁵ It demands an active effort by someone or something to develop the SC.²⁶

Almost all of the Structural Capital is created by transformation from Human Capital. Most time however, it takes the way through the Financial Capital, for instance when a company acquires SC from a third part with its Financial Capital. The transformation can also be made directly. This is most obvious in R&D departments where the scientists' knowledge finally leads to new products or patents. Another example may be when the employees, because of their high level of skill, produce products with high quality. This will increase both the process capital through a more efficient and quality production and the Relationship Capital because the company gains a high-quality reputation.

For knowledge companies the SC consists to a large part of stored information, knowledge, experiences and systems for the storing of this information. The thought behind this is that through transformation of individual knowledge to SC this knowledge can be governed in a more profitable way and become an asset available to all related personnel in the company. Computer bases effectuate the trade and exchange of knowledge but can also lead to a growth of the knowledge. A problem for the company however is that large parts of the individual knowledge are impossible to store.

It is necessary for the company to manage and store knowledge so everyone that needs the information can find and use it.

It is especially important in situations like:

- The expansion of a company when it needs to recruits new personnel. The faster the personnel can be profitable for the company the better.
- The leaving of key persons in the company.
- To spread the knowledge out in the organization when the organization is divided into different divisions or is located in different geographical parts of the world.
- The importance for a service company to offer services with the same high quality no matter where or by whom the service is given.
- Efficacy reasons; You can minimize the production time if information moves quickly and accurately within the organization and you can quickly find the information you need for your work.

2.5 Relationship Capital

RC is the company's relations to its external interested parties. These can be customers, suppliers, media, competitors, the stock market and the government etc. Distinguishing for the RC is that the company cannot directly influence it through cooperation agreements or other business constellations. There are no direct relations between the company and the interested parties.²⁷ Companies can of course influence the external parties by marketing and

²⁵ Stewart T., pp 120

²⁶ Roos J. et al, p 42

²⁷ If there were direct relations between the company and the other part by some agreement or any other cooperation it would in that case be considered as SC and not as RC.

other ways aiming to give the company a good reputation. These influences are however only indirect because it is still up to the affected parties to decide whether to believe in the commercial or not.

Relationship Capital can be divided into customer relations, supplier relations and public relations.

2.5.1 Customer relations

This is the part most used and discussed in literature.²⁸ Many even regard it to be on the same level as SC and HC.²⁹ Where to place it in the table³⁰ is of course just a matter of taste. Yet it is of significant matter for the firm and has to be taken into consideration. It is necessary for the firm to have good relations with its customers, both the present ones and the potential ones.

Many companies are bounding closer to their customers through agreements of distribution or by integrating the customers in the development process.³¹ This is to be surer that the company develops and produces the product the customer requests. To give the customer what he wants and needs has become something of a slogan for companies today. As mentioned earlier it is today the customer who is in charge at the market place for many new industries.

2.5.2 Supplier relations

Stable and reliable suppliers that deliver high quality products at the right time to the company is increasingly important and today usually leads to cost reductions for the company. Even regarding suppliers it is valuable to bind them in a similar way as described above regarding customer relations³². One example of this can be the Just-In-Time model as many production companies aspire to today.³³

2.5.3 Public Relations

A good relationship with the government and the stock market, and to be known by the public as a good company can often be worth far more than many marketing campaigns together. If you manage to give your company a positive ring, this can mean big advantages both in cooperation with other companies and in the contacts with the local community etc.

2.6 Human Capital

*“All individual skill, knowledge, competence and experience within the company’s personnel and management...”*³⁴

The Human Capital is usually described as the gathered knowledge, skills and experiences that a company’s employees possess. It is without a doubt the company’s most valuable resource, in any case when it comes to future

²⁸ See f e Edvinsson L & Malone M.S. “Det Intellectuella Kapitalet” or Stewart T. “Intellektuellt Kapital”

²⁹ Edvinsson L. & Malone M.S., pp 57

³⁰ See exhibit 2.1

³¹ In other words is the company transforming RC to SC.

³² Se section 2.5.1

³³ Just-In-Time (JIT) is a way of manufacturing where the company has no or almost no stock. Instead they are relying that the suppliers delivers the needed product just in time when is needed in the production process at the company. Literature in this field is Samuelsson L.A (red) “Controllerhandboken” or Waters C.D.J. “Operations Management”

³⁴ Edvinsson L. & Malone M.S., p 55

value creation. HC is individual and cannot be copied by other competitive companies. Therefore it can give the company competition advantages during a long period of time. I have divided HC into three parts: *Creativity*, *Professional competence* and *Social competence*.

2.6.1 Creativity

In the term creativity lies the ability to see new solutions instead of always using existing methods. This part of HC is essential for the innovations and for the firm's capability to adapt to new situations. There are small possibilities for employees today to be creative in their work because many parts of the work today have been automated. This is a linkage from the cost-cutting period in the 1980th and the beginning of the 1990th. As a reaction to this the emphasis today is instead on giving the employees possibilities to evolve their creative abilities.

2.6.2 Professional competence

This is the education and experience that the employees possess. It is the knowledge that is used to perform the work in a satisfactory way.

The professional competence can further be divided into *knowledge* and *skill*. Knowledge has a more theoretical character and is sometimes described as digital, i.e. "either you know or you do not know". Skill has instead a more practical character and is therefore sometimes called analog, i.e. you can know something more or less well and/or detailed. The term skill usually includes the active performance, one proves that one has the knowledge by performing the task.³⁵

2.6.3 Social competence

This is the ability to associate and interact with other persons. It is necessary to be able to cooperate with others in an organization in order to achieve desirable effects of synergy.³⁶ Social competence consists of being able to associate with other people both on a private and a professional level. This area has received great attention during the last years. Companies have realized the importance of social competence more than the other parts of the HC. Therefore many companies have made large investments in the general comfort in their company and improved the personnel's working environment.

2.6.4 The role of Human Capital in the company

HC cannot be owned by the company³⁷, in any case not with today's definition of ownership.³⁸ This is of course a natural consequence of the fact that HC consists of people, and serfdom is abolished since a long time back. The employees can terminate their employment whenever they want and thereby take with them the knowledge that they possess.³⁹ Since HC cannot be controlled like other assets, a large HC can therefore make the company more vulnerable. HC cannot be replaced by SC, regardless of how well developed the SC may be.

³⁵ Sveiby K-E., *Kunskapsflödet* pp 101

³⁶ This can both be synergy-effects inside the organization as well as an effect of cooperation between companies.

³⁷ Edvinsson L. & Malone M.S., p 68

³⁸ For example Malmström Å. & Agell A., p 51.

³⁹ Computer Sweden 1999-02-01, article "När hjärnan blir viktigare än handen"

Some people in literature mean that companies can, by documenting as much as possible of the individual knowledge, make themselves less vulnerable to staff turnover. This should therefore be a routine in the on going business.⁴⁰ However it is only the HC which push the firm's development forward because it is only humans that can be inventive, creative and flexible when changes occur.

Something that cannot be too much accentuated is the dependency and cooperation between the different parts of IC. Even if HC is the company's most important resource it nevertheless depends on a well-functioned SC to be used efficiently.⁴¹

To be able to use the HC as efficient as possible some important factors are usually discussed. It is of great significant to invest in HC, i e to keep the HC up to date. Knowledge is needed to make the other assets in the company generating profit. With investments there are also risks, because you cannot know exactly how the investment will turn out.⁴² Investments in HC are not easy to calculate because humans' results, regarding education, tend to differ. Therefore the growth of the HC does not follow directly according to what has been invested. It is influenced by many other factors, such as personnel politic and the climate of cooperation.⁴³ It is also important to share and spread the knowledge in the organization so that the knowledge is available to as many as possible.⁴⁴ The management must therefore strive to develop a company culture that aims to make the employees feeling responsible and participant in the work. This is because people who feel they are participating and have responsibilities usually need less control to do a good work.⁴⁵

⁴⁰ Personal och Ledarskap 1999-08-07, article "Humankapital minst intressent för investerare"

⁴¹ Edvinsson L. & Malone M.S., p 68

⁴² Stewart T., p 87

⁴³ Hansson J. & Andersson P.E., pp 19

⁴⁴ Personal och Ledarskap 1999-08-07, article "Industritänkande äventyrar kungstanken i knowledge management"

⁴⁵ Personal och Ledarskap 1999-08-07, article "Industritänkande äventyrar kungstanken i knowledge management"

3 Three different models for measuring Intellectual Capital

3.1 Introduction

IC is the element in a company that exists without you being able to see it. In literature today one can distinguish three different theories, which describe IC and how it can be governed.

These theories are:

- Intellectual Capital as Leif Edvinsson and Skandia AFS describes it in the Navigator.⁴⁶
- Knowledge Management as Karl-Erik Sveiby describes it.⁴⁷
- Balanced Scorecard as Kaplan and Norton describes it.⁴⁸

There are of course many more theories with other angles to this topic but I have chosen these three mainly because I believe they distinctly illustrate different possible angles of IC and they have all contributed to today's business life and literature.

The three perspectives resemble each other in many ways but there are also some differences. Essential for all three are that they believe there are values in a firm which are not material and therefore difficult or impossible to give an exact financial value. Furthermore all of them mean that the humans in the organization in some way are the source of the value-generating process. However, in what way the humans generate value differs between the three theories. They also differ according to which economic theory they emanate from and in their emphasis of the different measures in the different models.⁴⁹

3.2 Intellectual Capital according to L. Edvinsson and the Navigator

IC is the core essence of the company and is the part that generates the profits. This theory is the one most specialized on non-financial values. The financial part is mainly the result of the intellectual part. In this theory we look at IC as a static concept (a noun) which should be used in the company in the most effective way. Edvinsson defines IC as "*knowledge that can be converted into value*"⁵⁰

In the model IC is divided into three different parts, Human Capital, Customer Capital and Structural Capital.⁵¹ The process of using this model is that one first tries to identify the invisible assets and values that exist in the company and in the next step be able to use them as control instruments in the business. Edvinsson means there is a close teamwork between the parts of IC where they affect and strengthen alternatively weaken each other. He considers

⁴⁶ Edvinsson L. & Malone M.S. "Det intellektuella kapitalet"

⁴⁷ www.sveiby.com.au/IntangAss/CompanyMonitor.html Sveiby K-E, article "The Intangible Assets Monitor"

⁴⁸ Harvard Business Review, Jan-feb 1992 Kaplan R. S. & Norton, D. P., Article "The Balanced Scorecard - Measures That Drive Performance",

⁴⁹ www.sveiby.com.au Sveiby K-E, Articles "The Intangible Assets Monitor", "Intellectual Capital and Knowledge Management" and "The Balanced Scorecard (BSC) and the Intangible Assets Monitor"

⁵⁰ www.sveiby.com.au/IntellectualCapital.html Sveiby K-E, article "Intellectual Capital and knowledge Management"

⁵¹ Edvinsson L. & Malone M.S., pp 55

however that a strengthening of SC always strengthen the other parts of IC.⁵² This model advocates therefore a strong SC, for example through transformation from HC to SC.

