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Accounting for Intangible Assets

- Relevance Lost?

Bachelor Thesis

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Abstract

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Title: Accounting for Intangible Assets – Relevance Lost?

Background and Problem Discussion: Intangible assets are getting more and more important to companies and their owners. The reason for this is that the economy has changed from being industrial to knowledge-based. It is no longer the industrial value chain that creates value, it is innovation and constantly seeking new ways of meeting market demands. Companies can no longer differentiate themselves or create competitive advantages without intangible assets. With increased importance of values in intangible assets, the need for financial information about companies has changed. However, current accounting systems have not been able to keep up with this development. Because of the uncertainty connected with intangible assets, accounting cannot capture their increasingly important value. Consequently, investors and other users of financial information are not provided with sufficient information to make good decisions. This poses the question whether relevance has been lost in accounting for intangible assets? Further, because of this possible loss of relevance, perhaps alternative approaches on reporting of intangible assets are needed?

Purpose: The main purpose of this essay is to discuss whether relevance in accounting for increasingly important intangible assets has been lost.

Method: To be able to discuss whether relevance in accounting for intangible assets has been lost, we have laid a foundation consisting of existing regulations of accounting for intangible assets, as well as literature and articles on the subject. Further, we have examined the accounting for intangible assets in two Swedish groups, AstraZeneca and the Volvo Group, in order to get a more practical view on the subject. The investigation of the two groups has been made by conducting interviews and studying their financial reports.

Delimitations: The discussion of this essay will be delimited to the accounting for intangible assets in big Swedish groups listed on the stock market. Consistently, the discussion will be based on the accounting regulations for intangible assets applied in these groups, namely IAS 38 – Intangible assets and IFRS 3 – Business Combinations.

Results and Conclusions: The lack in current accounting systems lies in the fact that it cannot capture all important intangible values. This results in traditional incomes statements and balance sheets being misleading to investors and other users of financial information. Further, because great values in intangible assets are kept hidden in today's accounting, investors are compelled to make difficult assessments about these values in order to make their decisions. However, we do not find the solution in taking all intangible assets into the balance sheet at any cost. The important qualities of today's accounting, such as reliability, cannot be jeopardized. Information about hidden intangible assets would therefore be better provided through some kind of alternative reporting. However, this kind of reporting has its errors in possibly being too subjective.

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Terminology and Abbreviations

In order to facilitate the comprehension of this essay we would like to start by defining some important terminology and abbreviations used in the text.

First of all, we would like to explain how the concept of intangible assets is being used in the text. The term “intangible assets” is, first of all, used when generally speaking of assets that are not physical in nature. However, in accordance to existing accounting regulations, which will be discussed later, all intangible assets cannot be recognized as intangible assets in a corporate balance sheet. Therefore, in some cases throughout this essay, the term “intangible asset” corresponds with the definition of an intangible asset applied by existing accounting regulations. This means that we refer to those expenses that meet the definition of an intangible asset and consequently is recognized as an intangible asset on the balance sheet.

In the other chapters of this essay we use both the wider definition of “intangible assets” and the definition of “intangible assets” according to regulatory standards. The reason for this is that, in many cases, companies have important intangible values that do not correspond with the regulatory definition of an intangible asset. As this essay later will establish, there exist situations where expenses, even though they are investments in intangible assets, do not correspond to the regulatory definition of an intangible asset. However, despite the fact that these expenses are recognized as costs instead of assets according to existing regulations, we will use the expression “intangible assets” when we discuss these values. An intangible asset could therefore, in a wider definition than that of accounting regulations, be described as a claim to future benefits that does not have a physical or financial embodiment. Thus a brand or a unique organizational structure that generate incomes or cost savings are even though they are not recognized in the balance sheet, in this wider definition, intangible assets.

Further, we use the expressions intangible assets, intangibles and intellectual capital interchangeably. In order to avoid any confusion, we would like to make it clear that these different expressions refer essentially to the same thing; a non-physical asset meaning a non-physical claim to future benefits.

Abbreviations

FASB	– Financial Accounting Standards Board
IAS	– International Accounting Standards
IASB	– International Accounting Standards Board
IFRS	– International Financial Reporting Standards
R&D	– Research and Development
SEC	– Securities and Exchange Commission

Chapter 1

Introduction

1.1. Background

Intangible assets are getting more and more important to companies and their owners. The reason for this is that the economy has changed from being industrial to knowledge-based. It is no longer the industrial value chain that creates value, it is innovation and constantly seeking new ways of meeting market demands.¹ Companies can no longer differentiate themselves neither create competitive advantages, without intangible assets.

In today's knowledge-based economy a company's intellectual capital, consisting of intangible assets, is much more important than its physical capital. It is the intangible assets that create value and indicate a company's future potential. Therefore, the value of a company can no longer be measured by the value of its physical assets, which becomes very clear when companies are being acquired today. The purchase-price does most often not correspond with the value of the acquired company's physical and financial assets, and further it is most probably not these that the purchaser aims to acquire. The purchaser aims to acquire the company's trademark, its customer relationships, and its organizational structure etc. The purchaser is willing to pay a higher price than the book value of the company's assets, because he wants to acquire the company's important intangible assets. For example, when Ford acquired Volvo Cars from the Volvo Group, the purchase-price was far higher than the value of Volvos factories and machines. The reason for that were intangible assets. Ford was prepared to pay for the right to use Volvo as a trademark, for Volvo's unique knowledge and reputation of producing the world's safest cars.

Thus, today the great values exist in assets that are one of a kind, that make companies unique. The problem is though to determine a value for these assets, since this value mainly exists as future potential of creating value. Further, as these intangibles by their nature cannot be seen or touched, they only exist as long as someone believes they exist, and they only have a value as long as someone can use them correctly together with other assets to create value.

With increased importance and values of intangible assets in today's economy the need for financial information about companies has changed. To be able to make the right decisions, investors need information about companies' all assets and debts, incomes and costs. They need information to be able to estimate the company's future potential. For most investors the only source for this kind of information is companies' published financial reports. The question that therefore needs to be asked, is whether these reports provide the investors with relevant and complete information?

In providing financial information companies have to comply with accounting regulations. However, with today's accounting regulations, complete and relevant information about a company's assets cannot be provided. Existing accounting systems are not able to capture the important values of intangible assets to a satisfactory extent. As a result, it has now become obvious that the real economic values of most companies are not reflected in traditional accounting.² A corporate balance sheet, prepared according to generally accepted accounting principles, does a reasonable job informing about the physical assets and financial capital

¹ Daum Juergen, 2001 (a)

² Edvinsson Leif and Malone Michael, 1998

employed by a company. But when it comes to the increasingly important intangible assets of corporate enterprises, it provides next to no insight.³

One of the major problems with today's accounting systems is that they are still based on transactions such as sales. In the current knowledge-based economy much of the value creation or destruction precedes the occurrence of transactions. For example, a successful development of a drug creates considerable value, but actual transactions, such as sales, may take years to materialize. Until then the accounting system does not register any value created in contrast to the investments made into R&D, which are fully expensed. This difference between how the accounting system is handling value created, and is handling investments into value creation, is the major reason for the growing disconnect between market values and values in financial information.⁴

Therefore, since the accounting has not been able to follow the development of the economy, book values of companies have become less relevant. The editor of Forbes ASAP said, already in 1993, that "the book value as a measurement is dead, a remnant of the industrial era. In today's informational era, human intelligence and intellectual resources are every company's most important assets, but society still miss an appropriate method in measuring these".⁵ Because of this, there no longer exists a connection between a company's book value, the one that appears in the balance sheet, and a company's market value, the one that represent investors' expectations. The difference consists of hidden intangible assets.⁶ During the past twenty years, the gap between values of companies in their balance sheets and investors' judgements of these values has been widening.⁷ The reason for this is that investors have become aware of the lack of information in traditional financial reports; they presume great hidden values in intangible assets.

The fact that the increasing importance of intangible assets is not reflected in existing accounting systems has resulted in an additional information asymmetry between the companies and their investors. This additional information asymmetry results in greater injustice between small, private investors and skilled investors with further knowledge and experience. The lacking accounting for intangible assets demands from investors to be able to make their own judgments and analysis of hidden values and companies' future potential. Consequently, when all shareholders are not provided with the same necessary information the probability of more investors making wrong decisions increases, which add negative affects to the functionality of the economy. Since investors by the books cannot recognize companies' future potential to create value, capital will not as easily flow to sectors of the economy with the greatest potential of creating this value. Thus, an economy that cannot measure its value properly, can neither allocate its resources properly.⁸ This is why accounting for intangibles currently has become more important than ever.

³ Daum Juergen, 2001 (b)

⁴ Daum Juergen, 2002

⁵ Karlgard Rich, 1993

⁶ Edvinsson Leif and Malone Michael, 1998

⁷ *Statement by Keith Bradley*, Edvinsson Leif and Malone Michael, 1998

⁸ Edvinsson Leif and Malone Michael, 1998

1.2. Problem Discussion

The most important purpose of accounting is to overcome information asymmetry. This purpose can no longer be fulfilled because of existing accounting systems being unable to capture the increasingly important values in intangible assets. The problem is whether it is possible to create a system that allows intangible assets to be reported in accounting? And further, if it is not possible, by which other means can companies provide relevant and more complete information to their investors?

Further it can be discussed, whether it really is more relevant for investors that companies' all intangible assets are included in financial reports, since it is of essential importance that information provided through accounting is reliable? The problem with accounting for intangible assets is that great uncertainty often is connected with their values, which makes it difficult to account for them reliably. Existing regulations demand of companies being able to identify, separate and value their intangible assets to allow them to account for these in financial reports. But how to separate intangible assets, when these most often only create value in combination with other assets? How to identify intangible assets when they cannot be seen nor touched? How to know that intangible assets really exist when they only exist as future unknown value? Further, if intangibles cannot be separated nor identified; how can they be given a reliable value?

Thus, as most intangible assets neither can be identified nor valued reliably, how to be certain that their accounted values are correct? Consistently, where is the relevance in possibly inaccurate and further probably subjective information? The probable subjectivity is another side of it. Since the valuation of intangibles must be made by the companies themselves, the probability that these judgments are subjective is rather great. Another problem with accounting for intangibles is thereby added; how to ensure that judgments and valuations made by companies are objective and correct? Currently, this is the task of auditors. The task of auditors is to bring objectivity and reliability into the accounting systems, by giving an external opinion on companies' judgments. The problem is how auditors possibly could have the knowledge of deciding whether companies' valuations of intangible assets are correct, when this is not even possible for the companies themselves? Consequently, what relevance would values of intangible assets in accounting systems really provide to investors? Maybe, the best solution is not to take intangible assets into the accounts? Maybe, the problem of giving investors information about companies' intangible assets must be solved in an alternative way?

1.3. Purpose

The main purpose of this essay is to discuss whether relevance in accounting for increasingly important intangible assets has been lost.

In reaching the main purpose of this essay, we have certain partial purposes. A first partial purpose is to describe the existing accounting for intangible assets. With this purpose we aim to examine how accounting for intangible assets is regulated, and further which problems that are connected with accounting for intangible assets. We also aim to describe how existing accounting systems lack in providing relevant and complete information about a company's value.

Our second partial purpose is to examine why companies should engage in alternative reporting for intangible assets and how such alternative reporting could be designed. With this purpose we aim to examine how alternative reporting for intangible assets may be a way to overcome the additional information asymmetry created by existing accounting systems not being able to capture important intangible assets.

Our third and final, partial purpose is to examine how accounting for intangible assets practically is being handled by companies. Furthermore, we aim to discuss the problems being experienced by companies in accounting for intangible assets, as well as companies' view on alternative reporting of intangible assets. However, we do not aim to carry through a complete study of this; the purpose is rather to make an illustration by using some examples.

1.4. Method

First of all, to be able to discuss whether relevance has been lost in accounting for increasingly important intangible assets we needed to lay the foundation for such a discussion. According to us, such a foundation should treat different approaches on accounting for intangible assets.

A first important part of the foundation for discussing accounting for intangible assets is existing accounting regulations for intangible assets. An overview and understanding for such regulations is, according to us, essential to be able to discuss which problems and scarcities that exist in accounting for intangible assets. Therefore, we began our research by examining how accounting for intangible assets is regulated. We went through the current regulations for accounting for intangible assets, and outlined the most important parts of these regulations. In this essay, we have chosen to focus on how intangible assets shall be reported in Swedish groups listed on the stock market. The reason for choosing listed groups is that those to a broader extent possess important intangible assets. Further, the problem with decreasing relevance in accounting for intangible assets, described in the background and problem discussion, mainly refers to listed companies. There is in these companies that the discussion of hidden intangible assets is noticeable, because of the widening gap between book and market values. The regulations applied by these groups are the IFRS, the regulatory standards of the IASB, and consistently we have outlined the regulatory standards treating accounting for intangible assets namely IAS 38 – Intangible assets and the parts concerning intangible assets of IFRS 3 – Company acquisitions.

After having treated the regulations for accounting for intangible assets, we examined the problems connected with this accounting. This has been done by pointing out problems described in the framework and regulatory standards of the IASB. Further this examination was conducted by searching for opinions and experiences from accounting experts in literature and articles. The search for articles was made in databases of financial journals. The result from this search further gave us several, frequently recurring names on experts, which were used in searching for appropriate literature for our purpose. We also aimed to describe how existing accounting systems lack in providing relevant and complete information about a company's value. This was made by taking those previously found scarcities and problems in accounting for intangible in consideration. We also gave attention to important facts presented in chosen literature and articles.

With this kept in mind, a second important part of our foundation became to look at possible solutions to problems in accounting for intangible assets, what companies could do in order to provide investors and other stakeholders with more information. We found that alternative reporting of intangible assets could be the solution of the problem that sufficient information is not provided in accounting for intangible assets. Therefore we began to examine why companies should engage in alternative reporting and further the purpose of such reporting. This examination was made by reading articles written by spokesmen for alternative reporting, and therefore we are aware that this information may be subjective. We also examined how different kinds of alternative reports could be designed by searching for already existing models of such reporting. Thereafter, we chose one of these reporting models, the Skandia Navigator, to examine more thoroughly. This was made in order to more illustratively show how alternative reporting of intangible assets could be designed. The reason for examining the example of Skandia more thoroughly is mainly that Skandia became a pioneer by introducing a model for alternative reporting of intangible assets. In being a pioneer, Skandia has inspired many other companies in creating models for reporting for their intangible assets and that is what makes the “Skandia Navigator” especially interesting.

After having acquainted ourselves with theoretical references, we found it appropriate to expand our foundation for the following discussion with an examination of how accounting for intangible assets practically is being handled by companies. We began by carrying through an initial investigation of the most known listed Swedish groups. By this initial investigation we researched these groups’ intangible assets with the intention to select interesting examples to treat more thoroughly. We finally chose the Volvo Group and AstraZeneca because we found these groups and their intangible assets interesting to study. The success of AstraZeneca depends a lot on intangibles such as research results and patents on these results, and Volvo possesses important intangibles in its well-known brand. Therefore we found it interesting to be able to consider their opinions and experiences concerning accounting for intangible assets in a following discussion.