3.2.1 The Navigator theory⁵³

When a company has realized that there is Intellectual Capital in the organization, the next step is to identify and describe it, and thereafter use it. Skandia AFS has developed a model called the Navigator to do this. It is a model with the purpose to show the organizations position, course and speed.⁵⁴ The model is holistic in the way that it connects all the parts of the IC to an entity. This is due to that Edvinsson and others consider that a value in the company is only created through teamwork between the parts of IC.⁵⁵

The model visualizes IC both to the external interested parties and for the company internally. Since this thesis mainly discusses the internal perspective the Navigator will therefore be illustrated mainly from an internal point of view, i.e. what the model implicates for the control of IC inside the company.

In the traditional accounting IC is not visible and in the worst scenario imaginable decisions can be made which counteract the creation and the development of the firm's IC. The Navigator shows how the IC is coherent with the Financial Capital and thereby links the traditional accounting together with IC-accounting.

3.2.2 The Navigator model

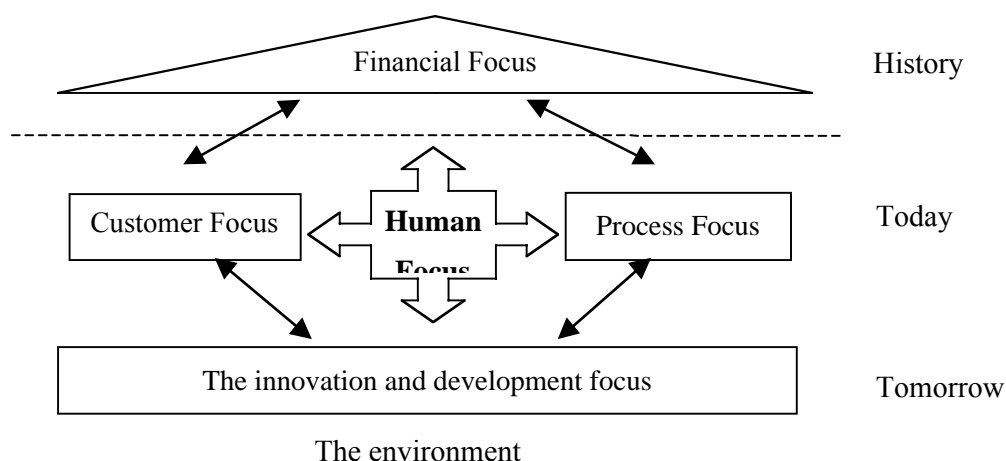


Exhibit 3.1 The Navigator model⁵⁶

The navigator model observes five different focuses that are the most important ones for the company's future. These focuses are *financial focus*, *customer focus*, *process focus*, *the innovation and development focus* and *human focus*. The company's future growth does not directly come from any of these focuses but through interaction between all

⁵² Edvinsson L. & Malone M.S., pp 174

⁵³ This section is based on Edvinsson L. & Malone M.S. "Det intellektuella kapitalet"

⁵⁴ Edvinsson L. & Malone M.S., p 93

⁵⁵ Ibid pp 174

⁵⁶ Edvinsson L. & Malone M.S., p 91

five. The task for the Navigator is to give information on how these parts shall be merged so they will strengthen each other in the best possible way.

The Navigator also shows the company's history and future.⁵⁷ The financial focus describes the history, i.e. those values that has been created so far through the conversion from IC to Financial Capital. Today's business is reflected in the customer-, human-, and process focus, while the future of the company is reflected in the innovation and development focus.⁵⁸

Indicators that best describe each focus in the company are taken out. These indicators differ from company to company. Generally what is demanded of the indicators are that they shall be relevant, precise, pedagogical and be possible to obtain information about. All of the indicators either measure numbers, amount or percentages of something.

Financial focus:

This focus indicates how much value the IC has created until a certain point in time. The financial focus emanates from the traditional accounting and the indicators show in different ways the firm's cash flows, i.e. revenues, costs and results. These indicators can then be complemented with more traditional key figures as value of refining, revenues per employee and investment in IT etc.

Customer focus:

This focus measures the part of IC that above have been called Relationship Capital⁵⁹, and especially the customer capital. Unlike the financial focus these indicators are more based on flows, i.e. Market shares, number of customers, number of lost customers and some sort of customer valuation, i.e. are they profitable or not?

Process focus:

This focus aims at the part of the SC previously named process capital⁶⁰. It shows how well the company's technology supports the company's value creation. An example of this focus are that many companies today are concentrating on building IT-structures. Important indicators can be number of computers per employee and IT-costs per employee.

The innovation and development focus:

This focus includes the rest of the SC, and has as a purpose to identify the company's future. It is not possible to completely foresee the future but in preparing for different situations the company can be well equipped and be able to use the future in best possible way.

Six different angles are of importance here according to Edvinsson:

- Customer relations
- The market attractiveness
- The products
- Strategically partners
- Infrastructure

⁵⁷ Edvinsson L. & Malone M.S., p.81

⁵⁸ See exhibit 3.1

⁵⁹ See section 2.5 about Relationship Capital

⁶⁰ See section 2.4.1 about Process capital

- Personnel

These indicators measure how well the company prepares itself for the future through product development and marketing etc. Important measures can be number of possibilities, cost for competence-progress per employee and marketing costs per customer etc.⁶¹

Human Focus:

All other focuses are dependent on the HC. This focus is the most difficult one to measure.⁶² Indicators that can be used are management index, motivation index, number of employees and number of managers etc.

The information that the Navigator gives for the decision-making must mainly be seen as an entity. The different parts interact in the value creation and must therefore be observed together. Improving the process focus does not necessarily imply any improvements in the company in general if no other focuses favor from the improvement.

3.2.3 The Navigator's usability

The Navigator visualizes the IC by measuring and describing it using the indicators. How this results shall be used in the company the Navigator however gives little or no guidance to.

One problem with the indicators is that many of them are more of estimations and includes therefore subjective valuations of the person that collects the information. When then all the indicators are in numbers it may send signals of accuracy and exactness that are not true. Edvinsson himself says that IC-accounting in text had been more accurate but also more difficult to use.⁶³ The corollary of this is that IC-accounting as presented by Edvinsson and Malone perhaps becomes too subjective and therefore too unreliable to make decisions from.

⁶¹ Edvinsson L. & Malone M.S., pp 143

⁶² Ibid pp 151

⁶³ Edvinsson L. & Malone M.S. p 73

3.3 Knowledge Management (KM)

3.3.1 The Knowledge Management Theory

In the KM-theory knowledge is the only real value in an organization. The success of a firm depends therefore on how well managed the knowledge is in order to gain maximum benefit from it. Knowledge is nothing we can control after given patterns but instead it is a flow which might be managed and controlled in a dynamic way. From this view it is obvious that knowledge is not storable in information systems because the information is only one part of the whole concept of knowledge. By storing knowledge we will lose the original knowledge-carrier's experiences and pre-understandings which are essential for the application of the specific knowledge.

One can see knowledge from two different angles, either as an object or as mentioned, as a flow. When one looks at knowledge as an object the main purpose is to find where the knowledge is in the firm and thereafter keep it. This point of view is quite similar to the above described in the Navigator. The main difference between KM and the Navigator is however that knowledge is not possible to store according to the KM-theory, and therefore it is not possible to protect.⁶⁴ When seeing knowledge as a flow the KM-theory sees the whole organization as an entity where the knowledge is dynamic and not possible to single out. According to the professor K-E Sveiby these two standpoints are complementary to each other and will help the firm in its effort to manage the knowledge. He expresses knowledge as "*the art of creating value from an organization's Intangible Assets*".⁶⁵

K-E Sveiby merges these different standpoints together and means that the first step for a company is to observe the knowledge inside its organization. This can only be done by looking at knowledge as an object possible to identify. The next step is to handle and manage knowledge as a flow, in order to make the knowledge accelerate in the organization and create profit.

Profits are only created by flows of knowledge through the organization.⁶⁶ The flow can consist of tacit knowledge or explicit knowledge. Tacit knowledge is knowledge connected to the specific individual or knowledge impossible to store, for example human values and cultural regulations. The explicit knowledge on the other hand mainly carries information and is therefore possible to store as information about old projects or as IPR.

3.3.2 The intangible assets monitor (IAM)

K-E Sveiby, a professor in Sydney Australia, has constructed a valuing model for non-financial values. He opposes the form of packaging knowledge that many other theories are trying to do. He considers knowledge to be a flow in the firm rather than something static. Knowledge consists of much more than what is possible to document as information in computer bases. Sveiby thinks that the tacit knowledge is essential and crucial for an organization in order to understand the character of knowledge. This is the part that must be increased in the process of creating new knowledge in the firm.⁶⁷

The Intangible Assets Monitor (IAM) is a method to measure non-financial assets and at the same time being a presentation that shows a number of relevant factors enabling measurements of the non-financial values. The model aims to be flexible and adaptable to the company's strategy in order to decide which factors that should be chosen.

⁶⁴ www.knowledgecreators.com/km/kes/kes1.htm Sveiby K-E, the online learning module for Knowledge Management

⁶⁵ www.sveiby.com.au/KnowledgeManagement.html Sveiby K-E, article "What is knowledge management"

⁶⁶ www.sveiby.com.au/IntangAss/CompanyMonitor.html Sveiby K-E, article "The Intangible Assets Monitor"

⁶⁷ www.sveiby.com.au/IntangAss/CompanyMonitor.html Sveiby K-E, article "The Intangible Assets Monitor"

“The monitor” must be easy to survey, concise and should not be more than one page. The company can of course attach a number of comments to the monitor to further explain each item in the monitor. It can also be used as a base when to formulate a system for management information or for the accounting.⁶⁸

The most important parameters as seen in the exhibit below⁶⁹ are the Growth/Renewal, Efficiency and Stability. The parameters shall consist of something that really shows the changes in the company’s business.⁷⁰ As said before it is important to adapt the monitor so it suits the specific company.

Intangible Assets Monitor		
External Structure	Internal Structure	Competence
Indicators	Indicators	Indicators
Growth/Renewal Profit per customer, Organic growth Image enhancing customers.	Growth/Renewal Investment in IT, structure-enhancing Customers.	Growth/Renewal Number of years in the profession, Level of education.
Efficiency Satisfied customers indexes, Sales per customer.	Efficiency Proportion of Support Staff Values/Attitudes Indexes	Efficiency Proportion of professionals.
Stability Proportion of big customers. Age structure.	Stability Age of the organization. Support staff turnover.	Stability Professional turn- over. Relative pay

Exhibit 3.2⁷¹ The IAM model

3.3.3 The IAM’s usability

In the IAM K-E Sveiby takes a different position in how to use and govern IC. He opposes the transformation of the HC and is as a consequence also against the building up of a large SC. The reason for this is that he believes all value creation is only made when humans’ interact within the organization and with other external parts. This different viewpoint from Sveiby focuses more on the dynamic nature of IC. Because of that it is interesting and must be taken into consideration. Nevertheless, I think he misses the essence of why to have and why to build up the SC. The building up of SC is not meant to replace the people’s creativity, instead it is supposed to give the firm a more secure and protected position in its industry. Because of the unwillingness of Sveiby to protect the IC in the organization it is needless to discuss IAM any further regarding the governing and protection of SC.

⁶⁸ www.sveiby.com.au/IntangAss/CompanyMonitor.html Sveiby K-E, article “The Intangible Assets Monitor”

⁶⁹ See Exhibit 3.2

⁷⁰ www.sveiby.com.au/IntangAss/CompanyMonitor.html Sveiby K-E, article “The Intangible Assets Monitor”

⁷¹ www.sveiby.com.au/IntangAss/CompanyMonitor.html Sveiby K-E, article “The Intangible Assets Monitor”

3.4 *The Balanced Scorecard (BSC)*

3.4.1 **The Balanced Scorecard theory**

BSC is a modern alternative in management control which concept is built on a more traditional economical management. It has its origin in the industrial mass-production era.⁷² Under the 1980th the business world became more interested in values others than just the short-term financial ones. This newly awakened interest was a consequence of large technical changes which took place in many of the traditional companies. Classic economical methods as budget and financial key-figures were not adequate to illustrate the present situation in a company. Some ideas that reflected this new perspective were the concept of Total Quality Management (TQM) and Business Process Reengineering (BPR).⁷³

As a logic consequence of the change in traditional management control, the professors R.S. Kaplan and D.P. Norton introduced in 1992 the concept of Balanced Scorecard.⁷⁴ In their article they stated that companies today not only need financial measures for the control, but also non-monetary measures to control the non-financial values in the company. The reason was to create a more adequate picture of the company. Another part that also needed to be considered was the external factors as they also affected the business strategy.⁷⁵ All of these parts seen together then resulted in the BSC-model. Nevertheless, according to Kaplan and Norton, the company was by itself still the value-creating unit. The human factors were therefore considered only to indirectly influence the business.⁷⁶ As a result knowledge and human skill are not part of their model.

3.4.2 **The BSC-model**

Kaplan and Norton's basic idea in creating this model is to bond the short-term management in the company together with the long-term vision and strategy. A number of key figures are to be chosen in the business, and these figures are thereafter to be the fundament for the company's tactic and operative control and management. The time perspective is the other central subject in BSC. The model consists of yesterday, today and tomorrow, where yesterday shows the results of the situations in business occurring today and tomorrow.⁷⁷

The company is divided into four different perspectives which are kept together by the company's strategy. The perspectives are *financial-*, *customer-*, *internal business-*, and *innovation and learning perspective*.⁷⁸

Financial perspective:

The financial perspective deals with aspects of the company's survival, growth and the relation to the owners. Measures which can be used are ROE or ROCE⁷⁹ etc.

⁷² See section 2.1.1

⁷³ These new views of the management control is aimed to continually improve the capacity of the organization, both by upgrading the competence and by effectuate the business. For further reading see Anthony R.N. & Govindarajan V., p 636ff and Samuelsson L.A., pp 313 & 498

⁷⁴ Harvard Business Review, Jan-feb. 1992, Kaplan, R. S. & Norton, D. P. The Balanced Scorecard - Measures That Drive Performance

⁷⁵ Ibid

⁷⁶ www.sveiby.com.au/BSCandIAM.html Sveiby K-E, article "The Balanced Scorecard (BSC) and the Intangible Assets Monitor"

⁷⁷ Harvard Business Review, Jan-feb. 1992, Kaplan, R. S. & Norton, D. P. The Balanced Scorecard - Measures That Drive Performance

⁷⁸ Harvard Business Review, Sept-Okt 1993, Kaplan R. S. & Norton D. P., Putting the Balanced Scorecard to Work

⁷⁹ ROE means Return On Equity and ROCE means Return On Capital Employed.

Customer perspective:

The customer perspective deals with the company's product quality and the delivering of goods. Measures which can be used are number of complaints or percent of defective deliveries from the company.

Process perspective:

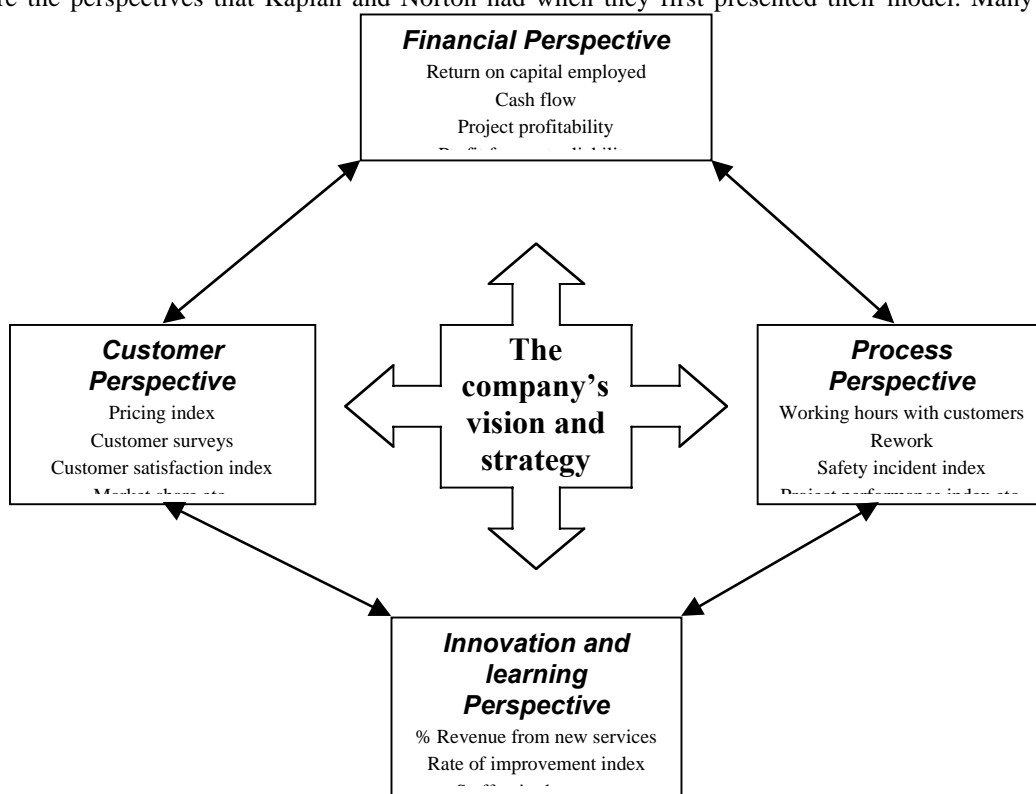
The process perspective deals with the company's production efficiency and the internal processes. Measures which can be used are the time to produce a product, cost per product etc.

Innovation and learning perspective:

This last perspective deals with the development of new products and competence progresses in the organization. Measures which can be used are number of hour of education per employee and number of product ideas per employee in the R&D department.

Exhibit 3.3 The BSC-model⁸⁰

These are the perspectives that Kaplan and Norton had when they first presented their model. Many companies,



which have adopted the BSC-model, have added new perspectives to adjust the model to suit its specific organization. The most common append is a human perspective where the focus is on the company's employees.

⁸⁰ Harvard Business Review, Sept-Okt 1993, Kaplan R. S. & Norton D. P., Putting the Balanced Scorecard to Work

The goal for the company is to have a good balance between the different perspectives. The meaning of a good balance differs of course between companies. BSC aims to be a model that helps the management to make decisions in what or when to invest to get the best result out of the business. BSC is however for most companies a strategic instrument where today and tomorrow are linked together with yesterday.

When using the BSC there are a few questions that have to be asked. These are:

1. What is our vision for the future?
2. How will we differ if we succeed with our vision?
3. What are the critical success factors for our company?
4. What are the critical measurements?

The answers of these four questions are then the foundation for the creation of a BSC.⁸¹

3.4.3 The BSC's usability

When using the BSC all of the firm's different parts and situations are linked together in one model. This makes it a powerful tool in the firm's strategic planning. There is, however, no direct focus on IC, and as a consequence it does not give the firm much guidance regarding the IC-governing.

BSC may give the firm a good and broad perspective on their business but it is almost of no use in the more detailed governing of the specific parts. It must therefore be complemented with other methods in the decision-making in specific issues, like the protection of the SC. The purpose of this thesis is to identify methods helpful in the protection of SC, and therefore may the BSC not bring much of value to this assignment.

⁸¹ An example of a BSC-model can we see in exhibit 3.3. From Harvard Business Review, Sept-Okt 1993, Kaplan R. S. & Norton D. P., Putting the Balanced Scorecard to Work

4 The governing process of Intellectual Capital

4.1 Introduction to the protection of SC

”To get a turbo on the efficiency of IC Human Capital must be converted to Structural Capital”⁸²

The main issue discussed by researchers in the field of IC is how to visualize the IC in the company. The three models above, the Navigator, the Intangible Asset Monitor and the Balanced Scorecard are all different contributions to this discussion. The next step in research must therefore be the study of how we can govern and use the IC, i.e. what resources do we have to our disposal in the company?