We began our examination of these groups by examining the intangible assets appearing in their balance sheets, and continued by studying their accounting principles for intangible assets. In order to examine the importance of the intangible assets in each company, we calculated the intangible assets share of total non-current assets as well as of total assets. We also calculated goodwill and other intangible assets share of total intangible assets in order to determine which intangible asset that is most important, from the accountant’s point of view. The accounting principles were examined in order to see how accounting regulations practically have been applied by these groups. This first part of our examination was based on information from the two companies’ annual reports and their websites. However, in order to get a further comprehension of how accounting for intangible assets practically is being handled we carried through interviews with accounting responsables from the two companies.

The interview at the Volvo Group was made after having contacted Mikael Hagström, the Volvo Group’s Director of Group Accounting, through a contact at Volvo Trucks named Aleksander Ratz. In preparing the interview, we put together a number of questions divided into certain categories. The questions were initially about the intangible assets shown in the Volvo Group’s financial reports. We wanted to know how important these are to the Volvo Group, and further if Mikael Hagström is of the opinion that the Volvo Group’s total value in intangible assets is well reflected in its accounting. Furthermore, we wanted to examine which problems Mikael Hagström experiences in accounting for intangible assets, as well as his view on “hidden” intangible assets. Does he mean that the Volvo Group possesses such

assets, and in that case, how important are they to the Volvo Group? Further, we wanted to know if he experiences any problems with the fact that many important intangible assets cannot be captured in accounting, and his view on alternative reporting of intangible assets. Finally, we wanted his thoughts on the great difference between book values and market values, both in general and more specifically for the Volvo Group. Our intention with questions prepared was, though, to get going an open discussion rather than to get short answers on all questions. We wanted to get Mikael Hagström to talk freely about his view and opinions on accounting for intangible assets. The reason for our open question was that we wanted more detailed answers, and we wanted to avoid missing out on important information because of too abrupt questions. This succeeded very well. Mikael Hagström actually answered many of our questions without us having to pose them. The answers we got corresponded well to previously read theory, but gave us, as we wanted, a more practical and perhaps more realistic view on accounting for intangible assets. Furthermore, the answers we got from Mikael Hagström were very rewarding and gave us important aspects to our following discussion.

The interview with AstraZeneca was conducted differently. After a first contact with the Director of Accounting at AstraZeneca in Mölndal, we were informed that the appropriate person to take contact with was Leif Johansson, expert on accounting for intangible assets. However, Leif Johansson is operating in Södertälje, where all the accounting for AstraZeneca's intangible assets is centered. Therefore we agreed with Leif Johansson, after having discussed our main questions, that the best solution was to carry through an interview via e-mail and if necessary a complementary telephone interview. We put together a questionnaire based on the same kinds of questions posed to the Volvo Group. In putting together this questionnaire we tried to design the questions openly to avoid getting too abrupt answers. However, we were aware of the fact that this is harder to attain via e-mail, and further we had to prepare an exhaustive questionnaire in order to actually get answers on all of our questions. Further, we were aware of the fact that our quite detailed questions also could be leading to more narrow answers but we were able to use the experience gained from the interview with Mikael Hagström. The mail interview with Leif Johansson was very successful. Even though the answers, as anticipated, were short, they were very significant.

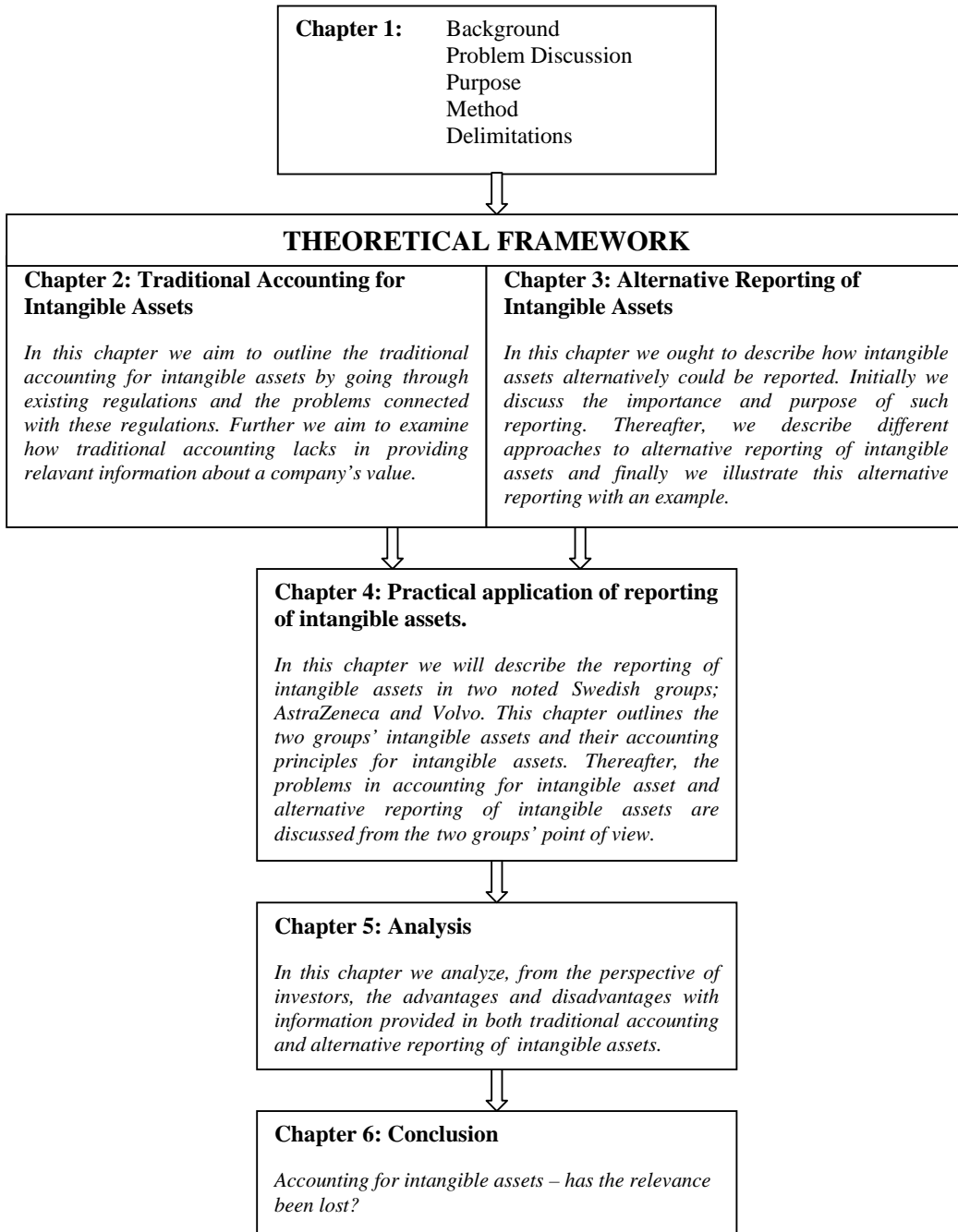
We want to make it clear that our examination of how accounting for intangible assets practically is being handled by companies does not provide a complete overview. However, this was not our purpose, neither our intention. We intended to exemplify the problematic in accounting for intangible assets by using some interesting companies from our point of view. Our examination shall therefore be seen as a pilot study on this area, and that our results do not give us the possibility to generalize.

After having gathered all this information, previously described, we found ourselves having a good foundation for a following discussion. In analyzing the results and facts collected, we approached our main purpose; to discuss whether relevance in accounting for intangible assets has been lost. Our analysis took the perspective of investors and other users of financial information, and we discussed the advantages and disadvantages with both traditional accounting and alternative reporting systems. The reason for this is that relevance in accounting, from our point of view, is relevance for investors and other users of financial information. Finally, after having discussed and analyzed we reached our conclusion and answered the question in the title of the essay: Accounting for intangible assets – Relevance lost?

1.5. Delimitations

The discussion in this essay will be delimited to the accounting for intangible assets in big Swedish groups listed on the stock-market. Consistently, the discussion will be based on the accounting regulations applied by those groups. Since January 2005, Swedish groups have to apply with the regulatory standards of the IASB. In this essay we will describe and discuss the accounting standards developed by IASB to regulate accounting for intangible assets. Consistently, the standards discussed in this essay will be IAS 38 – Intangible assets and the parts of IFRS 3 – Business Combinations concerning intangible assets.

1.6. Disposition of the essay



In this chapter we aim to outline the traditional accounting for intangible assets by going through existing regulations and the problems connected with these regulations. Further we aim to examine how traditional accounting lack in providing relevant information about a company's value.

2.1. Definitions

Intangible assets are assets that are not physical in nature, and the first things that come to mind when thinking of intangible assets are most probably those commonly recognized intangibles such as brands, patents, and different kinds of licenses. However, intangible assets are also those less obvious ones, such as trained and assembled workforces, organizational structure, company culture and customer relationships. Even though all these intangible assets are very different from each other they all have one thing in common: They create value for a company and their strength decides a company's future potential of creating value.

However, as valuable as all these intangible resources may be to a company, all of them cannot be recognized as assets in a company's balance sheet, neither be considered as assets according to the regulations of the IASB. In the IASB's "Framework for the Preparation and Presentation of Financial Statements" three recognition criteria are stated that must be fulfilled for a resource to be recognized as an asset⁹;

- *The resource must be expected to generate future economic benefits to the enterprise.*
- *The resource must be controlled by the enterprise.*
- *The resource must be the result from past transactions of other past events.*

Further, for an asset to be recognized in the balance sheet, additional recognition criteria are demanded. Those are formulated as follows¹⁰:

"An asset is recognized in the balance sheet when it is probable that the future economic benefits will flow to the enterprise and the asset has a cost or value that can be measured reliably."

Furthermore, the specific definitions for intangible assets are to be found in the IAS 38 – Intangible Assets. According to the definitions in this standard, an intangible asset must:

- *be identifiable*
- *be controlled by its owner*
- *be able to generate future economic benefits*

An intangible asset must be identifiable to distinguish it from goodwill.¹¹ Goodwill is an intangible asset acquired in a business combination that represents a payment made by the acquirer in anticipation of future economic benefits from assets that are not capable of being individually identified and separately recognized. Further, an intangible asset meets the identifiability criteria when it is separable or arisen from contractual or other legal rights. For an intangible asset to be separable it must be capable of being separated or divided from the

⁹ Smith Dag, 2000

¹⁰ IASB, Framework for the Preparation and Presentation of Financial Statements, § 89

¹¹ IASB, IAS 38, § 10

entity and sold, transferred, licensed, rented or exchanged, either individually or together with a related contract, asset or liability.¹²

As to the criteria of control, an entity controls an asset if the entity has the power to obtain future economic benefits flowing from the underlying resource and to restrict the access of others to those benefits. The capacity of an entity to control the future economic benefits from an intangible asset would normally stem from legal rights that are enforceable in a court of law. However, legal enforceability of a right is not a necessary condition of control.¹³

An intangible asset must, as previous mentioned, be able to generate future economic benefits. The future economic benefits flowing from an intangible asset may include revenue from the sale of products or services, cost savings, or other benefits resulting from the use of the asset by the entity.¹⁴ For example, the use of intellectual property in a production process may reduce future production costs rather than increase future revenues.

Even though an enterprise can define intangible assets according to these criteria, it may not be able to recognize them in the balance sheet. For an intangible asset to be recognized in accounting it must be probable that the expected future economic benefits that are attributable to the asset will flow to the entity, and further that the cost of the asset can be measured reliably.¹⁵

2.2. Regulations

Accounting for intangible assets is regulated in IAS 38 – Intangible Assets. The effective date of IAS 38 is July 1, 1999. However, the standard was revised March 31, 2004 as a part of the IASB project on business combinations. The project's objective was to improve the quality of, and seek international convergence on, the accounting for business combinations and the subsequent accounting for goodwill and intangible assets acquired in business combinations.¹⁶ The first phase of this project resulted in the Board issuing simultaneously IFRS 3 – Business Combinations and revised versions of IAS 38 and IAS 36 – Impairment of Assets. As intended, the Board's revising of IAS 38 only reflects those changes related to its decisions in the Business Combinations project, and it does not involve any reconsiderations concerning other requirements in IAS 38. IFRS 3 was issued by the Board to fulfil the objective of the project, i.e. to improve the quality of the accounting for business combinations. Since a great part of an enterprise's recognized intangible assets most often is goodwill, and other intangible assets acquired in business combinations, the parts of IFRS 3 concerning intangibles will be treated later in this chapter.

2.2.1. IAS 38 – Intangible Assets

The objective of IAS 38 is to prescribe the accounting treatment for intangible assets that are not dealt with specifically in another IAS. The Standard requires an enterprise to recognize an intangible asset if, and only if, certain criteria are met. The Standard also specifies how to measure the carrying amount of intangible assets and requires certain disclosures regarding

¹² IASB, IAS 38, § 12

¹³ IASB, IAS 38, § 13

¹⁴ IASB, IAS 38, § 17

¹⁵ IASB, IAS 38, § 21

¹⁶ IASB, 2005

intangible assets.¹⁷ IAS 38 applies to all intangible assets other than financial assets, mineral rights and exploration and development costs incurred by mining and oil and gas companies, and intangible assets arising from insurance contracts issued by insurance companies. Further, IAS 38 does not apply to intangible assets covered by another IAS such as intangibles held for sale, deferred tax assets, lease assets, assets arising from employee benefits and goodwill. Goodwill is, as previously mentioned, covered by IFRS 3 and that will be treated later in this chapter.

Initially, IAS 38 states the definitions of intangible assets and the recognition criteria for these to be recognized in an enterprise's balance sheet, mentioned previously. These definitions are crucial, as they decide whether a specific object should be treated according to the regulations of this standard. An intangible asset shall be measured initially at cost. However, the cost of an intangible asset is not always easy to measure. Further, the problems of measuring the cost of an intangible asset differ as to the way the asset has been acquired. According to IAS 38 an intangible asset can be acquired:

- *by separate acquisition*
- *by acquisition as part of a business combination*
- *by acquisition by way of a government grant*
- *by exchange of assets*
- *by internal generation (self-creation)*

Thus, one can divide intangible assets into two main groups; intangible assets acquired by acquisition and intangible assets acquired by internal generation. Because of the difference in how they have been acquired, the identification and measurement of their cost must be treated differently. The identification of separately acquired intangible assets causes few problems since the identification already has been made in order to carry out the purchase. The cost of a separately acquired intangible asset can usually also be measured reliably¹⁸, since there exist a purchase price for the specific asset. Normally, the price an enterprise pays to separately acquire an intangible asset reflects the expectations about the probability that the expected future economic benefits embodied in the asset will flow to the entity. Thus, the effect of probability is reflected in the cost of the asset and therefore the probability criterion of § 21 (a) is always considered to be satisfied for separately acquired intangible assets. The cost of an intangible asset acquired separately comprises its purchase price and any directly attributable cost of preparing the asset for its intended use.¹⁹

However, when it comes to intangible assets acquired as part of a business combination the identification and measurement of their cost get more problematic. To be able to identify an intangible asset as part of a business combination, it must be separated from other assets included in the acquisition. Further, in accordance with IFRS 3 the cost of an intangible asset acquired as part of a business combination shall be measured at its fair value at the acquisition date. This fair value of the intangible asset reflects the market expectations about the probability that the future economic benefits embodied in the asset will flow to the entity. The treatment of intangible assets acquired as part of a business combination will be discussed more thoroughly in the next part of this chapter that treats IFRS 3.

¹⁷ IASB, IAS 38

¹⁸ IASB, IAS 38, § 26

¹⁹ IASB, IAS 38, § 27

Concerning internally generated intangible assets, it is sometimes difficult to assess whether such an asset qualifies for recognition. This is because of the problems in identifying whether there really exists an asset that will generate expected future benefits, and because of the problems in determining the cost of that asset reliably. To assess whether an internally generated intangible asset meets the criteria for recognition, an entity classifies the generation of the asset into a research phase and a development phase.²⁰ According to IAS 38 no intangible asset arising from research shall be recognized. Expenditure on research shall therefore be recognized as an expense when it is incurred.²¹ The reason for this is that, in the research phase of an internal project, the probability of generation of future economic benefits is too low for an entity to be able to demonstrate that an intangible asset really exists. Examples of research activities are activities aimed at obtaining knowledge, the formulation, design and evaluation of new or improved materials, products, systems or services etc.

On the other hand, an intangible asset arising from development shall be recognized if, and only if, an entity can demonstrate all of the criteria stated in § 57 of IAS 38. For example, it must be technically possible to complete the intangible asset that will be available for use or sale. Further, the enterprise must be able to demonstrate its intention to complete the intangible asset and use or sell it. The enterprise must also be able to show how the intangible asset will generate probable future economic benefits. Because of the inability to fulfil the recognition criteria, internally generated goodwill, brands, mastheads, publishing titles, customer lists and items similar in substance shall not be recognized as intangible assets.

When it comes to measurement of the cost of an internally generated asset, this cost shall be the sum of expenditure incurred from the date when the intangible asset first meets the recognition criteria.²² The cost of an internally generated intangible asset comprises all directly attributable costs necessary to create, produce, and prepare the asset to be capable of operating in the manner intended to management.

An important aspect in recognizing intangible assets is to determine whether an expenditure on an intangible item shall be recognized as an asset or as a cost when it is incurred. Concerning this, IAS 38 states that expenditures on intangible items shall be recognized as an expense when it is incurred, unless it forms part of the cost of an intangible asset that meets the recognition criteria, or unless the item is acquired in a business combination and cannot be recognized as an intangible asset. In the latter case, this expenditure shall form part of the amount attributed to goodwill at the acquisition date. Examples of expenditures that must be recognized as expenses are expenditure on start-up activities, expenditure on training activities, expenditure on advertising and promotional activities and finally expenditure on relocating or reorganising part or all of an entity. The reason for this kind of expenditure not being recognized as assets is not the fact that they will not generate future economic benefits. However, the uncertainty of the generation of such economic benefits is assessed being too great to allow the recognition of an asset. Further, the possible future economic benefits cannot be related to a specific intangible asset and therefore one of the recognition criteria for intangible assets is unfulfilled.

Once having identified, valued and initially recognized an intangible asset in the balance sheet of an enterprise other accounting issues arise. These are the issues of measurement after recognition and amortization methods treated in IAS 38 final parts. In measuring an intangible

²⁰ IASB, IAS 38, § 52

²¹ IASB, IAS 38, § 54

²² IASB, IAS 38, § 65

asset after recognition, an entity shall choose either the cost model or the revaluation model. The cost model implies that an intangible asset, after initial recognition, shall be carried at its cost less any accumulated amortization and any accumulated impairment losses.²³ The revaluation model means that an intangible asset, after initial recognition, shall be carried at a revaluated amount, being its fair value at the date of revaluation less a subsequent accumulated amortization and any subsequent accumulated impairment losses. Revaluated fair values shall be determined by reference to an active market. Further, revaluation shall be made with such regularity that at the balance sheet date the carrying amount of the asset does not differ materially from its fair value.²⁴ However, because of the requirement of an active market most intangible assets cannot be measured according to the revaluation model. As most intangible assets are unique, one of a kind, such markets do not exist and consequently a fair value cannot be reliably determined. Further, because revaluation must be made with regularity, and amortizations plans must be revised at every revaluated value, the model gets too complicated and thus it is not frequently used by companies.

Concerning amortization of intangible assets, the first thing to do is to determine the useful life of the intangible asset. In IAS 38 it is stated that an entity shall assess whether the useful life of an intangible asset is finite or indefinite. Further, if the entity determined the useful life as finite, it must also determine the length of, or number of production or similar units constituting, that useful life. An intangible asset shall be regarded by the entity as having an indefinite useful life when, based on an analysis of all of the relevant factors, there is no foreseeable limit to the period over which the asset is expected to generate net cash inflows for the entity.²⁵

Intangible assets with indefinite useful life shall not be amortized.²⁶ Instead, in accordance to IAS 36 – Impairment of Assets, an entity is required to test these intangible assets for impairment by comparing its recoverable amount with its carrying amount annually, or whenever there is an indication that the intangible asset may have been impaired. The useful life of an intangible asset that is not being amortized shall be reviewed each period to determine whether events and circumstances continue to support an indefinite useful life assessment for that asset. If they do not, the change in the useful life assessment from indefinite to finite shall be accounted for as a change in an accounting estimate.

Intangible assets with finite useful lives shall be amortized with a depreciable amount allocated on a systematic basis over its useful life. Amortization shall begin when the asset is available for use. The amortization method used shall reflect the pattern in which the asset's future economic benefits are expected to be consumed by the entity. If the pattern cannot be determined reliably, the straight-line method shall be used.²⁷

2.2.2. IFRS 3 – Business Combinations

On March 31 2004, IASB published its new standard IFRS 3 treating accounting for business combinations. A business combination is the bringing together of separate entities or businesses into one reporting entity.²⁸ One of the reasons for developing IFRS 3 was to

²³ IASB, IAS 38, § 74.

²⁴ IASB, IAS 38, § 75

²⁵ IASB, IAS 38, § 88

²⁶ IASB, IAS 38, § 107

²⁷ IASB, IAS 38, § 97

²⁸ IASB, IFRS 3, § 4

improve the quality of, and seek international convergence on, the accounting for goodwill and other intangible assets acquired in a business combination. The new regulations of this standard have therefore changed the way intangible assets shall be treated in accounting. After the publication of IFRS 3, the IASB makes much higher demands for identification of intangible assets in the acquired company. Further, the publication of IFRS 3 meant that goodwill is no longer permitted to be amortized, but should be tested for impairment annually.

The objective of IFRS 3 is to specify the financial reporting by an entity when it undertakes a business combination. In particular, it specifies that all business combinations should be accounted for by applying the purchase method.²⁹ The purchase method views a business combination from the perspective of the combining entity that is identified as the acquirer. The acquirer purchases net assets and recognizes the assets acquired and liabilities and contingent liabilities assumed, including those not previously recognized by the acquiree.³⁰ Applying the purchase method involves three steps; identifying an acquirer, measuring the cost of the business combination and allocating, at the acquisition date, the cost of the business combination to the assets acquired and liabilities and contingent liabilities assumed.³¹

Because of IFRS 3 stating that the purchase method shall be applied in accounting for business combination, the acquirer recognizes the acquiree's identifiable assets and liabilities at their fair value at the acquisition date. This means further that the cost of a business combination shall be measured as the aggregate of the fair values of assets given, liabilities incurred or assumed and equity instruments issued by the acquirer, in exchange for control of the acquiree; plus any costs directly attributable to the business combination.³²

The applying of the purchase method also implies goodwill being recognized by the acquirer. Goodwill shall be recognized as an asset, initially measured at its cost, being the excess of the cost of the business combination over the acquirer's interest in the net fair value of the identifiable assets and liabilities.³³ Goodwill acquired in a business combination represents a payment made by the acquirer in anticipation of future economic benefits from assets that are not capable of being individually identified and separately recognized.

However, with the new regulations of IFRS 3 the residual known as goodwill should become smaller. The reason for this is the much higher demands for identification of intangible assets. Allocation of the cost of a business combination shall be made by the acquirer, at the acquisition date, by recognizing the acquiree's identifiable assets and liabilities that satisfy the recognition criteria.³⁴ Further, the acquirer shall recognize separately the acquiree's assets and liabilities. However, when it comes to intangible assets this separate recognition shall be made only if the fair values of those assets can be measured reliably.³⁵ A reference is here made to IAS 38 for further guidance on determining whether the fair value of an intangible asset acquired in a business combination can be measured reliably. Thus, from the introduction of IFRS 3 higher values in identified intangible assets other than goodwill should appear in the balance sheets of business combinations.

²⁹ IASB, IFRS 3, § 1

³⁰ IASB, IFRS 3, § 15

³¹ IASB, IFRS 3, § 16

³² IASB, IFRS 3, § 24

³³ IASB, IFRS 3, § 51

³⁴ IASB, IFRS 3, § 36

³⁵ IASB, IFRS 3, § 37 (c)

2.3. Problems in Accounting for Intangible Assets

As previous parts of this chapter have described, accounting for intangible assets is well regulated by the IASB. However, as clear as the regulations of IAS 38 and IFRS 3 may seem, it is far from unproblematic to put them into practice. As discussed in the introducing parts of this essay, the problems in accounting for intangible assets are multiple. Because of the intangible nature of these assets it is difficult to find evidence for their existence, and therefore also complicated to recognize them in accounting.

The problems in accounting for intangible assets begin already in the definition of an asset made by the IASB in its “Framework for the Preparation and Presentation of Financial Statements”. The IASB establishes the fact that many assets have a physical form, but that this is not essential to the existence of an asset.³⁶ According to the definitions, an intangible item, such as a patent or a copyright, can just as well be acknowledged as an asset if, and only if, future economic benefits can be expected to flow from the item to an enterprise. Thus, it is possible to recognize intangible items as assets in accounting. However, to determine whether future economic benefits are expected to be generated is not always that easy. In today’s rapidly changing economy the future is far from being known, and therefore judgements about the future will always be connected with great uncertainty. Expenditure on research, organizational development, marketing etc. will probably generate positive cash-flows and can therefore, according to the definition, be classified as intangible assets. However, the great uncertainty of the size of these cash-flows often results in these intangible assets not being recognized in accounting. This is a frequently arising problem in accounting for intangible assets; an enterprise can recognize intangible assets, but these cannot be recognized in their balance sheets.

As mentioned earlier in this chapter, it must be possible to measure the cost or value of an asset reliably, to allow it to be recognized in a corporate balance sheet. For intangibles like expenditure on marketing and research, a reliable measurement of cost or value cannot be done. The value cannot be measured reliably since the uncertainty of the size of the cash-flows that will be generated is too great. Furthermore, the cost for these intangible assets cannot be measured reliably since it is too difficult to identify which specific asset the expenditures have contributed to create. For example, expenditures for marketing may generate intangible assets. However, marketing expenditures can be aimed for all sorts of marketing activities, and which intangible assets that have been created by these are most often not possible to determine: perhaps they have helped build up the brand, perhaps they have helped generate new customers, perhaps they have helped strengthen customer relationships? Thus, when it cannot be determined which specific asset that has been generated from certain expenditures, an intangible asset cannot be recognized. As the IASB has established; an asset is not recognized in the balance sheet when expenditure has been incurred for which it is considered improbable that economic benefits will flow to the enterprise beyond the current accounting period. Instead such a transaction results in the recognition of an expense in the income statement.³⁷ However, the IASB makes it clear that this treatment does not imply, neither that the intention of management in incurring the expenditure was other than to generate future economic benefits for the enterprise, nor that management was misguided. The only implication is, as previously discussed, that the degree

³⁶ IASB, Framework for the Preparation and Presentation of Financial Statements, § 56

³⁷ IASB, Framework for the Preparation and Presentation of Financial Statements, § 90

of certainty that economic benefits will flow to the enterprise beyond the current accounting period is insufficient to warrant the recognition of an asset.³⁸

Further problems in accounting for intangible assets lie in the recognition criteria that a resource must be controlled by an enterprise to be an asset to that enterprise. In discussing the criteria of control, the IASB mentions that many assets, for example, receivables and property, are associated with legal rights including the right of ownership.³⁹ These rights make terrific evidence of control of an asset. However, in determining the existence of an asset the right of ownership is not essential. An item may nonetheless satisfy the definition of an asset, even when there is no legal control. For example, know-how obtained from a development activity may meet the definition of an asset when, by keeping that know-how secret, an enterprise controls the benefits that are expected to flow from it. But again the problem arises, could the cost or value of this know-how be measured reliably? The answer is: Probably not. Thus, know-how will probably not fulfil the criteria for being recognized in a corporate balance sheet. Even though it probably could be established that this controlled know-how, by being kept secret, will generate future economic benefits, the uncertainty about its value or cost is too great to recognize it in a balance sheet.

The IASB further states out that market and technical knowledge may give rise to future economic benefits, but that this knowledge only could be recognized as an asset if it is protected by legal rights.⁴⁰ Therefore, when it comes to teams of skilled staff that cannot be owned by a company, the IASB means that an entity usually has insufficient control over the expected future economic benefits arising from that team to meet the definition of an intangible asset.⁴¹ Further examples of items that because of the criteria of control cannot be recognized as intangible assets are customer relationships and loyalty. Concerning these, the IASB mentions that an entity may have a portfolio of customers or a market share and expects that, because of its efforts in building customer relationships and loyalty, the customers will continue to trade with the entity. However, in the absence of legal rights to protect, or in other ways to control, the relationships with customers or the loyalty of these customers, the entity usually has insufficient control over the expected economic benefits generated from such items (i.e. portfolio of customers, market shares, customer relationships and customer loyalty) to meet the definition of intangible assets.⁴²

The third and last criteria, that assets of an enterprise must result from past transactions or other past events, causes not as much problems as the two others. If an asset is recognized to fulfill the two other criteria of future economic benefits and control, it is most likely also the result of a transaction⁴³. Enterprises normally obtain assets by purchasing or producing them, but of course other transactions may as well generate assets. Accounting for intangible assets being purchased do not normally cause as much problems as those being produced by the company. Purchased intangible assets evidently exist since someone has been willing to pay for them. Therefore, the transaction being made in connection with the purchase is a perfect evidence for the existence of an intangible asset. Further, the cost of purchased intangible assets can be measured reliably since there is a purchase price. However, problems with purchased intangible assets occur when these are parts of business acquisitions. Accounting

³⁸ IASB, Framework for the Preparation and Presentation of Financial Statements, § 90

³⁹ IASB, Framework for the Preparation and Presentation of Financial Statements, § 57

⁴⁰ IASB, IAS 38, § 14

⁴¹ IASB, IAS 38, § 15

⁴² IASB, IAS 38, § 16

⁴³ Smith Dag, 2000

for internally generated intangible assets often causes more problems. Their existence cannot as easily be acknowledged by a single transaction, and therefore it is much more difficult to measure their cost or value. This is the reason why many internally generated intangible assets cannot be recognized in accounting.