Governing assets, also the invisible, are nothing new and has been done for a long time. However, it has been done instinctively rather than consciously regarding IC since the phenomenon of IC has not specifically been paid attention too earlier. The concerns now for economic literature is to make the managers aware of the different ways there are to control IC.

In the remaining part of the thesis I will mainly discuss and focus on the methods and tools that companies can use to govern, protect, and control their IC, and particularly its SC. The first part of this discussion is to describe a method for companies how to find and gain control of the IC inside the organization.

Before a company can protect its IC, it first has to identify, then value and last decide how the resource shall be governed and used in the company’s business. Using a plan of action in how to govern the IC in the most efficient way may do this. The identification process could briefly be described as finding the hidden assets in the organization but also discovering what is missing. The valuation process consists of an estimation of the significance of what has been found earlier in the identification process related to a number of factors. The governing plan consists of how to govern the information that has been received in the earlier steps. After these three steps it is important to evaluate the results, and if necessary modify the plan of action. To be able to make a well-disposed governing plan the company must be aware of the other parts of IC, and in what ways the different parts interact. The model I will use to describe the development of a plan of action is my own but it has many similarities to a model used by Dow Chemicals Cooperation when they investigated and classified its patents.⁸³

⁸² Personal och ledarskap 1999-08-07, article ”Mätningar behövs för att navigera kunskapstillväxten”

⁸³ Sullivan P.H., pp 208. and Edvinsson L. & Malone M.S., pp 167

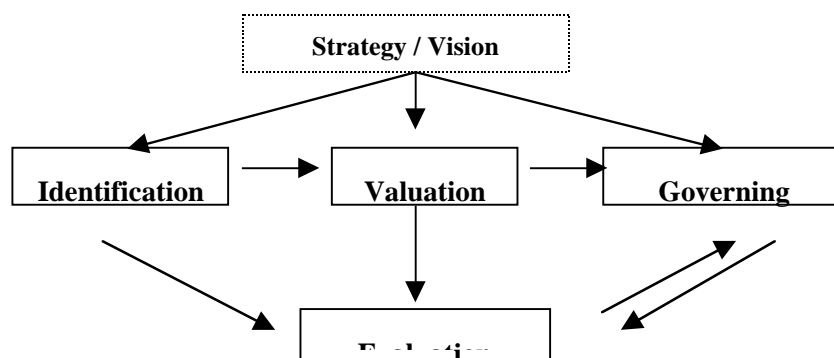


Exhibit 4.1 The governing process of IC

4.2 The identification process

In the identification process the Navigator, the Intangible Asset Monitor and the Balanced Scorecard can all be useful. Nevertheless these models do only show what different kinds of IC that exist in the company, but not where it exists.

Significant for the identification is that it shall be objective, without any values given to the outcome of the process. The reason for this is mainly to not miss anything in the search. The company's vision and business idea are to be the foundation for the search, and there is of course no need to investigate parts of IC evidentially outside of the company's vision.

4.2.1 Central questions regarding the identification

The questions to be asked depend on what sort of IC that is being investigated.⁸⁴ In section 2.4 I divided SC into process- and organizational capital, and these can be further divided.⁸⁵ When investigating SC the different parts of SC can be used as starting-points for the search. Information of interest might be:

- What does our IPR-portfolio look like? We have to consider how well our vision is protected by legal protections, patents, trademarks, copyrights etc. Are there any shortages in the portfolio?
- Which are the assets in the company that we cannot legally protect? This means identification of brands, reputation, quality-reputation etc. The following question is: can we affect these parts?
- Research and Development; How many new inventions come from R&D? Has R&D innovations generated any cash in history? How many innovations have come from other employees (i.e. not employees in R&D)?
- How do our computer bases work? Are they safe? Can an employee easy get information from them? Do the employees use them?

⁸⁴ In this thesis the SC is the one focused upon.

⁸⁵ See exhibit 2.1, the IC-table

- Our agreements; Do we have any agreements with our personnel, customers, suppliers and competitors? Are we participating in any larger network or strategic alliances?
- Our production; Are we efficient, comparing to our competitors? Do we have high quality in our products (or services)? Are our production facilities modern or old?
- The company's management; Do the management get through to the personnel with its directives? Is the management competent and capable to fulfill the company's vision? What competence and skills exist in the management group? Is these competence and skills coherent with the company's business?

These are some questions that can give the company a fair picture of its SC.⁸⁶ A corresponding list can be made for each area that is investigated. Regarding HC f e can questions about personnel's competence, work tasks for the employees or knowledge distribution in the organization be essential. The information gathered shall describe the objective strength as well as the objective shortcomings in the business. The identification process is to find unexplored assets in the company as well as discovering lacks in the company's present IC.

4.3 The valuation process

After the identification the next step in the company's analysis of its IC is the valuation process. Before going further, it might be said that a strictly financial estimation where each resource is given an absolute economical value is not what is meant with this valuation. Instead what is meant is a subjective estimation of the results from the identification. The valuation means that the results shall be placed in order of preference correlated to the significance it will have for the company today and in future.

All parts of the subjective valuation must be made with the company's strategy and business plan as the foundation. Compared with the identification step there is in other words a delimiter to the foundation for the estimation. This is to gain a clearer focus on what is the central issue for the company regarding the investigated IC. The subjective principle is a result of the fact that the company's management is now part of the process but also because it stills concerns mainly strategic decisions.⁸⁷

4.3.1 Central questions regarding the valuation

The first we do in the valuation process is a simplified SWOT-analysis⁸⁸ regarding the relevant area. We focus on the hidden shortcomings and problems existing and estimate which strength and possibilities that are hidden in the company's IC. In relation to this the company might make some estimations and predictions of possible future scenarios and the importance of the found or missing IC in these scenarios is pointed out. This is not made to predict the future but to give the company an awareness of what risks/possibilities that might be the case in the future.

Next step is to value the results from the identification process based on a number of different central concepts connected to the company's strategy and the results in the SWOT-analysis.

⁸⁶ The questions must of course be matched to one and each company due to its unique situation

⁸⁷ Even if it is a strategic decision it gives effects on the tactic and operative level. More of this in section 4.4, the governing of IC.

⁸⁸ SWOT stand for Strength, weakness, opportunity and threat. For a more detailed exposition of the concept refers to Kotler P. et al "The Principles of Marketing"

Examples of these concepts can be the resource's financial importance, technological value, level of innovation in the resource and how well it fits in the company's structure. Other parts that have to be given some attention are if there are any bottlenecks in the business, relations to the competitors and other external relations.⁸⁹

When the valuation above is finished, the company ought to make an order of preference over the resources where it specifically decides what priority the resources shall have in the process of governing. The resources might also be placed in a magnitude with different levels, f e very important, important and less important.

4.3.2 Comments about the valuation process

The parameters and results in the valuation will be the foundation for the governing process and it is therefore important to remember that it is impossible to entirely isolate one IC-part from the others in the valuation. As already been said they are dependent on each other and a change in one part often leads to unexpected changes in other parts. Even though, I do not think it is unachievable to divide them and estimate the parts separately, but done with an awareness of the parts interaction.

Finally, this process is not something that is done once and for all, on the contrary, it has to be done continuously and the decisions in the order of priority must constantly be reevaluated.⁹⁰ This might be costly and time-consuming, but the question is if it would not be even more costly for the company finding it being passed in technology or even run over by its competitors. This due to neglecting the management and control of the essence of the business, IC.

4.4 The governing process

When the first two steps in the process are taken it is now time for the company to decide how the information shall be managed. It is time to set up a plan of action concerning the affected part of the IC. In the choice of plan the company faces different alternatives associated to the character of the issue. In the specific case when a plan of action is to be chosen, it is usually preferable to choose a combination of different strategies instead of just one.

4.4.1 Different ways/strategies of governing the found IC

Regarding the SC there can be different ways in how to govern the resources. Later on in the thesis I will focus on which legal possibilities there is.⁹¹ Below there will be a number of different alternatives in how to govern and control the SC.

4.4.1.1 Transformation

The company can have as a strategy to transfer as much as possible of the other parts of IC, mainly the HC, into the company's SC. This may be useful since the employees can use information of knowledge which without the transformation only would have existed in one person. This strategy makes the company less vulnerable and dependent on key persons. The

⁸⁹ See section 2.5 regarding Relationship Capital

⁹⁰ See also section 4.4.2.5 about the evaluation.

⁹¹ See chapter 5-7

dependence on key persons will of course not disappear. Some in the literature even mean that it is unhealthy for the company to reduce the number of key persons.⁹² Nevertheless it is my strong opinion that it is always positive for a company to reduce its vulnerability. A prosperous company must not alone depend on a few persons existence.

Another good reason for transformation is that it will reduce the risks which is related to the HC. It is always a risk to have a large HC because it can go through the door when the day is over and never come back and it cannot work more than ten hours a day. SC on the other hand has qualities that can be used 24 hours a day.⁹³ This is true, but it is not a valid argument against all transformation, only some.⁹⁴

An argument often put forth is that all knowledge is not suitable for storing, and if it would be stored, many important factors and components in the knowledge would be missing, f e the pre-understanding and experiences.⁹⁵

4.4.1.2 *Incentive Structures*

Another way to keep the knowledge in the organization, but still in the form of HC, is to give the employees benefits if they stay in the company. The purpose of this, like the transformation, is to protect the firm from defections. These sorts of employment benefits are called incentive structures.⁹⁶ This could be a complement to the legal protection, or to the transformation regarding the part of HC that is not possible to transform.

Some people in literature believe economical incentives for the management and key persons are a crucial part in the development of IC in the company. In the US f e there are more possibilities to create incentive structures, as compared to Sweden, this because of the more favorable tax-regulations in the US. Small expanding firms can in the US give the employees stock options which do not have to be accounted as cost for the firm. This is for instance widely used by many companies in Silicon Valley and many agrees that these stock options are one of the major reasons for the business success in Silicon Valley.⁹⁷

4.4.1.3 *Legal Protection of the SC*

The most used protection when a company is trying to protect results from R&D is IPR. The main reason for this is probably the legal authority and power which the company can put behind its rights. When talking about IPR we usually think of patents, copyrights, trademarks, trade secrets and semiconductor masks.⁹⁸ In the next chapter of this thesis I will treat the IPR in more detail.

A protection of the company's inventions by patents is in general positive and profitable for companies. The same goes for trademarks and copyrights which are also important legal tools in the daily and strategic business. Even though, many inventions and resources can be protected in the "old fashion way" there will always be resources that cannot, f e brands, public impressions of the company, company culture, some trade secrets and production methods. Knowledge is

⁹² Personal och Ledarskap 1999-08-07 article "System för kunskapsstyrning inte värt jobbet"

⁹³ Computer Sweden 1999-02-01, article "När hjärnan blir viktigare än handen"

⁹⁴ See section 3.3.1

⁹⁵ www.knowledgecreators.com/km/kes/kes1.htm Sveiby K-E, the online learning module for Knowledge Management

⁹⁶ Anthony R. N. & Govindarajan V, pp 510

⁹⁷ Affärsvärlden 1999-06-02, article "SPECIAL: MANAGEMENT – Det nya kapitalet"

⁹⁸ Sullivan P.H., p 103

another area that is difficult for the company to legally protect. To some extent, however, this can be done using competition agreements with employees or actively using the act of Trade secrets, in Swedish called Företagshemlighetslagen (SFS 1990:409). Agreements with other companies and forgings of strong alliances can also be a way to protect knowledge, skills and non-legal protectable SC in the organization. Agreements and cooperation can even be a way for the company to increase its SC and knowledge by gaining access to associated company's SC and knowledge.

The protection of the company's IC, and especially the SC, in ways described above, is the main issue in the following chapters 5-7 of the thesis.

4.4.1.4 New investments in SC or the disposal of SC

In some situations there is a lack of knowledge or lacks in other parts of the company's IC. The company must in these cases sometimes invest in the missing part, especially if it is of strategic significance for the business. The investment can be done using Financial Capital to buy the missing part, f e patents or licenses to patents or other IPR. The company can as above-mentioned also join or create alliances or networks to cover the lack in the company's IC. Finally the company can invest in HC and increase the knowledge and as a result also increase the SC. The last alternative is however not always easy because investments in education do not always give anticipated results, and the shortcomings can still remain. Therefore is usually education alone too risky and the most effective way should instead be a combination of investments and education for the concerned personnel. To have a complete and useful patent-portfolio is today very important and might give the company a competitive advantage against its competitors. To erase the shortages in the IC is therefore vital, and has to be an important part for the management.

If the management finds that IC which has been found does not correlate to the company's strategy it can often be more profitable to dispose that part, usually by selling it. However, regarding IPR, they are often costly to maintain because of the maintenance fees, and companies can actually therefore save large amounts by disposing no longer useful IPR.⁹⁹

Many of the business disposals made during the last years have been made by outsourcing. Outsourcing means that the company sells a part of their business that not is part of their long-term strategy and therefore does not fit into the future company structure. Nevertheless the firm usually still needs the sold business unit's competence. To be able to use this competence they then make close agreements with the buyer. Instead of a cooperation group-relation they create a contractual relation.¹⁰⁰

4.4.1.5 Evaluation of the governing process

After strategy has been chosen and used it is good to do some sort of evaluation about the governing results. Did the company achieve the intended goals? Did the company succeed in protect and develop the SC as intended? What can the company learn till next time? The evaluation cannot give the company any clear explanations about what happened, but hopefully it

⁹⁹ Sullivan P.H., pp 106 One example of cost saving can be Dow Chemical Corp. They gained millions of dollar by not prolong its unused patents.

¹⁰⁰ Hansson J. & Andersson P.E., pp 100

can give some directives for the future. One must remember that IC is not something easy and precise and therefore it may be difficult to make correct financial evaluations.

4.4.2 Comments about the governing process

The governing and protection of IC are essential for a company. By using the order of preference stated earlier in the valuation process a company can prioritize what is most urgent and important. By using a mixture of the strategies above the company can hopefully reduce its weaknesses and take advantage of, and protect its strengths. By using the instrument that is at hand the company can gain a good position for the future and be equipped for possible changes at the market place.

Many companies today still apprehend the legal tools as something complicated and unnecessary and something which should only be used when everything else has failed. The managing and governing of a company's IC demand a totally different view of the matter. Today it is more important than ever to bind all resources as close as possible to the company by using business tools, and among these tools do the legal arsenal often play a significant part.

5 Legal protection of IC

5.1 Introduction

In this chapter I will discuss the possibilities that active protection of the company's IC by using legal tools can have. Focus will be in the protection of Structural Capital, and I will not go any further in how to protect the other parts of IC.

There are many different ways how to protect a company's SC. Using laws as a tool is one way, but there are possibilities in using other methods, mostly economical or psychological methods. I will here only discuss methods where law is a part of the protection.

5.2 Parts of SC possible to protect

The SC exists of process- and organizational capital. There are four different parts in the SC which can be observed. These parts are all vital for the firm and to some extent more or less suitable for protection by the use of legal tools.

These parts are:

- IPR and other intangible resources in the company.
- Results from R&D, including new knowledge and technology.
- The company's agreement and cooperation with other companies.
- The existing production and the process flows in the company.

The company has to make the three-step process explained previous in chapter 4 before deciding in what way the different parts are possible to protect by legal means. I.e the protection strategy is a part of the third step.

Fel! Ogiltig länk.

Exhibit 5.1 The different part of Structural Capital

5.2.1 Intellectual Property Rights

IPR are the most common and widely used type of Intellectual Capital and is therefore the part, in the past, most discussed in literature. Firms have during many years understood the importance of protecting its IPR. This goes in particular for large companies which often have had better financial resources to protect their inventions. It has nevertheless resulted in large and very costly IPR-portfolios for the firms, mainly consisting of patents. When IPR is discussed in the literature it is often described as an issue for the company's tactic management in a today perspective, i.e, it is a part of today's value-generating.¹⁰¹ This is in my opinion one important role for the IPR in the firm but this is not enough. I think companies will have a more strategic perspective in IPR-management in the future. This because of the interrelations there are between today's business and research and tomorrow's profits and market advantages.

¹⁰¹ Sullivan P.H., pp 103

5.2.1.1 Patents

A company can protect its invention by applying and receiving a patent for the innovation. A patent can be received for a specific product, but also for methods used in the production. Today we can see that computer software is becoming another issue for patents.¹⁰²

There are, however, some requirements that have to be fulfilled to receive a patent.¹⁰³ These are:

- Novelty; It has to be an innovation compared to what is already known.
- For industrial use; the invention has to have industrial use, i.e. the patent is for an industrial purpose.
- The invention has not become public before the application date. This is very important because if the invention has become public, even by mistake, it is no longer possible to receive a patent for the invention.

If the requirements above are fulfilled the firm can receive a patent which gives it a 20-year long protection that will prohibit others of making, using and selling the patented product/method without the patent owners approval.¹⁰⁴

The law that regulates Patents in Sweden is the Patent Act (SFS 1967:837).

5.2.1.2 Copyrights

All new literature and art creation becomes protected directly when they are made. There are, however, some requirements that have to be fulfilled to gain protection of copyright. These are:

- Novelty. The creator must be the first to make this creation. This means that copies cannot gain protection by the copyright regulation.
- It has to be a literary or artistic work or it can be a utilitarian ware with a specific form. Computer software has today also its protection by copyrights.¹⁰⁵
- The work has to be original, unique and independent. No one else should be able to do an exact copy without having seen the work before.¹⁰⁶

The law that regulates Copyrights in Sweden is the Act of Copyright (SFS 1960:729).

5.2.1.3 Trademarks and protection of the Firm name

By the registration of a trademark the firm can protect the names of its products. This is important especially when firms want to build up a good reputation regarding a trademark/product. It is therefore important to be able to protect the trademark from the use of others. Legal protection can be gained from registration or from a frequent use of the trademark.¹⁰⁷ The protection time continuous as long as the company uses the trademark in a good manner.¹⁰⁸ Trademarks are often used to protect a firm's brand and can therefore become a very valuable asset.¹⁰⁹

¹⁰² Some judgements in the Supreme Court in the US will probably lead to software patents also in Europe. See also Glazier S.C., pp 81. The patenting of software is today not possible according to the traditional IPR systems. However, many large firms are actively trying to persuade courts and legal systems to accept the patenting of software. This is because they consider the copyright as a too weak protection tool for the software. What will be the future scenario is impossible to say, but a qualified guess might be that the legal protection by copyright will be strengthened.

¹⁰³ Svensson C.A. et al, p 501 and Kotvegaard M. & Levin M., pp 196

¹⁰⁴ Kotvegaard M. & Levin M., pp 233

¹⁰⁵ In the protection of computer software a change is perhaps at hand where the protection will be received by patents instead of copyrights, or as a complement to copyrights. See also note 102.

¹⁰⁶ Svensson C.A. et al, pp 479

¹⁰⁷ Kotvegaard M. & Levin M., pp 299

¹⁰⁸ Kotvegaard M. & Levin M., p 349

¹⁰⁹ Brooking A., p 40

The law that regulates Trademarks in Sweden is the Act of Trademark (SFS 1960:644) and the law that regulates protection of the firm's name is the Act of Firm (SFS 1974:156).

5.2.1.4 *The company's intangible resources*

The other part of this subgroup, the intangible resources, is more difficult to have a grip of. They are not possible to protect using IPR because the intangible resource is too vague and non-precise. It is often difficult to identify intangible resources in the company. It consists of brands, reputation (that is possible for the company to influence),¹¹⁰ qualities, company cultures and sometimes in literature also the management style. The intangible resources may be called the company's concept and reputation and play a crucial role for the company in its relations with others. An Intangible resource does not of itself create any value, but by connecting it to other parts within the IC, it can multiply the value of the other parts.

One of the intangible resources is the brand. A brand is nothing more or less but the attributes that the customers connect to the product, f e Volvo's brand is safety and family friendly while Mercedes' brand could be luxurious and high quality. The brand is often the most important part in a customer's decision whether to buy the firm's product or a competitor's product.¹¹¹ It is therefore utmost valuable for the firm to protect its brands. A brand is, as mentioned, often connected to a trademark and is therefore often, to some extent, protected.