To illustrate previously mentioned problems in accounting for intangible assets we use two examples of intangible assets. The first example is the less problematic one; a drug patent. First of all, the patent itself acknowledges the existence of an intangible asset and its value in giving an enterprise the exclusive right to produce and sell the specific drug. The probability that future economic benefits will be generated from the drug patent can be considered rather great, since the patent otherwise probably would not have been approved. Furthermore, the economic benefits that the patent will generate are legally controlled by the owner of the patent. Thus, a drug patent can according to the IASB's definition be considered to be an intangible asset. However, problems occur in measuring the cost or value of the patent. When recognizing the patent in the balance sheet, the cost or value must, as previously mentioned, be measured reliably. For a purchased patent, with a determined purchase price, the problems are few. The value and cost of the patent is considered to be the purchase price. The problems, though, lie in determining that purchase price, i.e. the value of the patent. For internally generated patents the problems are similar; how to determine their value or cost? To determine the value, one can use the discounted value of expected economic benefits that will be generated. Since the patent is valid for a specific drug, there will be no problems in deriving certain economic benefits to the drug patent; these are the incomes from selling the drug. The problems are, however, to determine the size of these incomes to be able to determine the current value of the patent. Concerning the cost of a drug patent, this is also problematic to measure. Since the drug patent probably is the result of a long-running research and development project, the expenditure for developing the specific drug is difficult to measure. Further, the development of a drug is most often not the result of a single project, which makes it even more difficult to decide which specific expenditures that have been incurred to develop this drug. However, if the drug patent has been generated internally, most of these expenditures already have been recognized as costs and can therefore not be accounted for in determining the value of the drug patent now recognized as an intangible asset.

The second example is a brand. The problems in accounting for brands are similar to those in accounting for patents. The difficulties are not to determine whether economic benefits will be generated but to measure the cost or value of the brand. Concerning the cost, it is difficult to measure which expenditures that have contributed to create and strengthen the brand. Therefore, the cost of an internally generated brand could probably not be measured reliably, leading to the fact that it cannot be recognized in a balance sheet. Concerning the value of a brand, consisting of future economic benefits, problems exist in measuring the size of these expected economic benefits that will be generated by a brand. Unfortunately, for brands these problems are most often of unsolvable nature. In difference to patents where specific sales can be derived to the patent, there is extremely difficult to determine which specific incomes that will be generated by the brand. This is because the brand probably takes part in generating all kinds of incomes to the company. As with other purchased intangible assets, a reliable measurement of their value or cost of purchased brands causes few problems because of the existence of a purchase price. Therefore, there is no problem in recognizing a purchased brand in a corporate balance sheet. However, when it comes to internally generated brands, because of previously discussed problematic, a sufficiently reliable measurement of cost or value

cannot be done. This is also the reason for internally generated brands, how important they may be to a company (Coca-Cola!), not being allowed in accounting.⁴⁴

2.4. How Traditional Accounting Lack in Providing Relevant Information about a Company's Value

Because of the problems in accounting for intangible assets, previously mentioned, many intangibles cannot be recognized as intangible assets in corporate balance sheets. Actual intangible assets can often not be recognized in accordance with current definitions, because of the uncertainty about their existence or their possible generation of future economic benefits. As a result of this, many important intangible assets are not recognized in the balance sheets of companies and therefore many important values are kept hidden to investors and other users of financial information. Thus, current accounting systems lack in creating useful and complete information because they cannot, to a sufficient extent, capture intangible assets. Since intangible assets have become important factors of value creation in today's knowledge economy⁴⁵, this is a problem. For those who need information about the company, it is a problem that many of a company's most important assets cannot be shown.

To explain this great importance of intangible assets, we will use the metaphor of a company in shape of a tree by Edvinsson and Malone.⁴⁶ Imagine the visible parts of the tree, the trunk, the branches and the leaves representing the company as it is being described in financial reports, and therefore as it is being perceived by the market. The fruits of the tree are the company's profits and products harvested by the company's investors and consumers. The intelligent investor looks at the tree to find the ripe fruits ready to be picked. However, to assume that this is the entire tree, just because they are the visible parts, is to make an enormous mistake. At least half of the tree exists below the surface, in its roots. Meanwhile, the taste of the fruits and the colour of the leaves represent evidences of how wealthy the tree is at the moment, the well-being of the roots gives much better indications of how wealthy the tree will become in the future. The rot or the parasites that may exist below the surface can possibly destroy a tree that in the present situation is in excellent shape.

The metaphor of the company as a tree illustrates very well the importance of hidden intangible assets, as well as their role to a company's future development. The hidden values in intangible assets of a company are represented by the roots of the tree. For the tree to be able to blossom and to bear fruit, it must be nourished by strong and healthy roots. In the same way that the quality of the fruits is dependent on the roots of the tree, the quality of a company's organization and financial strength is dependent on its hidden intangible assets. Therefore, hidden intangible assets such as know-how, organizational structure, customer relationships etc. are of crucial importance for a company's survival.

Since the value of intangible assets, as previously discussed, exists in future creation of value; intangible assets are very important to those making judgements about the future. Investors, and others who need to make judgements about companies, would therefore be well favoured by being provided with complete information about companies' intangible assets. In our current situation they are not provided with such information. Instead, they have to rely on their own experiences, knowledge, feelings to make judgements about companies' values.

⁴⁴ IASB, IAS 38, § 63

⁴⁵ Lev Baruch and Daum Juergen, 2004

⁴⁶ Edvinsson Leif and Malone Michael, 1998

The lacking accounting for intangible assets probably has a great part in making companies' accounted asset values inaccurate in comparison to their real economic values. Thus, which are the affects of many intangible assets not being recognized in today's accounting, consequently that too low asset values are being shown in corporate balance sheets? Since much expenditure for investments in intangible assets cannot be recognized as assets in the balance sheets, they have to become costs in the income statements. When expenditure is recognized as a cost for the current period the profit of this period decreases with that cost. If the expenditure instead had been recognized as an asset, no cost would have decreased the profit for that period. However, all expenditures become costs sooner or later. Thus, if expenditure is recognized as an asset, the costs will be recognized later as amortizations. By this means, the costs are more correctly derived to the periods where they are expended and therefore a more economically correct picture of the company's costs and values is provided in the balance sheet. However, if an expenditure on an intangible asset cannot be recognized as an asset, the cost that will be recognized instead, makes the accounted profit of the period lower than the economically correct profit of that period. The reason for this is that the company really possesses an intangible asset that will be expended and generate economic benefits during future periods, which will not be shown in the accounts of the company. The accounts of the company will show too low economic values in intangible assets on the balance sheet, and too high economic values in costs on the income statement. For the next periods, the situation will become the opposite, the accounts of the company will show too low economic values in costs, because of the fact that an intangible asset is being expended and the cost for this is not shown. Thus, the profits for the following periods will be too high in comparison to the economically correct profits of the company. On the balance sheet, however, the too low economic values in intangible assets will remain which gives a misleading picture of the company's real economic value.

The end result of directly recognizing expenditures for the creation of an intangible asset as a cost, when it really is an asset, is that the company lowers its profit for the current period. On the other hand, by taking all costs directly you avoid taking them in shape of amortizements in the future, meaning that the profits will get higher in the future. Consequently, the company lowers its profits today to get higher profits in the future. Further, the fact that the expenditure cannot be recognized as an intangible asset makes the book values in the balance sheet too low in comparison to the economically correct values. Thus, great values are being kept hidden from the readers of companies' financial information.

Since the economically correct values in intangible assets and costs for those assets are not shown in financial reports, the calculations being made on the basis of these figures become inaccurate. In analyzing a company, different kinds of key figures such as profitability and solvency are usually calculated. Previous discussions has pointed out that companies often have too low book values in intangible assets in comparison to the economically correct values. In general this means that the profitability, calculated on the basis of underestimated book values on assets, gets too high in comparison to real economic values since the profit is divided with too low values in assets. On the other hand, if the profit is diminished with costs corresponding to what should have been accounted as an asset; the profitability gets too low in comparison to real economic values. Further, too low values in assets also mean a too low equity, which makes the solvency of the company too low in comparison to the real economic solvency.

Thus, the traditional accounting lacks in providing relevant information about a company's value, and consequently, both book values and calculations based on those values become

misleading. The informational asymmetry, that accounting is supposed to overcome, has been getting bigger because of the increasing importance of intangible assets. However, the uncertainty connected with intangible assets makes it difficult, even impossible, to capture their values in today's accounting systems. Therefore, the accounting systems need to be better adapted to the need for information about the increasingly important intangible assets. One of the major problems with today's accounting systems is, as mentioned earlier, that they still are based on transactions, such as sales. In today's knowledge-based economy much of the value creation precedes the occurrence of transactions. The successful development of a drug creates considerable value, but the actual transactions, such as sales, may take years to materialize. Until then, the accounting system does not register any value created, in contrast to the investments made into R&D which are fully expensed.⁴⁷ However, until accounting systems are changed, if they can be changed, companies perhaps need to develop alternative ways to manage and report for their intangible assets.

⁴⁷ Daum Juergen, 2002

In this chapter we will describe how intangible assets alternatively could be reported. Initially we discuss why alternative reporting is important today, and further the purpose of such reporting. Thereafter, we describe different approaches to alternative reporting of intangible assets and finally we illustrate such reporting by describing one of these approaches more thoroughly.

3.1. Why engage in alternative reporting of intangible assets?

As described in previous chapters intangible assets are getting more and more important to companies. Today, the roles of intangible assets as value and growth creators are accepted among economists, investors and managers. At the same time, there seems to be a general agreement that traditional accounting-based information systems are not able to provide adequate information about corporate intangible assets and their economic impact.⁴⁸ However, the inability in accounting systems to create adequate information about intangible assets does not refer to all intangible assets. Intangible assets that are based on a transaction, and therefore could be proved to exist, are taken into the accounts of companies without any bigger problems. On the other hand, when it comes to intangibles such as organizational structure, internally generated brands, knowledge, customer relationships etc. it gets more difficult, if not impossible, to provide any information in a regular balance sheet.

Unfortunately, there seem to be the intangible assets of greatest importance to companies that cannot be taken into the accounts. Those intangible assets that exist in being the unique mix of assets that create value for customers, and that give the company competitive advantages in the market, are not shown in the accounts. Intangible assets, nor other assets, can create value on their own, specific “organizational recipes” are needed to enable all assets together to create value. Because of this the organizational infrastructure of a company becomes a critical “production factor”. Organizational infrastructure consists of the business processes and systems that transform tangible and intangible assets into bundles of assets that help to create a competitive advantage and to generate sustaining cash flows. Such organizational infrastructure is unique for each company, as it supports the given mission and culture of the enterprise in its specific environment. Thus, the organizational infrastructure represents the major intangible of the enterprise (IBID.), but to the contrary the organizational infrastructure represents no value on companies’ balance sheets.

The fact that information about intangible assets as important value creators is not provided by today’s accounting system, has serious implications. It causes volatility of stock prices, which results in undue losses to investors and misallocations of resources in capital markets. As a consequence, intangible-intensive enterprises, that cannot prove the existence of their most important assets, are confronted with excessive costs of capital, hindering their investment and growth. Corporate outsiders have even less access to such information and the resulting information asymmetry can therefore lead to excessive trading gains to corporate insiders, destroying investors’ confidence (IBID.).

One of the underlying premises behind the interest for intangible assets is, as previously discussed, the thesis that intangible resources are the main sources for the competitiveness of firms. Further, the lack of possibilities to capitalize expenditure for intangible assets,

⁴⁸ Lev Baruch and Daum Juergen, 2004

according to existing regulations, creates information asymmetries on capital markets because book values do not reflect the real asset values and future earnings potential of industrial firms. Furthermore, investors and other users of financial information have to take their decisions on the best available information.⁴⁹ This information should preferably deal with the organizational capacity and potential, as well as the organizations' own expectations about the outcomes of their investments. This is not the case today. Companies' capacities and potentials are not shown in companies' book values, since many intangible assets are being kept hidden. Currently, it is rather the market values of companies that show the companies' capacities and potentials in reflecting the expectations of the market.

When there is a large disparity between a company's market value and book value, that difference is often attributed to "intellectual capital".⁵⁰ Further, market value is the company's total shares outstanding times the stock market price of each and book value is the excess of total assets over total liabilities. But what is the intellectual capital and who is best to determine the value of that intellectual capital? Market value that for new investors today is the best indicator of a company's potential, is determined by corporate outsiders. Should it not be better if this indicator was determined by corporate insiders, those who have the best and most information about the company? This is something that also has been argued by the IASB. The IASB wants to bring more market values into the balance sheets, and has begun this process by for example demanding market valuation of some financial assets. Of course, this new approach conducts more fluctuating book values. However, the IASB is not too concerned by this, as they see the advantages in decreasing the information asymmetry that lies in the difference between book and market values.

Clearly, companies cannot set their own market values. To the contrary, what can be done is to provide those who determine market values (i.e. companies' potential) with the best and the most complete information possible. Consequently, if traditional accounting systems cannot capture companies' intangible assets, more information about intangible assets needs to be provided alternatively. Companies should engage in alternative reporting of intangible assets in order to show the market their real values.

3.2. The Purpose of Alternative Reporting of Intangible Assets

Companies appear, to both corporate outsiders and the management, as a "black box". Without a suitable model to understand the internal and usually complex black box systems, it is not possible for the observer to gain valuable and decision oriented insights into their performance.⁵¹ To the investor, for example, the company represents a unit whose purpose is to generate maximum sustainable cash flows and he can choose in an open capital market which company to invest in. His difficulty lies in correctly assessing what strengths a particular company has in comparison to other companies to transform today's investments into the highest possible future returns (i.e. dividend payments and increases in market value). The investor needs to understand not only the current performance, but also to come to a conclusion of how this performance will develop over a particular time span, namely the time he intends to hold the stock.⁵² The purpose with alternative reporting of intangible assets is to help the investors with that, i.e. to reduce information asymmetry created by the increasing

⁴⁹ Leitner Karl-Heinz, 2005

⁵⁰ Holmen Jay, 2005

⁵¹ Lev Baruch and Daum Juergen, 2004

⁵² Daum, Juergen, 2003

importance of intangible assets⁵³, and to communicate to external stakeholders what intellectual property the firm owns.⁵⁴ Furthermore, improving external reporting of intellectual capital can close the gap between book and market value⁵⁵, increase the ability to raise capital by providing a valuation on intangibles⁵⁶ and enhance a company's reputation⁵⁷.