5.2.2 Research and Development

R&D are the company's future. Together with the company's HC it is in the R&D that the company's direction for the future is created and pointed out. The development of the next generation of products, the innovations that can open new market possibilities and the creation of the important IPR-portfolio¹¹² are in many ways created in this department.

R&D can be divided into two different parts, *the long-term research* and *the short-term research*.

The long-term R&D often consists of basic research projects where the priority is not to develop new and complete products or services. Instead it is to create and develop new inventions and solutions that in the future can be used and further developed into commercial products or services. This sort of R&D is important particularly for companies in advanced technological areas. It gives the company a larger foundation to work on and gives the researchers possibilities to find new discoveries. Long-term R&D do seldom generate any new patents or profits to the company which can be seen directly. Instead it gives the other part of R&D, the short-term research, better possibilities to develop inventive new products that will generate profits.

The short-term R&D are often based on the customers' demands or directives from the company's management. The aim for short-term R&D is usually to create one specific demanded product or service. The short-term R&D must often be rapid, and quickly generate new patents and products. At this stage in the innovation process it is crucial that

¹¹⁰ If the company cannot influence the reputation it is more likely to be part of the RC. They are very close linked together and a clear sectioning between SC and RC are difficult and are not, at this point, of any use for the company.

¹¹¹ Brooking A., pp 20

¹¹² See section 5.3.1 regarding the IPR-portfolio and the use of it in the company.

the long-term R&D is advanced enough to help the short-term R&D to create a product according to the existing demand.

5.2.3 Agreement and networks

A company has several agreements with different parties, f e employee contracts, contracts with customers, contracts with suppliers, cooperation agreements, IPR agreements and many more.

Some of these agreements I will develop below. These are:

- Employee contracts; The relation between the firm and the employees are often settled by contracts. The firm must have a good general view and knowledge of what is agreed and what rights the firm has to the employees' inventions, rights to demand secrecy from the employee etc. Another part of this relation is the incentive programs that are created for the employees. This is usually not a two-part contract but it is a binding commitment for the firm. The outcome of an agreement or a binding commitment is, however, very similar.¹¹³
- Contracts with customers; The relation with the customer can be on short-term, i e delivery agreements and purchase agreements. It can also be on long-term when the company interacts with the customer in product development and close cooperation to increase efficiency in the business. The companies can by this cooperation build up structures that together give them competitive advantages. (See more below regarding cooperation agreements.)
- Contracts with suppliers; The same as in the contracts with the customer. The difference is only that the company is on the other side of the agreement.
- Cooperation agreements; Two or more companies can cooperate with each other for efficiency or competition reasons. By interacting and linking the different steps in the production chain the companies can minimize the development and production time, cost, and increase the quality and at the same time minimize the costs.¹¹⁴ Today it is popular to forge strategic alliances. This is often the case when two companies are competent in two different close connected areas but the firms lacks competence in the other firm's area. The cooperation gives both companies a better position, a so-called win-win position. It can f e be one Research Company and one manufacturing company.¹¹⁵
- Business agreements; Agreements that is continuously needed for the ongoing business. It can be loan agreements, rental agreements or other ordinary contracts where the firm is a part.
- IPR agreements; It is for many companies important to be active in their IPR-strategy. In the firm's IPR-portfolio there is almost always IPR:s that can be licensed to others or IPR:s that has to be licensed to the company. Even the patent right is an "agreement" between the company and the patent office.

¹¹³ Incentive programs are not the issue for this thesis and will therefore not be treated any further.

¹¹⁴ This is a principle in JIT-production. More about this subject see Samuelsson L.A. (red) "Controllerhandboken" or Waters C.D.J. "Operations Management"

¹¹⁵ Samuelsson L.A., p 680

5.2.4 Production and process flows

By building up effective production lines in the business the firm can reduce both costs and quality problems. If a company has an effective system for how the information and knowledge shall be transferred and found in the organization by those who use it and need it, the business will be more smooth and efficient. It might also reduce the vulnerability of the company knowledge.

Another way to effectuate the process flow is by having a good production environment that both stimulates the employees and at the same time makes the production more flexible. Protection of processes in companies is important and can sometimes be done by different legal means, f e as mentioned above in section 5.2.1.1, production methods can be protected by patent.

Firm's production environment can also be used as a non-legal tool to protect resources. This may be the case when a firm has a production environment that is almost impossible to copy, or when the production is so efficient that no other company can compete with it.¹¹⁶ This angle of protection is closely connected to having advantage of scale, i e being able to lower the cost because of large batches in the production. It can, however, be many other reasons to why the production may be difficult to copy f e by geographical positioning or brand loyalty from customers.

5.3 Legal tools to protect SC

After the identification of four different sorts of SC, we may identify three different ways to use legal tools in the protection of these above-mentioned resource-groups in the company.

The different tools are:

- Different sorts of IPR. The most common one is patent. Other legal IPR-tools can be trademarks and copyrights.
- The contract. By contracting personnel and other firms you can have a good control over your business and be legally protected for intrusions by the other contractual parts. Another sort of contract is the licensee-contract which is or can often be a cash-cow for the company.
- Trade secrecy regulations. This includes both the Act of Trade secrets and internal secrecy regulations. It can consist of different secrecy agreement between the company and the employees or other companies. The last part is a combination using both the contract and the Trade secret regulation to protect the SC. The Act of Trade secrets (SFS 1990:409) has for a long period of time been seen in Swedish legal doctrine as a toothless tool without power. In recent years has, however, the Swedish courts in two cases made it clear that the Act of Trade secrets has importance and can generate large damages for the concerned.

The key issue for the company is to match the different parts of SC together with the right legal tool. By doing this a firm can strengthen and secure its position and at the same time continue to have good relations with its employees as well as to the firm's business partners.

¹¹⁶ Sullivan P.H., pp 116

5.3.1 Using IPR tools and strategies

Consideration	Patent	Copyright	Trade Secret	Trademark/ Firm
Scope of protection	Invention Excluding other from making, using, selling	Expression of idea Exclusive right to reproduce, distribute, display perform	Secret information Right to make, use, sell secret, & protect from use, disclosure	Goodwill Protects misrepresentation of source
Effective date	Patent application	Creation of work	Conception or receipt	Use or filing date
Requirements	Novel, non-obvious, useful	Original	Commercially valuable	Distinctive, non-descriptive
Vulnerability	Invent around, improvements	Independent creation	Independent creation, reverse engineer	
Duration	20 years (from application)	Author's life plus 50 years; or 75 years	Disclosure or independently developed	Perpetual if used correctly and policed
Cost	Moderate	Low	Low	Low
Maintenance cost	Moderate	None	Moderate	Moderate
Enforcement cost	High	Moderate	High	Moderate

Exhibit 5.2¹¹⁷ A description and comparison between different IPR

I have in chapter 2 and in section 5.2 explained and discussed the different sorts of IPR that exist in a company. In this section I will discuss the possibilities there are by using the IPR actively in the company.

When deciding if the company shall apply for a patent¹¹⁸ of an invention a few different questions can be asked.

- Will we receive a patent on our application?
- Will the patent generate any profits, i.e. will the income from the patent minus the patent fees be positive?
- Does the patent have any strategic strength or purpose?
- Is the company willing to protect the patent against infringements?
- Are there any better ways of protecting the invention?

¹¹⁷ Sullivan P.H., p 177. This scheme is after the American law but can in most cases be transferred to be useful also in other countries, including Sweden.

¹¹⁸ I will use the patent as an example of the use of IPR and in most cases there are the same procedures and questions for the other parts of IPR. The central part in the IPR-strategy is not whether the protection can be reached by registration or not, the most important question is instead if the firm can protect the product or service from infringements.

These questions among others will give the management a basis for the decision about the patent. Usually the decision can be one of three alternatives:¹¹⁹

1. Disclosure of the invention and thereby making it public
2. Apply for a patent
3. Keep it secret¹²⁰

5.3.1.1 *Disclosure of the invention*

The strategy of disclosure makes the invention impossible to patent. It therefore creates an open market where everyone can use the invention without restraints. This will only be beneficial for the disclosing company if it does not risk any costs or backlashes because of the disclosure. This may be the case when the company already has created the product's next generation and an increasing market for the product¹²¹ will also increase the potential interest for the company's new product line. Further it might prevent competitors to invest large amounts in research and development in this business segment because of the risks that the new inventions will not be patentable.¹²²

5.3.1.2 *Patent the invention in line with the strategic goals*

The decision to patent an invention should be made in line with the company's IPR strategy. An IPR strategy can consist of different goals for the company. The most common goal with IPR is to protect the company's products and business-line from infringements. This is called a defensive strategy and the focus is on how to prevent others from entering the market with competitive products.¹²³ A large part of this IPR-strategy is to protect related technologies and different applications for the invention. This is called *clustering*¹²⁴.

Another strategic goal can be to generate income for the company by assigning and licensing the rights to others. It can also include the creating of a bargaining portfolio which can be used in trade with other companies. This is a more aggressive strategy and the IPR portfolio is seen more as an useful asset to use as a tool in negotiations and cooperation with other companies.¹²⁵

The last strategic goal for a company can be to protect the company's present R&D by patenting inventions that are not yet ready for commercialization but which is expected in the future when reached the market to generate income.¹²⁶ This is a way to keep competitors behind and avoid the risk that someone else will protect a similar invention before the product is finished.

¹¹⁹ Glaizier S.C., p 5

¹²⁰ More about Trade secrets in section 5.3.3

¹²¹ By making lots of people use an invention or product the attention will be drawn to the new and improved product. An example of this can be many of Microsoft's products or even the principle of Shareware.

¹²² Brooking A., p 37

¹²³ Sullivan P.H., pp 104

¹²⁴ Sullivan P.H., p 123

¹²⁵ Sullivan P.H., p 105

¹²⁶ Glaizier S.C., pp 3

5.3.1.3 IPR protection

When a company decides to protect an invention they have to be prepared for different attacks from their competitors. The competitor might seek to make the patent invalid. Because of this threat it is essential for the company to keep records of the innovation process and to have clear rules how and when it can be demonstrated for the public for the first time etc.¹²⁷ Other companies might on purpose infringe the IPR. In this situation the owner of the IPR must be willing to protect the right and enforce the infringement, otherwise will the IPR have no value at all.

An accumulation of IPR has no purpose of itself and will not give the company any extra value, instead it will only accrue the company costs.¹²⁸ As we can see in exhibit 5.1 does most IPR cost to maintain and if the IPR is not useful any longer the management should consider terminate the IPR protection.

5.3.2 The Contract

When firms are seeking to expand, cooperation with other companies can be an important and powerful tool in order to gain access to new markets, products or customers. This sort of cooperation is often regulated by agreements between the parties. This is one reason why the contract is a valuable tool to use actively in the firm's business.

The contract plays an important role in the ongoing business where agreements are reached with licensees, employees, landowner etc. The general function of the contract is to give the contractual parties a guarantee that the other part will fulfill its obligations, i.e. the purpose with the contract is to limit the business risk. Nevertheless, at the same time a problem with the contract is that you cannot be entirely sure that the other part will hold the agreement, a firm can never completely control an agreement.

The agreement is almost always a two way street, which means in order to gain something the company will also have to give something. No one would enter an agreement without believing they would gain something out of it. It is possible to look at the contract from two different angles, the economic and the legal angle. To maximize the benefits of an agreement these two parts should interact as closely as possible.

5.3.2.1 The economic aspect of the contract

From an economic point of view the contract only exists because it is believed to increase the company's profit. The main reason why entering an agreement is to gain something. The contract is a part in an organization's effort to become stronger and more competitive. The contract can be short-term, focusing on an operative or tactic level, i.e. rental agreement, purchase agreement etc. It can also be long-term agreements that focus on a more strategic level, i.e. it can be agreements for strategic alliances, joint venture or the entering into networks.

5.3.2.2 The legal aspect of the contract

The legal aspect focuses on the contracting parties' rights and obligations. It is about using the contract as evidence in negotiation or litigation regarding some part of the agreement. The legal aspect does not have any significance until some disagreement appears between the parties. Still, this aspect of the contract is essential because the cost of damages in breaching the agreement can be very high. The legal aspect of the contract is not to be used until absolutely necessary, but when used it has to be used with power and strength. It should be something of a "joker in your sleeve", ready to be used when needed.

¹²⁷ Glaizier S.C., p 5

¹²⁸ Glaizier S.C., p 4 and Sullivan P.H., pp 106

5.3.2.3 *The protection aspect of the contract*

One part is at this moment obvious, the possibility to receive damages if the opposite party breach the agreement. But by using contracts when developing new products and services where secrecy is of utmost importance, it may also protect the company's knowledge inside the organization, i e inside the cooperating parties. This is done by binding the parties closer together, and as mentioned before, the contract may prevent one of the parties to breach it because of the large cost of damages it would mean.

A totally different angle of the contract as a protector of company resources is the strength against third party that an agreement of cooperation with strong partners could mean for the firm. This could f e mean that infringement of an IPR could be forced supported by the other parties in the partnership.

When using cooperation as a protection tool for IC something often forgotten in theory but widely used in practice is the inclusion of the firm's product or service together with other firms' products or services which give the customers a total concept to purchase. If this concept is competitive enough the firm's product in the concept will gain a protection because the increased value that the concept gives to the product. At the same time the use of the product without the inclusion in the concept might be small. Especially products not patentable may be protected by this method. This is often used in the marketing of software where different companies produce different parts of the software concept.¹²⁹ It is also very closely related to the principles of network.¹³⁰

5.3.3 **Secrecy Regulations**

A different way of protecting the knowledge and other resources in the company is to keep it secret. As mentioned earlier information about patentable resources must be secret until the patent application is filed. A problem for many companies may be the fact that it is only a small part of its SC which can be protected by IPR. The other part of the SC must therefore be protected by other means, and the protection by keeping it secret is the most common way. This is called the company's trade secret. A trade secret is a piece of information that is not known within the trade, i e no other company knows about the information.¹³¹

Inside the company there has to be very clear directives regarding what information and documentation that is secret and what is not. It is also important to have clear directives about who is authorized to use different parts of the business information. There are three different parts in the company's position that interact in the company's secrecy strategy.

These are

- Secrecy agreements with the employees and other business partners
- The loyalty obligation for the employee to its employer
- The Act of Trade secrets

¹²⁹ Most of the software presented by the large companies are produced in this manner.

¹³⁰ More about Network, see section 6.2.2

¹³¹ Brooking A., p 40

5.3.3.1 *Secrecy Agreements*

Having secrecy agreements with the employees is needed to be able to use the Swedish Act of Trade secrets. In the agreement it shall be stated which sorts of information that is classified and which sorts that can be disclosed.

In the relation with the business partner who might come in contact with secret information the secrecy agreement makes the situation more stable. A disclosure of the secret information by the partner would generate damages for the costs and losses for the affected contractual part.

5.3.3.2 *Loyalty obligation for the employees*

This thesis does not concern labour legislation but a few words have to be said about this issue. As a principle of the Swedish legislation and the employment agreement the employee has a duty to be loyal to his employer as long as the employment exists.¹³² This is a basic principle in the relation between the parts that is fundamental for the employment. If the employee violate his duty of loyalty he can be held responsible for damages and it is a reason for termination of the employment from the employer's side.¹³³

5.3.3.3 *The Act of Trade secrets*

Both of the above-mentioned parts are mainly complementary to the Act of Trade secrets and give the Act a greater impact when being used. When the attention has been turned to the importance of SC inside the companies the Act of Trade secrets becomes significant. This might be just the way to protect the knowledge and know-how in the organization that IPR and agreements cannot do.

The main purpose in having an Act of Trade secrets in the legislation is to prevent others from using a company's competence and knowledge even when it is not possible to protect by IPR. The reason for this is the same as it is regarding IPR. A company that has invented something shall also have the right to use it without infringement from others. This is for the benefit of innovations and creativity in the society in general.¹³⁴ By letting others use information received illegally, it would constrain investments in R&D etc.

To be able, according to the Swedish Act of Trade secrets § 1, to protect a company resource as a trade secret the resource has to be:

- Information, but it does not have to be in written form. Knowledge regarding company issues inside an employee's head can also be classified as a trade secret.
- concern the business or production behaviors in a businessman's business
- Information that the businessman keeps secret
- The disclosure of the information is meant to cause damage for the business as regards competition.

A company faces different sorts of threats in keeping the information secret. It can be industrial espionage from competitors, new competition from employees or former employees using

¹³² Fahlbeck R., p 94

¹³³ Cases related to the employees duty and responsibilities to his/her employer. AD 1982 no 9, AD 1986 no 95 and AD 1988 no 162.

¹³⁴ Fahlbeck R., pp 181

information achieved from their prior employment, and finally the abuse of information given to business partners. The Act of Trade secrets deals with all of these issues and gives collectively together with other secrecy agreements the company a reasonable protection if it is used properly.

Previously the problem has been the uncertainty regarding the interpretation of the Act. Because of this uncertainty many have considered the Act ineffective. Others on the other hand, have meant that just by having such a law abuse is prevented in these matters. Nevertheless it is obvious that there has been almost no case in the court according to this Act and therefore has the legal situation been unclear. In the last year, however, two Swedish courts, the Supreme Court and the Labour Court, have made rulings according to the Act of Trade secrets.

The first case was in the Supreme Court (HD) diary number T 1038-97, and was concerning the theft of a business idea from a probable future business partner.

A consult company presented its idea about cooperation between a school organization and a computer company under negotiations with the teachers' trade union. The parties made it clear that some cooperation according to the presented idea should be organized. Nevertheless the trade union did create a company and started this business on their own without the consult company's cooperation.

HD stated that the trade union had premeditatedly and unauthorized used the consult company's trade secret and was therefore held responsible for the damages.¹³⁵

So far there were no surprises in the verdict but when the Court should value the reimbursement for the company, they stated that also non-financial compensation could be included. The damage was estimated from the consult company's costs for the project but also from the trade union's profit. This did, according to HD not compensate the company enough so HD adjudged the company further reimbursement for non-financial damage. The total sum of the damages was 1,5 million SEK.¹³⁶

The other case was in the Swedish Labour Court (AD) (no 80/98). The case concerned three key-persons in a company which after leaving the company started a competitive business using knowledge about the previous employer's customers. AD stated that this was a breach both against the loyalty duty and against the Act of trade secrets. AD meant that information about customers was a Trade secret and the use of this knowledge, even after the employment had been ended, was prohibited. The three had to pay damages to the company. In the verdict the Court took no consideration whether the information and knowledge was in written or if it just was stored in the previous employees mind. The ruling would have been the same.¹³⁷

These two cases can teach us a few things about the use of the Act of Trade secrets. The expression "business or production behaviors" shall be interpreted quite broad. It covers the classical issues like production methods and business registers, but also business ideas, customer relations, marketing plans and even some memorandums. The question is if it does also cover

¹³⁵ HD (diary no T 1038-97)

¹³⁶ HD (diary no T 1038-97)

¹³⁷ AD 1998 no 80

unfinished products and development projects. My opinion is that the Act shall be interpreted very broadly and most of information regarding the business is protected. The Swedish Act of Trade secret has internationally been considered as indefinite and unreliable. Perhaps will these two cases change this attitude?

6 Creating values by using legal tools

We have now identified SC, and discussed how to use and protect it in the company. How can we now use these different sorts of protection to create values for the firm? This is the most essential question for a firm's management today and gives a reflection of the relation between the economic and the legal perspectives. In the following chapter the way in which a firm can create and increase its value of the IC by utilizing the legal structure will be brought up for discussion, and some examples will be given.

6.1 *Extracting values from IPR*

To generate values from the company's IPR both the cost-cutting and the increasing of income are important. We can divide the firm's value extracting in three parts, *the short-term, the midterm and the long-term extraction.*

6.1.1 Short term value extraction

In the short-term the firm has two possibilities to effectuate its IPR. These are the reduction of expenses for the IPR and the increase of the income from the IPR portfolio.

It costs to maintain a patent or other sorts of IPR. If the company does not have any use of the patent it is much better of selling it or letting it expire. This is done to stop unnecessary outgoing cash flows for the IPR.

A way to fast increase the firm's income is to license out IPR which is not being used or which is not taken full advantage of, f e by receiving royalty from a licensee on a market where the company does not compete. Another part of this is to audit if the licenses are paid accurately from the licensees in order to receive the fees in the right time and to the right amount of money.¹³⁸

6.1.2 Midterm value extraction

The main focuses on midterm value extraction are to increase quality, more actively use the IPR in business negotiations and expanding cooperation with other firms.