However, alternative reporting of intangible assets has further internal purposes to a company. First, measuring intellectual capital can help a company to formulate a business strategy. By identifying and developing its intellectual capital, an organization may gain a competitive advantage. Second, measuring intellectual capital may lead to the development of key performance indicators that will help evaluate the execution of strategy. Intellectual capital, even if measured properly, has little value unless it can be linked to the company's strategy. Third, intellectual capital may be measured to assist in evaluating mergers and acquisitions, particularly to determine the prices paid by the acquiring firms. Finally, using no financial measures of intellectual capital can be linked to an organization's incentive and compensation plan.⁵⁸ Thus, creating an alternative system to report for intangible assets does not only gain investors but also the company itself.

3.3. How Intangible Assets Alternatively Can Be Reported

The "intangibles movement" has succeeded in the first phase of its mission: creating awareness and an active discourse about the economic role of intangible assets and their consequences. However, even though awareness of the importance of intangibles is created as an important first step, the time has come to move to the next level. This level is about practical application and alternative reporting of intangible assets. In creating alternative reporting for intangible assets two major issues need to be addressed⁵⁹:

- Intangible assets by themselves neither create value nor generate growth: they need to be combined with other production factors. They need efficient support and enhancement systems. Corporate reporting and internal management systems must therefore provide a more complete view that allows investors and managers to evaluate the performance of the total value creation system of the company, including its various production factors, assets, processes and procedures in their combination. The focus needs to be on total factor productivity.
- The value of intangible assets is related to the future. They represent capacities and potential for future growth and income. Our current management and corporate reporting practice are primarily focused on backward looking information. This need to change towards forward looking information and a more dynamic approach must be adopted. Regular checks of an enterprise's total factor productivity might become a standard procedure in the performance management process in order to enable constant optimization of total factor productivity.

⁵³ Stewart Thomas, 2001

⁵⁴ Holmen Jay, 2005

⁵⁵ Pike Stephen and Roos Göran, 2004

⁵⁶ Edvinsson Leif, 2002

⁵⁷ Stewart Thomas, 1997

⁵⁸ Holmen Jay, 2005

⁵⁹ Lev Baruch and Daum Juergen, 2004

The objective of all corporate reporting is to provide investors and other stakeholders with better insight into the enterprise. By giving them an overview of all value-creating activities from an economic view-point it should allow stakeholders to better assess the true potential of a company as well as its ability to achieve sustainable results. Since traditional accounting systems lack in providing an overview over companies' intangible assets and their value, companies could publish so called supplemental corporate reports in addition to their financial statements. The information in these reports could treat, for example business strategy and business models, along with operational and intangible key performance indicators. Working groups of the US Securities and Exchange Commission (SEC) and Financial Accounting Standards Board (FASB) have suggested this approach (SEC 2001, FASB 2001). Furthermore, the "intellectual capital statements" proposed by the Danish government or the MERITUM guidelines represent a similar step. These propositions imply that the same concept that is used for internal enterprise management can be used as a basis for external corporate reporting, even though information in such external reports might be less detailed for competitive reasons. (IBID)

Already, different approaches to internal and external reporting of the intangible assets that form companies' intellectual capital have been taken. In 1994, the Swedish insurance company Skandia pioneered on this area by publishing its first public complement to the annual report. In order to visualize and provide more information about its intellectual capital, Skandia developed a model called "the Skandia Navigator" that will be discussed more thoroughly later in this chapter. Another approach to reporting of intellectual capital is the Balance Scorecard (see Appendix 1) developed by Kaplan and Norton. The Balance Scorecard is, though, used solely for internal reporting and control of companies' intellectual capital, but could be used as a foundation for creating an external reporting model. The Balance Scorecard is similar to Skandia's Navigator in its use of multiple perspectives. The Scorecard is focusing on four different perspectives: "Financial" – How do we appear to our stakeholders? "Customer" – How do we appear to our customers?, "Internal Business Process" – What business processes must we excel at?, and "Learning and Growth" – How will we sustain our ability to change and improve?. Further, the learning and growth perspective includes categories for employee capabilities (human capital), information systems capabilities (information capital), and motivation, empowerment, and alignment (organizational capital).

The results of measuring intellectual capital internally are also useful to investors, and could therefore be used for external reporting of intellectual capital. The FASB provides, in its Statement of Financial Accounting Standards no. 142, a basis for measuring intangible assets. An intangible asset that is acquired from an external source is initially recognized at its fair value. If an intangible asset is developed internally, it is recognized as an expense when it is incurred. This will limit the recognition of most intellectual capital to what is purchased from outside the organization, such as patents, licenses, and trademarks, because they are the only ones recognized as assets. Generally accepted accounting principles do not recognize a value of human capital nor much of the structural capital, such as internally developed software, patents, and brands. In developing the Statement, the FASB relied upon the four recognition criteria found in FASB Concepts Statement No. 5, "Recognition and Measurement in Financial Statements of Business Enterprises." These criteria are: The item meets the definition of an asset, the item is measurable with sufficient reliability, the information is capable of making a difference in decisions and the information indeed represents what it claims to represent, is verifiable, and is neutral. As intellectual capital is a relatively new concept and there is no agreement on how to measure it, many intellectual capital items will

fail on criterion two (reliability in measurement) and criterion four (verifiable). Until these two criteria can be met, it is doubtful whether many intellectual assets will be included in financial statements. Even so, the amount of intellectual capital a firm has can still be conveyed to investors.⁶⁰

Another approach to provide investors and external decision makers with information relating to an organization's utilization of intellectual capital is proposed by Baruch Lev. He has developed the "Value Chain Scorecard" (see Appendix 2) that provides non transaction and non financial information to support these decisions made with others in the value chain. The scorecard mirrors three portions of the value chain: discovery and learning, implementation, and commercialization. Each of these three can, in turn, be subdivided into three additional categories for a total of nine categories (IBID.).

The Danish Ministry of Science, Technology and Innovation has published several reports introducing intellectual capital statements. The Danish Financial Statements Act (June 2001) requires supplementary disclosure of intellectual assets if they are likely to affect future earnings. The disclosures are required for all except the smallest enterprises (fewer than 50 employees) or sole proprietorships. An intellectual capital statement consists of four elements: a knowledge narrative, a set of management challenges, a set of initiatives, and a set of indicators (see Appendix 3). The knowledge narrative expresses how the products and services of the organization provide value to the user. It addresses such questions as: What product or service does the company provide? What makes a difference for the consumer? What knowledge resources are necessary to be able to supply the product or service? What is the relationship between value and knowledge resources?⁶¹

3.4. The Example of Skandia: The Skandia Navigator

According to Skandia, companies' documentation is not able to keep up with the modern, knowledge intensive organizations of today; the traditional accounting model fails in showing a company's real value. A minority of financial reports give a hint about which companies will become successful in the future and have a durable organizational capability. It is unavoidable, under today's circumstances, not to pay attention to intangible assets when analyzing a company; this value reveals a company's future value potential.

The breakthrough in research for intellectual capital came in 1995, when Skandia after several years of work, published a supplement report concerning their intellectual capital.⁶² By this, Skandia became the pioneer to come up with an additional model for reporting the value of their intangible assets and their intellectual capital. Skandia had until this point, investigated its intellectual capital due to the fact that the management had realized that a company's competitiveness lies more in its intellectual capital, which is invisible in traditional accounting, than in a company's accounted assets. This could be customer relationships, information technology, networks and the employees' competence.⁶³

In 1991 Leif Edvinsson was appointed Director of the Intellectual Capital, and by this Skandia became the first company in the world to have a director for its intellectual capital. Leif

⁶⁰ Holmen Jay, 2005

⁶¹ Holmen Jay, 2005

⁶² Edvinsson Leif and Malone Michael, 1998

⁶³ Skandia, 1994

Edvinsson was also selected “Brain of the year” in 1998, a prize for which he was awarded for his work with developing Skandia’s intellectual capital.⁶⁴ A first public complement to the annual report of 1994 was called “Visualizing the Intellectual Capital”. This was an unusual report the business world had not seen before; a report full of images, colors and schedules. The report influenced many companies all around the world and over 500 companies contacted Leif Edvinsson after the publication of this report wondering how they could copy it.⁶⁵ Until this day several supplementary reports about Skandia’s intellectual capital are documented: “Renewal and Development” and “Value Creating Process” in 1995, “Power of Innovation” and “Customer Value” in 1996, “Intelligent Enterprising” in 1997 and “Human capital transformation” in 1998.⁶⁶

As mentioned before, Leif Edvinsson started the development of Skandia’s model of intellectual capital in 1991. The commission of this new Skandia function was to develop Skandia’s intellectual capital in order to make it an existing and visible value that could supplement the balance sheet.⁶⁷ The fundamental idea of this model is that the real value of a company lies in its capability to create sustainable value through its vision and strategy. The company established five factors of success in order to measure the operational capability. These five factors create a dynamic reporting model of intellectual capital in combination with each other, which Leif Edvinsson named “Navigator”.

The team that was working on the project of developing Skandia’s model for intellectual capital chose to create a new model focused on valuation and navigation. Above all, a value scheme and a Navigator model were created in order to make the intellectual capital a visible and existing value.

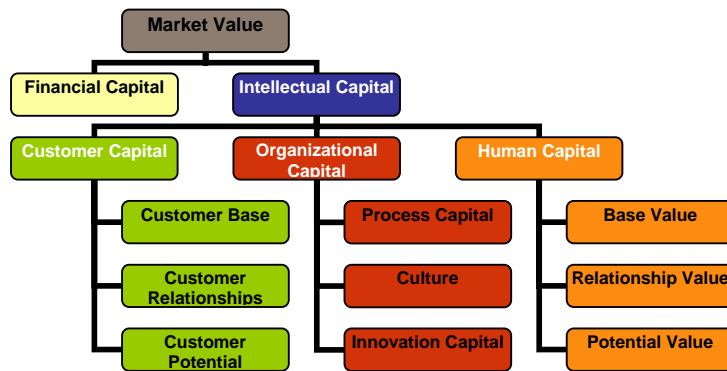
⁶⁴ Mouritsen J and Larsen H.T, 2001

⁶⁵ Edvinsson Leif and Malone Michael, 1998

⁶⁶ For further information and the reports in full text, see www.skandia.com

⁶⁷ Edvinsson Leif and Malone Michael, 1998

3.4.1. Skandia's Value Scheme of Intellectual Capital



Freely drawn from Edvinsson Leif and Malone Michael, page 75, 1998.

Skandia divide the intellectual capital into two parts; a human capital and a structural capital. The human capital is the part of the intellectual capital that the company cannot own; it consists of the knowledge, skills and the innovativeness of the employees. It also comprises the company's values, culture and philosophy. The structure capital on the other hand consists of all those things that a company possesses i.e. things that can be traded in a market. This type of intellectual capital rests in the company when the personnel have gone home and it could be a patent, a database, a structure of an organisation (organizational capital), a trademark or the relationship build up with customers (customer capital).

A first step in Skandia's model for reporting their intellectual capital is the valuation of the intellectual capital. In the figure above we present Skandia's value scheme that separate the different components in the intellectual capital. Value creation is presented as an effect of the connection between human, organizational and customer capital.⁶⁸ The scheme illustrates that a number of factors exist that increase the non financial value of a company and this contributes to a widening gap between a company's book value and its market value.⁶⁹

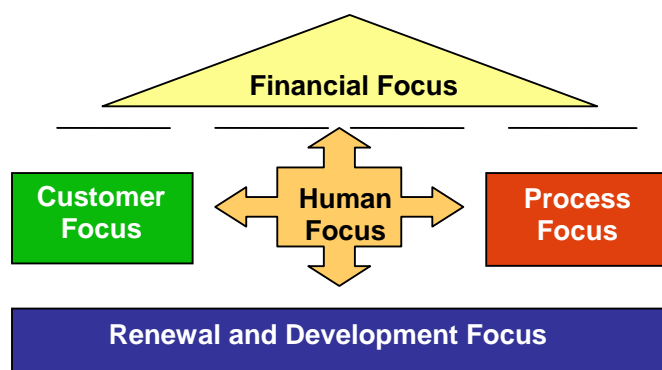
Skandia's model begins with the market value of a company, set at the stock exchange. Market value reduced with the financial capital equals a company's intellectual capital. The financial capital is the capital figuring in the financial reports, i.e. presented in the balance sheet. Then, in order to decompose the intellectual capital the team reduced this with one of the two factors that constitute the intellectual capital, the human capital. The rest is a structure capital and if you reduce the structure capital with the customer capital you get the organizational capital. Skandia continued by doing this until they reached the value scheme above. The only thing that remains in the end is the indefinable intangible assets (IBID.).

Important factors to notice are that a company's value does not appear directly from a single factor for intellectual capital, but it arises from the interplay between all factors. It does not matter how strong an organisation is on one or two factors, if it is weak on the third; for example a dynamic organisation, a knowledge intensive personnel and a weak customer basis. In that case, the organisation does not have the possibility to transform its intellectual value to a real business value (IBID.).

⁶⁸ Mouritsen J and Larsen H.T, 2001

⁶⁹ Edvinsson Leif and Malone Michael, 1998

3.4.2. Skandia's Navigator



Freely drawn from Edvinsson Leif and Malone Michael, page 91, 1998.

The Navigator is the next step after the valuation. This is Skandia's reporting model which aims to provide a balanced view of the financial and the intellectual capital. The focus on financial capital is complemented by a description of the intellectual capital and its development. The Navigator consists of five focus areas, as you can see in the figure above. Within every focus area there are a number of ratios and leading indicators that describe the company's value creation. These ratios are chosen after definition of the business concept for the future, translated into critical factors of success finally translated into ratios and indicators that can be grouped into focus areas. A company focuses its attention on these five areas and out of this focus the worth of a company's intellectual capital arises within its competitive surroundings. This could be considered as an alternative way of dynamic reporting; the model illustrates the continuous process in an organization to give nourishment to the roots.⁷⁰ The navigator is also a balance between the past, the present and the future.

The financial focus is the company's past where reliable, monetary measures are calculated that show where a company found itself at a certain moment, i.e. the numbers in a balance sheet. *Customer Focus* and *Process Focus* represent the present, and measure today's focus on a company's activities. The base in the figure; *The Renewal and Development Focus* consists of the focus on the future. Measures in this area look at how a company prepares itself to the future through education of the personnel, product development etc. The last focus is on the heart, intelligence and soul of the organisation, *the Human Focus*. This focus consists of the knowledge and ability of the personnel (IBID.).

3.4.3. Comments on Skandia's Reporting Model

Could Skandia's Navigator become an alternative way of reporting a company's all values; intellectual as financial? Could we take this further step and not just showing historical facts on the balance sheets, but also future potential values? Despite the fact that many companies, like Skandia, has begun to widening their fields of vision, there probably exists great opposition to this kind of accounting. The kinds of ideas, like the Skandia Navigator, will probably have to keep on developing to one day be totally accepted in the business world.

Skandia does not measure the size or the economic number of its intellectual capital in their reports. The intellectual capital will, though, help the company to create economic value in

⁷⁰ Edvinsson Leif and Malone Michael, 1998

the future. Skandia identifies the mechanisms that move and increase value, rather than giving these a number. The Skandia model is not a plan for the future, but a set of principles by which its organizational form seems to work.⁷¹ The models communicated in Skandia's additional reports present a possible way of creating competitive power in the future. Further, according to Leif Edvinsson, the meaning of intellectual capital is that it will transform into financial capital in the future. This process of transforming intellectual capital into money can take weeks or sometimes several years; the point is that the intellectual capital has to be transformed to get an economic value.⁷² Therefore, to give intellectual capital an economic value is not logical, since intellectual capital has no economic value until it has been transformed.

Mouritsen and Larsen point out that "it is rumoured that Skandia's intellectual capital supplement has been in tenfold demands compared with the financial accounting statement".⁷³ If this is true, is not this evidence enough for the growing interest and need for an accounting, better adapted to the need for intellectual capital information?

One should bear in mind that intellectual capital is not a simple thing to communicate, since it does not exist a generally accepted accounting formula for calculating this as it does for financial capital. To communicate intellectual capital, other means than financial numbers are used, for example as in the case of Skandia; narratives, images and illustrations. If we focus on the supplementary reports that Skandia has published about their intellectual capital one could react about their special design. Skandia itself means that the design is intentional; it is a deviation from the traditional report and at the same time a metaphor.⁷⁴

Furthermore, these reports are not only directed to an external audience but also to an internal.⁷⁵ If Skandia publishes these kinds of reports it is not a doubt that this will influence the employees. Their role and how they should contribute to Skandia's value creation is communicated with text, images, emotions and metaphors in these reports. One can illustrate this with the story of the tree mentioned in Chapter 2. The tree is an important metaphor for Skandia's intellectual capital. It illustrates the relation between past, present and future, how the company creates value in the long term and it is also a story which facilitates complex relations in managing a firm. The story gives the message that one needs to nourish the roots to make an organisation function, and who can be against this story about the tree? In this way narratives and metaphors can be regarded as means of control. If the whole organization understands the meaning of the intellectual capital this could probably result in greater motivation.

Perhaps, it is necessary to be critical in reading these kinds of reports. Partly, because the reports could be used by a company as a mean of control and thus be dedicated to internal rather than external users. In this case maybe there exist more desirable objectives in the reports rather than subjective facts to external users. Secondly, because we do not know what the future will bring, there could be critical issues facing the firm in the future that we cannot anticipate and do not want to report. How can we be so sure that we have the right patents, staff, trademarks etc. when it is the customer demand in the future that will tell if we invested

⁷¹ Mouritsen J and Larsen H.T, 2001

⁷² Edvinsson Leif and Malone Michael, 1998

⁷³ Mouritsen J and Larsen H.T, 2001

⁷⁴ Edvinsson Leif and Malone Michael, 1998

⁷⁵ Mouritsen J and Larsen H.T, 2001

our money correctly? Finally, what if Skandia one day chooses to get rid of a trademark, fire employees etc. how will they explain the fact that they voluntary reduce their intellectual capital? Could it even be dangerous for a company to publish these kinds of reports, when they first highlight for example their employees like their invaluable asset and then fire several of them?

Chapter 4

Practical Application of Reporting of Intangible Assets

In this chapter we will describe reporting of intangible assets in two listed Swedish groups; AstraZeneca and Volvo. We begin by outlining the two groups' intangible assets and their accounting principles, i.e. their practical application of regulatory standards, for intangible assets. Thereafter, we describe the problems in accounting for intangible assets from the two groups' points of view. Finally, the groups' view on alternative reporting of intangible assets is discussed.

4.1. The Volvo Group

The Volvo Group is one of the world's leading manufacturers of trucks, buses, construction equipment, drive systems for marine and industrial applications, aerospace components and services. Since 1927 Volvo has developed from a small local industry located in Göteborg, to a global group operating on more than 185 markets⁷⁶, with approximate 81 000 employees and production in 25 countries. Currently, the Volvo Group consists of eight different business areas; Volvo Trucks, Mack, Renault Trucks, Volvo Buses, Volvo Construction Equipment, Volvo Penta, Volvo Aero and Volvo Financial Services. The Volvo Group performed well last year with an increase in net sales by 14 % to SEK 231 191 Millions. Furthermore, the group's good profit development continued with an income for the year that increased by 32% to SEK 13 106 Million.

4.1.1. The Volvo Group's Intangible Assets

The Volvo Group's intangible assets accounted for in the balance sheet is classified as goodwill, entrance fees for aircraft engine programs, product and software development and other intangible assets, see the table below. The most important of these is goodwill that during the last three years has represented over 50 % of the Volvo Group's total intangible assets. However, from a financial point of view, neither the value of goodwill nor the value of total intangibles assets are that important to the Volvo Group in relation to total assets⁷⁷. Last year, the Volvo Group's intangible assets only counted for about 8 % of total assets.

Intangible assets (MSEK)	2005	2004	2003
Goodwill	11 072	9 656	11 151
Entrance fees, aircraft engine programs	1534	1 372	930
Product and software development	7 127	4 831	3 895
Other intangible assets	688	747	780
Total intangible assets	20 421	16 606	16 756
Total non-current assets	116 650	102 256	104 314
Total assets	257 135	222 896	231 252
Intangible assets percentage share of total non-current assets	17,51 %	16,24 %	16,06 %
Intangible assets percentage share of total assets	7,94 %	7,45 %	7,25 %
Goodwill percentage share of total intangible assets	54,22 %	58,15 %	66,55 %

Figures from the Volvo Group's annual reports 2005, 2004 and 2003.

⁷⁶ www.volvo.se (2006-05-02)

⁷⁷ Interview with Mikael Hagström, 2006-05-05

4.1.2. The Volvo Group's Accounting Principles for Intangible Assets

Since 2005, the Volvo Group applies the IFRS in its financial reporting. In accounting for its intangible assets the group therefore applies IFRS 3 – Business Combinations, IAS 36 – “Impairment of Assets” and IAS 38 – Intangible assets. Based on these standards, the Volvo Group has determined its own accounting principles that will be described in the following parts.⁷⁸

Goodwill

The Volvo Group reports goodwill as intangible non-current assets with indefinite useful life. In accordance with IAS 38, intangible assets considered to have indefinite useful lives should not be amortized, but be subject to an annual impairment test. As the Volvo Group has determined, the only intangible asset with indefinite useful life, and therefore treated accordingly, is goodwill.

Annually, or more frequently if required, the Volvo Group's operations are evaluated and compared with its carrying value in order to identify any impairment of goodwill assets. The evaluation model applied for this purpose is based on a discounted cash-flow model. The evaluation is made on cash-generating units with reciprocal synergies, identified as the Volvo Group's operational areas or business areas. Thereafter, goodwill assets are allocated to these operational areas on the basis of anticipated future utility. The evaluation is based on management's judgements of the operation's development. The basis for these judgements is long-term forecasts of the market's growth in relation to the development of the Volvo Group's operations. This testing to determine any impairment is carried out through calculation of the asset's recovery value. If the calculated recovery value is less than the carrying value, a write down is made to the asset's recovery value. Similarly, impairment testing is carried out at the closing date if there is any indication that a non-current asset has declined in value.

Entrance Fees, Aircraft Engine Programs

Intangible assets are recognized when Volvo Aero, in certain cases pays an entrance fee in connection with its participation in aircraft engine projects with other companies. These entrance fees are capitalized as an intangible asset and amortized over a useful life of 5 to 10 years.

Product and Software Development

Once certain criteria, discussed in Chapter 2, are fulfilled the Volvo Group can in accordance to IAS 38 report expenses for development as intangible assets. However, the accounting recommendations mean that high demands are to be established by the Volvo Group in order for these expenditures to be reported as assets. Expenses for research can, as previously discussed, not be recognized as intangible assets. In accordance with the accounting standard, expenditures for development of new products, production systems and software shall be reported as intangible assets if such expenditures with a high degree of certainty will result in future economic benefits for the company. In practice, these rules of IAS 38 mean, for example, that it must be possible to prove the technical functionality of a new product or software prior to this development being reported as an asset. In normal cases this means that

⁷⁸ The Volvo Group's annual report, 2005

expenditures are capitalized only during the industrialization phase of a product development project. Other research and development expenses, that do not fulfil these demands, must be charged to income as incurred.

The acquisition value for these intangible assets shall be amortized over the estimated useful life of the assets. The depreciation periods for product and software development are 3 to 8 years. The Volvo Group applies historical costs for valuation of intangible assets. Depreciation is based on the historical cost of the assets and on estimated useful lives. Useful lives are based on the Volvo Group's estimates of the period that the assets will generate revenues. If, at the date of the financial statements there is any indication that an intangible asset has been impaired, the recoverable amount of the asset should be estimated. The recoverable amount is the higher of the asset's net selling price and its value in use, estimated with reference to the management's projections of future cash flows. If the recoverable amount of the asset is less than the carrying amount, an impairment loss is recognized and the carrying amount of the asset is reduced to the recoverable amount.

4.2. AstraZeneca

AstraZeneca is one of the world's leading pharmaceutical companies, represented in over 100 countries. The company discovers, develops, manufacture and market prescription pharmaceuticals for different areas of healthcare and has a highly competitive portfolio of marketed medicines. As there is a growing demand for healthcare today, AstraZeneca constantly has to face strong competition from new global actors. This makes it more and more important to invest in research and development. Furthermore, companies in the pharmaceutical industry have to increase their productivity in R&D to correspond to the increasing market demand. This is due to the increasing competition, but also the fact that pharmaceutical companies face a political and economical pressure from the society to limit the expenses for medicines. Despite strong competition, AstraZeneca last year increased its group sales by 10 % at constant exchange rates to \$24 billion. Further, the operating profit of the group increased by 39 % to \$6.5 billion, reflecting both a strong growth in sales and an ongoing gain in productivity.⁷⁹

4.2.1. AstraZeneca's Intangible Assets

AstraZeneca divides their accounted intangible assets into four categories; goodwill, product marketing and distribution rights, other intangibles and software development costs as the table below shows. AstraZeneca's intangible assets represent a great percentage of their non-current assets; between 24 and 30 % during the last three years. This is not very surprising since intangible assets, such as drug patents, are important to every pharmaceutical company.

The important part of the balance sheet that the intangible assets represent consists mainly of product marketing and distribution rights and goodwill. Product marketing and distribution rights constitute more than 50 % of total intangible assets, clearly showing which intangible assets that distinguish the business. Furthermore, as in many other groups goodwill represents a large share of AstraZeneca's total intangible assets. However, note that goodwill does not constitute the largest share of AstraZeneca's total intangible assets, which is the case in many other groups.

⁷⁹ AstraZeneca's annual report, 2005

Intangible assets (MUSD)	2005	2004*	2003*
Goodwill	953	790	833
Product marketing and distribution rights	1 370		
Other intangible assets	146	2 036	2 051
Software development costs	243		
Total intangible assets	2 712	2 826	2 884
Total non-current assets	11 070	11 176	10 640
Total assets	24 840	25 616	23 573
Intangible assets percentage share of total non-current assets	24.50 %	25.29 %	27.11 %
Intangible assets percentage share of total assets	10.92 %	11.03 %	12.23 %
Goodwill percentage share of total intangible assets	35.14 %	27.95 %	28.88 %
Prod. marketing and distr. rights percentage share of total intangible assets	50.52 %	-	-

Figures from AstraZeneca's annual report, 2005.

* Note that the classification was changed in 2005 as a result of the implementation of IFRS, and therefore was different in 2003 and 2004.

4.2.2. AstraZeneca's Accounting Principles for Intangible Assets

As all noted groups in the European Union, AstraZeneca's financial statements are prepared in accordance with IFRS. In preparing the financial statements for intangible assets, AstraZeneca has to make estimations and assumptions, which can be very complex. AstraZeneca therefore upholds that these estimations and assumptions can differ from the real outcome.⁸⁰

Research and Development

AstraZeneca's activity is based on the products they promote and develop. Expenditure on R&D is indispensable to be able to produce these products. Normal practice in the pharmaceutical industry is that all intern R&D expenditures are directly recognized as costs in the income statement. However, in accordance to IAS 38, internal development expenditure is recognized as intangible assets if it meets the recognition criteria of intangible assets. Regulatory and other uncertainties generally mean that such criteria are not met. Consequently, AstraZeneca probably owns valuable intangible assets that cannot be reported in the balance sheet. Where, however, the recognition criteria are met, intangible assets are capitalized and amortized on a straight-line basis over their useful economic lives from product launch.

Acquisitions of intangible assets that are a complement to their R&D portfolio are however accounted as assets in the balance sheet. Such intangible assets are amortized from the launch of the underlying products and are tested for impairment both before and after launch. Payments to in-licence products and compounds from external third parties, generally taking the form of up-front payments and milestones, are capitalized and amortized, generally on a straight line basis, over their economic lives from launch. Under this policy, it is not possible

⁸⁰ AstraZeneca's annual report, 2005

to determine precise economic lives for individual classes of intangible. However, lives range from three years to twenty years.

Intangible assets relating to products in development, both internally generated and externally acquired, are subject to impairment testing at each balance sheet date. All intangible assets are tested for impairment when there are indications that the carrying value may not be recoverable. Any impairment losses are recognized immediately in the income statement.

Goodwill and Other Intangible Assets

AstraZeneca has significant investments in goodwill and other intangible assets as a result of acquisitions of businesses and purchases of such assets as product development and marketing rights. As AstraZeneca's financial statements are prepared in accordance with IFRS, goodwill is held at cost and tested annually for impairment, whilst intangibles are amortized over their estimated useful lives. Changes in these lives would result in different effects on the income statement. AstraZeneca estimates that a one year reduction in the estimated useful lives of intangible assets would increase the annual amortization charge by \$27 million. Intangible assets are reviewed for impairment where there are indications that their carrying values may not be recoverable, and any impairment is charged to the income statement. Tests for impairment are based on discounted cash flow projections, which require the company to estimate both future cash flows and an appropriate discount rate. Such estimates are inherently subjective.

IAS 38 requires all intangible assets that meet the capitalization criteria to be capitalized. For AstraZeneca, this has led to the following group policies being applied: In respect of internal product development expenditure, it is management's view that it is not possible to demonstrate with sufficient certainty that, prior to regulatory approval, these criteria are met. Consequently, AstraZeneca would not expect to capitalize internal development costs. In respect of internal development expenditure on software, it is management's view that some projects have met the criteria for capitalization. Results have been adjusted to include both the capitalized costs and associated amortization of these projects. The standard requires all externally acquired intangibles to be capitalized and the results have been adjusted to recognize a small number of products in early phase development that had been expensed under UK GAAP.

Business Combinations and Goodwill

On the acquisition of a business, fair values are attributed to the identifiable assets, liabilities and contingent liabilities acquired. Goodwill arises where the fair value of the consideration given for a business exceeds the fair value of such assets, liabilities and contingent liabilities acquired. Goodwill arising on acquisitions is capitalized and subject to an impairment review, both annually and when there is an indication that the carrying value may not be recoverable.