The firm must have a clear idea about what is important to protect, what is possible to protect and how to follow the decided business strategy for the IPR. All of these parts are to be evaluated in the business management and given consideration. This can be done by placing IPR by its importance for the firm, evaluate whether an invention might be patentable or not, and by giving clear directions to the company's R&D about which business area they shall focus upon in the research.

By giving the company clear directions for the future R&D the result will be a higher IPR-quality which hopefully may lead to a better position in negotiations with other firms. It also gives the firm's IPR a better protection, because with the aim to higher the IPR-quality it will bring a stronger and broader protection of different possibilities and applications for the use of the already existing patents, so called clustering. It can also mean taking advantage of

¹³⁸ Sullivan P.H., pp 106

other companies' patents by surrounding them with bracketed patents, i.e. patents needed by the main patent to be a commercial success.¹³⁹ All of these methods give the firm a stronger position that might be used in negotiations. It gives the firm clear directions about which agreements and cooperation that will be beneficial for the company.

6.1.3 Long-term value extraction

The essence of the firm's IPR is the R&D inside the company and the skill in foresee whether a product will be profitable or not. Here we are not talking about IPR in a general way but more about the intangible resources inside the company that can be developed into commercial products or services. At this point in the development chain the long-time research is essential for the creation of new profitable ideas. We could actually say that it is more about value creation than value extraction from a long-term standpoint.

The patent essential today might not be of any value in a few years time. A continuing idea-creation and evaluation about the firm's present IPR portfolio and the future IPR portfolio is the key to a long-term value extraction.

IPR used together with strategic alliances and trade secrets may give the company strength and a market position that gives them competitive advantages.

6.2 Contractual Agreements and Networking

Today it is very difficult to build up a strong market position without having some sort of cooperation with other companies. This is because of the hard competition company today faces. Every possibility to gain an advantage has to be taken, and today one of the most popular ways to gain advantages is to create close cooperation with others on the marketplace. *"If I have something they want, and they have something I want, why doesn't make an exchange?"*

6.2.1 Strategic alliances

In today's business world the pressure of firms are high from many parts and the owners' expectations sometimes may seem exorbitant. A firm must constant create new and innovative products and services, when at the same time control and minimize the costs and strengthen the market position. Just using the firm's internal resources cannot do this, so the firm needs help in accomplishing this. The solution is the forging of alliances with suitable partners.¹⁴⁰ An alliance is an agreement that aims to give the companies a win-win position. Together the companies will be more powerful than they would be as two independent firms. The strategic alliance often consists of an agreement between the cooperating parties saying that they will together accomplish a goal. The alliance is not in it self a creation of a new legal person, f.e a company, but often do the parties create some sort of legal structure which will regulate and accomplish the goal. Commonly used structures are joint ventures or new companies with shared ownership. An interesting issue for these new created companies is if the alliance partners have any legal obligations to the new company or not. The general opinion is that the new created company, or the joint venture, are subsidiaries to both the partners.

¹³⁹ Sullivan P.H., pp 123

¹⁴⁰ Halal W.E., pp 104

6.2.2 Network

Another way to effectuate the firm's business may be the joining of a larger network. A network is a collaboration of independent firms that have agreed to cooperate in order to be able to present a magnitude of different products or services, aiming to give the customer exactly what he or she wants for the moment.

A network can consist of firms in different positions in the production chain; f e different production companies cooperating with retailers. This is called a vertical network and the purpose is that each and one of the companies can do what they are best in and outsource the other parts to others in the network. Usually this implies that the firm shrinks its value-added processes and turnover but at the same time increases its profitability.¹⁴¹ Often does one major participant in the network play a dominant role and is in some way the core of the network. This is f e how the Just-In-Time production works.¹⁴²

A network can also consist of quite homogeneous companies active in different geographical areas. Here we are often meaning horizontal networks. The firms agree to sell the other firm's products as agents. This gives the participant firms a much larger market and at the same time expands its product-portfolio. This is a very common phenomenon in the financial sector.¹⁴³

6.2.3 Legal aspects

The change in business world influences at the same time the legal frames. Instead of, as before, gathering the business into one company group, firms today are dividing up the business in many independent firms, but at the same time do they create close cooperation by agreements. We are looking at a trend where companies used to be regulated by association laws now change into a situation where the contractual laws takes that place. This means that the control from the government is decreasing and the market becomes more of its own justice. When looking from a firm's position this must be remembered and taken into consideration, because this development will probably mean a countermove from the government where competition regulations will be much more important and used to regulate the players on the market.

A major legal problem in networks is the crosswise agency relation all companies are part of. Since the customer usually does not know which firm that is the opposite party it makes it difficult to know which firm who f e has responsibility for the purchased goods and future complaints.¹⁴⁴

6.3 *Secrecy Regulations*

What can the firm do to control its employees in a way that does not affect the personnel's trust and creativity? This is the main question needed to be asked and answered in order to be able to use secrecy regulation as a value-creating tool. The role of the firm must be active, and together with the employees create some guidelines for the company's secrecy.

¹⁴¹ Halal W.E., p 113f

¹⁴² Halal W.E., p 115

¹⁴³ Edvinsson L. & Malone M.S., pp 70

¹⁴⁴ Halal W.E., pp 113

6.3.1 Confidentiality programs

When managing a business the management must be sure the personnel know what is allowed and what is not. In creating and using a confidentiality program in the firm, information about projects, secrecy classifications etc shall be easy to understand.¹⁴⁵ The confidentiality program has as its purpose to collect important information and knowledge and from this design a suitable program. The program must not be too restrictive for the personnel because it might affect the creativity.

6.3.2 Active documentation

This is especially important for the R&D department. A constant documentation of projects and research results can be used as evidence both in litigation and negotiation. By having an active documentation the firm will have a more detailed control over projects in the present and the past. It may even decrease the vulnerability for the company if key-employees leave the firm because the information remains inside the firm. To actively document results and knowledge is nothing new-invented and was used already in the medieval as mentioned in section 2.1.

As mentioned above the documentation can be relevant in litigation and it might in the future help the firm to show IPR infringements and the unlawful use of Trade secrets.

6.3.3 Transformation from HC to SC.

When something, usually knowledge, has been transferred to SC it becomes, as mentioned earlier, an asset for the firm which may be governed in line with the firm's interest. Therefore it will be easier to protect and use it as an asset. This also means that information and knowledge, which have been transferred, may be used as evidence in litigation against former employees who have used this information after the employment's termination. This was the case in AD 80/98 as I reported above.

6.3.4 Secrecy restrictions inside the organization

Not everybody in the firm has to know everything that is happening. By minimize the accessibility to information for non-authorized personnel the firm might limit the risk of information leakage. However, this is a traditional and commonly used way in how to manage information, but in recent years many have strongly protested at this sort of secrecy. I must agree with the critics. This sort of management may restrain the creativity and sometimes it leads to that the same work is made twice or more. Instead the firm should try to let the information be as free as possible, there is of course a need for some limitations in the organization. But just by making the information a part in the company business it is protected as a Trade secret, i e if the information clearly is marked that it is secret inside the firm.

6.4 The value creation by protection, a firm's perspective

¹⁴⁵ Glaizier S.C., p 5

So far we have discussed the different parts separately. Now it is time to put the different tools together and see how the firm may use them together. This is easiest done in making a table showing the usage of the legal tools to protect the SC.

6.4.1 Relations between the legal tools and the SC

The firm's SC	IPR		Contract	Secrecy	
	Protection by IPR	May protect IPR	Protection by contract	Protection by secrecy	May protect the secrets
<i>Process flows</i>	Yes	Yes	No	Yes	No
<i>Alliances / Networks</i>	No	Yes	Yes	No	Yes
<i>Other agreements</i>	No	Yes	Yes	No	Yes
<i>IPR</i>	-----	-----	Yes	No	No
<i>Ongoing R&D</i>	No	Yes	Yes	Yes	No
<i>Finished R&D</i>	Yes	Yes	Yes	Yes	No
<i>Intangible resources</i>	(No) ¹⁴⁶	(Yes)	No	No	Yes
<i>Organizational Structure</i>	No	No	Yes	Yes	Yes
<i>Company culture</i>	No	No	No	No	Yes
<i>Secrecy</i>	No	Yes	Yes	-----	-----
<i>Personnel's loyalty</i>	No	Yes	Yes	Yes	Yes
<i>Personnel's knowledge</i>	(Yes)	No	(Yes)	Yes	No

Exhibit 6.1 Relations between the legal tools and the SC

The best way to use the tools is to make them interact and cover each other's shortcomings. As shown in exhibit 6.1 this can almost always be done with an active protection strategy in the firm.

From another aspect IPR can, and especially the IPR-portfolio, be a powerful reason for other companies to forge an alliance with the firm or develop new sorts of cooperation. "It is better to be able to choose than to be chosen".

6.4.2 Comments to the relation between legal tools and SC

It is not easy to make a table that will describe all different possibilities, and this is not even the purpose with this table. By looking in the left column we can identify different kinds of SC. The interaction between these and the three different legal tools are then described in the rest of the table. The parentheses indicate that these interactions are not easy to fit into the table. However, it gives the reader an overall picture of the different relations and how the firm might use their tools to cover all essential parts of the SC.

Now at the end of the thesis some interesting points can be made. The first is the increased importance for firms to govern and evaluate its SC. By doing this the firm can easier make decisions that will protect their assets, even the assets not protectable by laws. By having a more strategic view the firm can better prepare itself for the future and changes in the business life.

¹⁴⁶ The parentheses are to show that there are different ways of looking at it. It is not possible to give clear answers.

The second point is the interaction between the laws (the legal tools) and the SC. It is not only the laws that protect the SC. Also the SC contributes to strengthen the legal tools. This is made by different parts of the SC gives the firm a base on to build up the legal protection of the assets. And it even gives the legal protection, f e the trademark, a stronger position, f e by the brand. This interaction is good to be aware of and can give the firm advantages and a better understanding of why to take care of its SC.

The protection is a strategic task but problems and situations today are mostly on the operational level. This will however change in the future when, or if, the business world more frequently will use the methods similar to the ones described in this thesis.

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