4.3. Problems in Accounting for Intangible Assets According to the Two Groups

Both Mikael Hagström, the Volvo Group's Director of Group Accounting, and Leif Johansson, expert on accounting for intangible assets at AstraZeneca, initially state that accounting for intangible assets is not that much of a problem in their companies. However, well developed accounting principles combined with skilled accountants and experience from

accounting for intangible assets probably make it easy for them to state that there is little problem.

Obviously, the importance of intangible assets differs in two groups that operate in such different industries as the Volvo Group and AstraZeneca does. For AstraZeneca, that operates in the pharmaceutical industry, intangible assets are very important. Leif Johansson declares that especially intangible rights are very important and frequently occurring in the pharmaceutical industry. These different kinds of rights for R&D, production and marketing etc. build the major part of AstraZeneca's value. Knowledge from research results about substances, their usage areas, effects and side effects is absolutely crucial for the valuation of the company. However, the intangible assets recognized in AstraZeneca's accounting, such as acquired rights for existing products and intangible assets from some strategic business acquisitions, is not that important to the company's valuation according to Leif Johansson. This difference, between the importance of AstraZeneca's intangible assets in general and intangible assets in AstraZeneca's accounting, clearly implies that problems exist in capturing intangible assets in accounting.

The vehicle industry that the Volvo Group operates in is not as characterized by the importance of intangible assets as the pharmaceutical industry. However, the Volvo Group possesses important intangible assets in, for example, its well-known brand and its knowledge from 80 years of experience of producing vehicles. These intangibles are, though, not represented in the Volvo Group's balance sheet which further implies the problems in capturing important intangibles in accounting.

Thus, it is made clear that there exist problems in accounting for intangible assets, but that those are not about the intangibles appearing on the balance sheet. According to Mikael Hagström, the difficulties in accounting for intangible assets exist in companies believing themselves possessing other intangible assets than those reported on the balance sheet. The reported intangible assets are based on transactions, and therefore accounting for them normally is not more problematic than accounting for tangible assets. Assets based on transactions are logic to report. When it comes to brands, intellectual capital, retailer relationship networks, organisational structures etc. based on multiple or no transactions, it gets more difficult. An additional problem is that the value of assets must be determined at a specific time, the time of the transaction. As the value of intangible assets is highly connected to generation of future value, the value of the transaction do most probably not correspond with the actual value of the intangible asset. This is a problem since many intangible assets' valuation, for example capitalized R & D expenses, is based on the transactional value.

Furthermore, difficult assessments are connected with accounting for business acquisitions, since many different assets, both tangible and intangible, must be reported from one single transaction. To be able to report these assets, they must be separately identified and valued as a part of the purchase price which can cause several problems. As Mikael Hagström stated, "How to know what is what and what has a value?" In connection with business acquisitions, when the brand shall be valued, how to know what forms the brand? Is a brand a single asset or a result of a company's unique mix of assets?

In determining the value of a brand; should such valuation be based on costs or future incomes? Hypothetically, if companies could account for their internally generated brands they could, for example, capitalize the costs for marketing and let these costs form a basis for the valuation of the brand. This may seem logic, but on the other hand; is marketing expenses

really what is contributing to the brand's value? In the next step, after the brand has been recognized in the balance sheet, the brand must be impairment tested. What shall these impairments tests be based on? Thus, in carrying out these tests, the problem to determine an actual value of the brand has to be confronted. Further, a company has to be able to understand what occurrences and actions that affect the value of its brand. For example, could bad publicity lower the value of a brand?

Furthermore, an intangible asset must be separable to be recognized, meaning it must be possible to sell the asset separately. A brand could be sold separately, but Mikael Hagström means that this has no point. According to him, a brand has no own value. A brand like Coca-Cola, for example, has no value to its owner if that owner cannot produce and sell the beverage Coca-Cola. Thus, you cannot make money solely on the brand Coca-Cola, you also have to be able to produce and sell the soda behind the brand. Illustrated from the Volvo Group's point of view, does the brand Volvo have a value if it is not on the Volvo trucks?

To the Volvo Group, a successful product development is essential for future profitability. Thus, intangible assets consisting of capitalized product development expenditures are important to measure accurately. Since current principles apply that only development expenses, and not research expenses, can be capitalized a critical issue in accounting for these intangible assets is to define where the research phase ends and the development phase begins. For an 80 year old company like the Volvo Group, with a lot of experience, this causes few problems. The Volvo Group has a well-defined product development process, with gates of moving-on decisions. Once the decision is taken to produce a product, the Volvo Group has decided that the project has moved into a development phase, and therefore the expenses are being capitalized. The capitalization of expenses continues until the product goes into production. From this point the asset is amortized during its estimated useful life. In general, since the capitalization period is two to three years for product development expenditures and this type of assets has an estimated useful life of about eight years; the costs for the product's development will occur over a ten year period.

Today the accounting process for product development functions well for the Volvo Group; they are rather certain in their judgements and know that a project will become an income generating product when the decision to capitalize is taken. However, as Mikael Hagström points out, in new industries these judgements are much more uncertain but nonetheless very important. It is difficult to know what will generate future income since market development easily may be misjudged. It is a risk that new companies account for intangible assets in product development that may not exist in the future, because of a lack of markets for these products.

A final difficult question that Mikael Hagström addresses, concerns at what time incomes actually should be reported. One can argue that since the values of intangible assets to such an extent are related to future incomes, they should be valued on the basis of these future incomes. However this logic may be a bit problematic. To illustrate this with an example for the Volvo Group Mikael Hagström addresses the event called the Volvo Ocean Race. The Volvo Group arranges every year the Volvo Ocean Race that is believed to help build up the brand. Further, the Volvo Group believes that this will help them generate incomes by selling more trucks etc. in the future. Thus, should the Volvo Group recognize and value intangible assets created by the Volvo Ocean Race on the basis of the incomes that are assumed to be generated, or on the basis of its costs? Further, the problematic is that even if the Volvo Group believes that they will sell more trucks next year because of the event, should they really

account for these incomes in the value of intangible assets now? After all, no company can be sure of the value of its future incomes. Thus, the risk is that a company give their intangible assets a value based on incomes that later appear to be overestimated. As a consequence, the company will have to write down these assets and recognize costs for something that will not generate incomes. Furthermore, a company overestimating its assets, also overestimates its solvency which may cause problems if lots of value in assets later does not appear to exist.

Finally, after having discussed all these problems, the question asked is whether the accounting for intangible assets gives a fair picture of the two groups' total value in intangible assets? On this question Mikael Hagström, for the Volvo Group, answers: "Yes, of course!" without hesitating. However, he continues by saying that the accounting only captures intangible assets based on transactions and that he cannot deny that the Volvo Group possesses other intangibles than those based on transactions. Again, he mentions how important it is to a company to have a well-functional organisational structure. Further, he means that it is important to consider the fact that Volvo has built trucks in more than 80 years without generating any intangible assets into the accounts. This, he says, is not completely satisfying!

Leif Johansson's answer on this question is that AstraZeneca's accounting for intangible assets does not at all provide a complete and fair view over the company's intangible assets! He mentions, for example, that AstraZeneca every year invest SEK 12 billion in research expenses for a R&D process that could last for 20 years before the company has a product in the market. In comparison to that, AstraZeneca's book value on intangible assets of SEK 9 billion is not that much.

However, in the current situation it seems hard to find practical solution that make it possible to capture all intangible assets in accounting. Most of these very important assets are too hard to value and if one cannot put numbers on them, it is not possible to report for them in a balance sheet. Mikael Hagström points out that accounting perhaps is not suited to capture intangible assets, and therefore we may need new tools for this purpose.

4.4. The View on Alternative Reporting for Intangible Assets

As mentioned above, Mikael Hagström says that the problem with accounting for intangible assets is that companies often believe themselves possessing other intangible assets than those appearing in their balance sheets. For the Volvo Group, Mikael Hagström mentions for example the Volvo Way that outlines the Volvo Group's values and culture. The Volvo Group views its corporate culture as a unique and very important asset. The Volvo Group's products can, to a certain extent, be copied by competitors, but to the opposite, the corporate culture cannot. Because of that, the culture is what in fact creates competitive advantages for the group, which is what makes it important.

The Volvo culture, the Volvo brand and the organizational structure of the group etc. are "assets" of absolutely essential nature to the Volvo Group. However, since these cannot be taken into the accounts their values are hidden to all those who do not have further insight in the company. As a result of problems like these, many companies provide complementary information to visualize their hidden intangible values. The Volvo Group tries to describe the importance of their hidden intangible assets in their annual report. In the annual report of the Volvo Group it is, for example, written about why these hidden intangible assets are

important and how they affect the group's competitiveness. Important announcements are for example made about their competence development and the Volvo culture. Mikael Hagström believes that education and focus on the staff give important indications about a company's future value, but for the Volvo Group product development is even more important. The staff is in a way a factor of uncertainty; they could either leave the company or retire. That is why, according to Mikael Hagström, an organizational structure that works is even more important than the staff. A structure that works no matter if persons enter or leave, is what makes a company strong and competitive. It is the structures that are of crucial importance to future development.

In accordance to what Mikael Hagström says about the Volvo Group, Leif Johansson also experiences, as previously mentioned, that many of AstraZeneca's most important intangible assets are not shown in the balance sheet. Most of the AstraZeneca's intangible assets in research and developed knowledge cannot be recognized as assets in the balance sheet, and consequently, the assets that are of absolute vital importance to the company's value are kept hidden. Leif Johansson further mentions that, because of this, AstraZeneca's real economic value is not at all reflected in its accounting. With that being said, he also means that accounting become rather useless; it can be one factor in valuation of a company but it is not the important one. As an alternative to traditional accounting, AstraZeneca therefore continuously leaves information about areas being researched and research project, as well as which development phase a project is in. This information is to be found in AstraZeneca's annual reports. Further, the company also presents important information continuously on meetings with analysts and the media.

However, even if the Volvo Group and AstraZeneca leave information about their hidden intangible assets, they do not leave as much information as Skandia, mentioned in previous chapters, does. Mikael Hagström thinks that the information in Skandia's reports is important, but explains that the Volvo Group has a different tradition. Both the Volvo Group and AstraZeneca also intend, like Skandia, to leave essential information about their strategies, research, staff etc. but do this in their annual reports instead. Mikael Hagström does not deny that this, in many respects, is important as marketing for the company. The annual report is supposed to attract investors and therefore it is important to describe where the company is going and how it will get there. Furthermore, the Volvo Group has considered leaving more information about their staff in some kind of additional reports. This is because, as one of the Volvo Group's values applies, it is important for the company to perform high quality. This requires a great contribution from its employees and therefore the personnel care of the company must be focused on giving the staff the expertise they need and the will to do what is best for the company. AstraZeneca, on the other hand, has today no thoughts in developing additional reports to present information of their hidden values in intangible assets.

4.5. Book Values versus Market Values; Final Discussion

A recurrently founded theory in literature and articles about accounting for intangible assets is that the difference between companies' book values and market values is the value of those intangible assets not being captured in accounting. In the beginning of the 1990s, a significant change regarding the asset compositions of companies became apparent. During the 1980s the book value of corporations has been constantly shrinking in relation to market value. This residual, often regarded as the capital market's view on the value of a company's hidden

intangible assets, has been increasing.⁸¹ Today, the book values are not even close to comparable with the market values for big groups listed on the stock market, like for example AstraZeneca and the Volvo Group. For AstraZeneca, a knowledge and intangible assets-intensive company, this is especially clear. On December 31, 2005, AstraZeneca had a book value on equity of approximately SEK 108 billion (see Appendix 4). At the same time, the capital market valued the company at approximately SEK 614 billion. This implies that AstraZeneca could have hidden intangible assets at a value of SEK 506 billion. Furthermore, this means that only 17,5 % of AstraZeneca's total value, according to the market, is captured in the company's accounting.

The Volvo Group had on December 31, 2005, a book value of approximately SEK 78 billion (see Appendix 4), comparable with a market value, on the same date, of approximately SEK 159 billion. This implies that the Volvo Group could have hidden intangible assets at a value of about SEK 81 billion, representing more than 50 % of the group's total value according to the market. Thus, the hidden values in the Volvo Group are not as large as in AstraZeneca, reflecting that the market assesses fewer important assets being captured in AstraZeneca's accounting than in the Volvo Group's accounting. Further, this reflects the fact that these two companies operate in different industries, dependant on different kinds of assets. The pharmaceutical industry is more knowledge intensive than the vehicle industry. Furthermore, the product development is much more uncertain in the pharmaceutical industry, meaning that less expenditure for such development probably can be capitalized in this industry.

The question whether this theory of hidden intangible assets representing the value of the difference between book values and market values could definitely be further discussed. Leif Johansson, at AstraZeneca, believes that this theory is absolutely correct for knowledge-intensive companies, and therefore that the theory is applicable on the hidden values of AstraZeneca. As previously mentioned, according to Leif Johansson, AstraZeneca's real value is not at all reflected in its accounting. Therefore AstraZeneca's market value should leave better indications on the company's real value than its book value. The market valuation of AstraZeneca is more based on the value of research in progress as well as the value of AstraZeneca being a company well-known for its ethics and respect.

Mikael Hagström, from the Volvo Group, has a more careful view on this theory. He mentions that a lot of companies have a big difference between their book and market values, caused by short-term bubbles. However, he says, that in the long run there are not that much of a difference between companies' book and market values. Further, Mikael Hagström believes that this difference has more reasons than just hidden intangible assets. One reason that this difference has increased, could for example be that the discounting factors, i.e. the interest rates, have decreased. Way back in the 1980s the discounting factors based on interest rates were a lot higher than they are today. In discounting future values to current values, the current values become higher the lower the discounting factor used is. Consequently, with today's lower interest rates, we get higher current values when we discount future values, leading to greater difference between market and book values. Furthermore, Mikael Hagström believes that the fact that Volvo is an 80 year old company, and therefore possesses old property that may have been totally amortized, cannot be forgotten. Such old property, even though it is completely amortized may still have an economic value. Thus, this value is, as well as important intangible assets, kept hidden in the balance sheet. Mikael Hagström also

⁸¹ Lev Baruch and Daum Juergen, 2004

discuss the fact that brand companies, like the Volvo Group, often have higher market values. However, this does not imply that these companies are more profitable or valuable.

On the question whether AstraZeneca and the Volvo Group experience any problems with the big differences between book and market values Leif Johansson for AstraZeneca answers no. Mikael Hagström, on the other hand, begins the discussion of companies always wanting their stock exchange rates being highly valued. Shareholders today want to have higher returns on their investments, and they are therefore prepared to take higher risks. In other words investors are prepared to invest in companies with lower solvency. This development further increases the difference between book and market values.

In this chapter we analyze, from the perspective of the investors, the advantages and disadvantages with information provided in both traditional accounting and alternative reporting of intangible assets.

5.1. Traditional Accounting for Intangible Assets

As previous discussions in this essay have made clear, the comprehensive problems connected with accounting for intangible assets results in traditional accounting not being able to capture important intangible assets. Consequently, many companies have underestimated assets which results in traditional balance sheets not providing investors and other users of financial information with a fair economic view of companies' total values.

Users of financial information could be negatively affected by current accounting for intangible assets making traditional income statements and balance sheets misleading. The reason for this is that expenditures for creating intangible assets rarely can be recognized as intangible assets according to the IASB's definitions discussed in Chapter 2. When expenditure for creating intangible assets cannot be capitalized on the balance sheet, it has to be recognized as a cost in the income statement for the current accounting period. If this expenditure is recognized as a cost instead of an asset, the costs for the current period could be overestimated leading to an underrated profit for that period. Further, the assets fair value could have been underestimated in the balance sheet, only because the asset does not fulfil the recognition criteria. If economic benefits later are being generated from that expenditure, meaning that an asset really exists, the financial statements will continue to be misleading to its users.

All expenditures sooner or later become costs, either directly or by assets being amortized. Consequently, if expenditure is recognized as a cost when it really should have been recognized as an asset, the once overestimated costs will lead to underestimated costs in the future. When an asset is being amortized, costs are recognized to match generated economic benefits. The fact that much expenditure, according to current regulations, has to be recognized as costs before such economic benefits are being generated, leads to a mismatch between costs and incomes. For investors and other users of financial information this becomes misleading, since they cannot see which costs have contributed to generate certain incomes. When a company invests in intangible assets and all expenditures for that investment has to be recognized as costs, the financial statements show lower profits to investors and other users of financial information. However, investments in intangible assets are investments in future creation of value. Therefore, the investments that give lower profits today may indicate higher profits in the future. This clearly indicates that accounting today does not provide the information needed to form an opinion of companies' future potential. To successfully invest in intangible assets, such as the brand, product development etc., is today of crucial importance for companies' growth and future value creation.

Furthermore, consider the problems faced by companies with huge expenses in R&D, like for example AstraZeneca. All value created in AstraZeneca is dependant on the company being successful in its R&D. However, developing a drug is a long process connected with great uncertainty. Therefore, as well as many R&D expenses will not generate effective drugs, some will add up to successful products generating incomes to the company during a long period of time. This means that it is very difficult for investors to assess AstraZeneca's future

potential solely by regarding the company's accounting. Since most R&D expenditures are immediately recognized as costs in financial reports, they affect the earnings. Therefore, an investor cannot judge a company's performance by just regarding its profit. An investor has to go behind the profit, and analyze by which incomes and costs the profit has been composed. If, for example, a low profit is the result of high costs, the investor has to assess whether these costs are good or bad to the company. If great parts of the costs consist of investments, the investor has to assess whether the investments are well made. For this, the information provided in accounting is not sufficient.

An additional aspect is that because companies know that most investments in intangible assets must be directly recognized as costs, they may avoid these investments. The temptation to change the level of investment in intangible assets in order to manage reported earnings to meet and exceed investors' and analysts' expectations may therefore be of importance. This could add up to companies slowing down their own development.

Thus, many different aspects imply that investors cannot rely on accounting in forming their decisions about future investments. Not only could the figures in accounting be misleading by not reflecting real economic values, but the accounting also fails in indicating how companies will perform in the future. Misleading figures further result in calculations of business ratios, calculated on those figures, being incorrectly calculated. Consequently, business ratios based on accounting become less useful to investors. A misleading, too low profit, caused by too many expenditures for intangible assets being recognized as costs, makes calculated profitability too low in comparison to the real economic profitability. On the other hand, too low values in assets, caused by intangible assets not being captured on the balance sheet, make calculated profitability too high in comparison to the real economic profitability. Further, underestimated assets also mean underestimated equity, which makes calculated solvency too low in comparison to real economic solvency. On the other hand, the risk connected with recognizing intangible assets with uncertain values could lead to companies overestimating their assets and consequently their equity. Thus, calculated solvency could be too high in comparison to real economic solvency, meaning that investors are misled by not being shown the company's real financial risk. However, in the current situation skilled investors are aware of this lack in accounting, and therefore they recalculate accounted figures to make them better reflect companies' real economic situation. Thus, when traditional accounting cannot capture important intangible values, investors have to be able to make more complex analyses. Investors today both have to understand the accounting system and its scarcities, and have knowledge about companies and the industries those companies operate in. Further, they need to keep themselves well informed of what is happening in the market to assess whether companies' investments will be profitable in the future. This is quite a lot to ask from external stakeholders.

However, even though there are scarcities in the way traditional accounting systems capture intangible assets, they also have important advantages to investors and other users of financial information. Traditional accounting provides an overview of what a company has performed; it is an overview over a company's historical development. Critics of traditional accounting systems often claim that the accounting is too focused on backward looking information, meaning that investors rather need information about a company's future than its history. In making investment decisions, investors want information about where the company is going, not where it has been. However, in opposition to this it may be of great importance to look backwards in predicting the future. In studying the historical development, an investor can understand the current trend and get an idea of where a company is going. Further, historical

development represents experience and a possibility to learn from mistakes. Therefore, to know whether a company will develop successfully in the future, an investor also must know the company's history. To illustrate this, compare with driving a car. If you want to drive pass another car, it is quite wise to look into the driving mirror; to succeed in moving forward, you must look backwards.

Furthermore, when critics claim that accounting only provides backward looking information that is not completely true. Since assessments about the future are important elements in forming a corporate balance sheet, traditional accounting also provides forward looking information. Despite widely held beliefs that corporate financial statements convey historical facts, practically every material item on the balance sheet and income statement, with exception of cash, is based on subjective assessments about future events. To be able to put any asset into a balance sheet, the assessment that the asset will generate future economic benefits must be made. For example, how can a company put a value on its inventory, if it does not assess being able to sell that inventory in the future.

Despite of the problems in accounting, previously discussed throughout this essay, existing regulations for this accounting may be the best solution that could be reached today. The IASB has the objective to make accounting as useful as possible to its users, and is constantly seeking new ways to improve existing regulations. Thus, the IASB's objective is to provide users of financial information with the best possible information, but the uncertainty concerning intangible assets set limitations of how complete information that possibly can be provided. However, the fact that there are regulations, even though they are incomplete, makes the quality of the information provided ensured. Even though, the IASB wants to make financial information relevant to its users they demand reliability in the information provided. This is the main problem in accounting for intangible assets; it is too difficult to give them accurate and reliable values. This results in accounting not providing all the relevant information to its users, but on the other hand, investors can be rather certain that the information provided in accounting is correct. Furthermore, the reason for the financial information, provided through accounting today, reaches a high level of reliability is that it is audited by an external auditor. By this means, users of financial information get an external opinion on companies' assessments in accounting, ensuring neutrality in the accounting. Further, regulations of accounting make it possible for users to compare the financial statements of different enterprises in order to evaluate their relative financial position, performance and changes in financial position. The IASB also demands consistency over time, which makes it possible for investors to compare companies' performances over time. Thus, even though there are great scarcities in accounting for intangible assets today, traditional accounting has several important advantages to investors and other users of financial information.

However, the scarcities in accounting for intangible assets have further aspects. Investors today are aware of the problematic of accounting for intangible assets, and thus, that intangible assets in corporate balance sheets probably are underestimated. They know that accounting is unable to capture important and valuable intangible assets, and therefore, that book values of companies do not reflect the real economic values of companies. Better indicators on companies' real economic values are, therefore, probably those being set by the market. As previously discussed in this essay, the difference between book and market values normally is considerable today. Many accounting experts today claim that this considerable difference consists of values in hidden intangible assets. However, this is an oversimplification. It must be kept in mind that most physical and some financial assets are

presented on the balance sheet at historical cost that is being amortized over time. Market values, on the other hand, reflect the real economic values of those assets, which can be considerably higher than the book values. However, even though real economic values of physical assets do explain a part of the difference between book and market values, a greater part must be assigned to other hidden values: hidden intangible assets.

Thus, it could be claimed that market values today represent the best indicators on companies' real economic values, because they are set by the market taking those values that accounting cannot capture into consideration. However, there are problems connected with market values being the best indicators for investors to know companies' real economic values. As previously discussed, great values in intangible assets are kept hidden in accounting because of the difficulty and uncertainty in valuating them and acknowledging their existence. The question asked is whether external actors are better suited to make such assessments than the companies themselves? This is probably not the case. There is great information asymmetry between companies and the market, especially when it comes to intangible assets. Thus, the assessments being made by investors are very uncertain, which could be one reason for market values being volatile. Intangible assets are by their nature also volatile. As they exist mainly as future generation of value, they only exist as long as someone believes in their potential to generate future value. Therefore, the value of intangible assets is highly speculative. They give the market the possibility to form its own expectations about companies' future potential. Thus, this scarcity of reliable information may give rise to bubbles and bring about the risk for collapses. It is because of this that the IASB wants to take more market valuations into the accounting. Even though this would imply more fluctuating book values, they assess great gains from investors being provided with important information about "real" market values directly from the companies themselves. This should help in decreasing speculative rises and falls on the stock market.

However, this trend towards more real values in accounting may imply an overestimation of companies' intangible assets. Companies probably believe strongly in themselves, and therefore they assess their assets having great values. The danger with giving companies the opportunity to report for such values is that they may mislead investors by making them invest in values that may not exist. Further, the difficulty in giving intangible assets market values is that they are most often unique, one of a kind, and therefore there exist no active market where reliable market values can be set. Furthermore, this makes it close to impossible for an auditor to assess whether valuations of intangible assets made by companies are correct. Thus, if no external actors can ensure the accuracy of these valuations, is not the relevance of such accounting lost?

Furthermore, how important are intangible assets in accounting? Normally, accounted intangible assets have no great part of companies' total assets in the balance sheet. Thus, the accounting today reflects physical assets being more important than intangible assets. However, it is claimed in the knowledge economy of today that intangible assets, even though they are not being shown in accounting, are of crucial importance to companies' future creation of value. Intangible assets in, for example the competence of employees, the organizational structure and customer relationships are, without any doubt, very important to companies; but how important is it to put the value of these in a corporate balance sheet?

Further, which should be the value of intangible assets in a balance sheet? It has previously been discussed throughout this essay that the value of intangible assets is future value consisting of future generation of incomes. However, if companies would account for these

future incomes, does that not imply that the companies anticipate their profits? Further, if the intangible assets' values have been overestimated, these profits are incorrectly anticipated. This means that companies will have to write down their asset values and, thus, recognize costs because of their misjudgements. In our current economic situation, where the trend is towards increasingly important values in intangible assets, it is easy to advocate that those values should be taken into the accounts. However, if more intangible values were taken into the accounts, what happens when the trend goes in another direction? It is not desirable with a situation where companies will have to make great write-downs on intangible assets, because of uncertain assessments being permitted in accounting.

There must, however, be some limitations on what is relevant to treat in accounting. Many of those very important intangible assets only have a value for a specific company in a specific context. In addition to this, the value of such intangible assets is to make other assets of the company create value in generating incomes. In addition, many intangible assets are embedded in physical assets, for example the competence of employees as an intangible asset is embedded in the products or the services developed and produced by the employees. Thus, is there any point in giving such intangible assets an own value and report for them in a balance sheet?

5.2. Alternative Reporting of Intangible Assets

Maybe, relevance does not lie in taking all intangible assets into the accounting. For example, even though the competence of employees perhaps will contribute to the creation of better products and services in the future, the problems with putting number on competence, and other similar intangible assets, remain. The uncertainty of their value makes it too difficult to reliably take them into the accounts. It is, however, relevant for investors to get information about these important intangible values. Thus, since great problems are connected with capturing intangible assets in traditional accounting, maybe they should be reported for alternatively.

Currently, financial statements in their present form only give a limited account of the real economic conditions of a company. They provide no information about the growth and the adaptation potential of a company, nor do they disclose how efficient the company is in utilizing its bundle of resources, assets and capabilities to generate future economic benefits. This kind of information is however very important and relevant in the decision-making of investors.

The advantage with alternative reporting is that it can provide investors with important information missing in accounting. Investors can be provided with information about those probably great hidden values in intangible assets that most companies possess today. This would increase the understanding of the companies' real value, since investors are given an explanation to the wide gap between companies' book and market values. Companies themselves would be providing indications about their real economic values, and thus, investors do not solely need to rely on the market's assessment of those values. This could further help in decreasing the information asymmetry, which is the principal purpose of accounting.

Another advantage with information provided in alternative reporting models is that these models capture more aspects than just the financial ones. The intention of alternative

reporting is to give a more overall picture over a company, providing information about the entire value creation process. To investors this is important. Even though, the information about companies' historical developments and performances, provided in traditional accounting, is useful in investors decision-making, it is probably even more useful for investors to know how companies intend to create value in the future. The purpose of an investment is after all to get a high return on money invested, and therefore information about how companies will perform in the future is relevant.

However, some considerations must be made about alternative reporting. An alarming factor, with for example Skandia's specific design to report their intellectual capital, may be that it rather give the impression of an internal motivation tool than an objective report with relevant information to investors. Are Skandia's reports not just a way to create a better image of the company, in order to attract investors' attentions? Because of the fact that alternative reporting for intangible assets is not regulated, auditors are unable to fulfil their roles of ensuring the quality and reliability of this information. Further, the lack of regulation makes it possible for companies to freely design these kinds of reports, meaning that such reports always will be designed favourably to a company. Companies can choose which information to report, and further how to present that information. This implies that there is a risk connected with alternative reporting for intangible assets being used as marketing to attract investors, and that the information that was supposed to help investors in making better decisions rather becomes misleading. However, companies do not, in the long run, favour from misleading their investors, since this would harm the market's confidence to the company. Therefore, it can be expected that companies provide correct, even though a bit polished, information in their alternative reporting for intangible assets. Why spend time and money on something that in the end only provides false information?

Furthermore, the lack of regulation in alternative reporting for intangible assets makes it difficult to compare different companies, which makes it harder for investors to evaluate different investment alternatives. Where no regulation exists, the comprehension and design of information provided will differ a lot between different companies. However, the question whether alternative reporting for intangible assets should be regulated must be taken in consideration. The gain from regulating such reporting could be the important comparability. However, if comparability shall be obtained through regulation, such regulation must mean that one single type or model of reporting shall be used by all companies. Herein lies the problem that one single model may not suit all kinds of companies in different industries. In this essay different approaches to alternative reporting for intangible assets have been discussed, the question is which of these is most suited in regulation for all kinds of companies? Because every company's intangible assets and value creating processes are different, maybe regulations must permit different kinds of alternative reporting models. Perhaps regulations of alternative reporting for intangible assets only should demand that companies leave information about their hidden intangible assets, and not how they leave such information?

However, how much information should regulation demand of companies to provide? It is generally agreed that financial statements today have scarcities in leaving complete and relevant information to its users. On the other hand, how much information should be provided in alternative reporting to balance the needs of both companies and investors? Investors claim today that there is a lack in the information provided by companies about their intangible assets. To the contrary, one cannot demand companies to leave too detailed information about their intangible values in for example product development, internal

structures and processes since leaving such information would make a company too exposed to competitors. Furthermore, coping with alternative reporting for intangible assets would demand a lot of resources. The question is whether investors' benefits would exceed the companies' costs?

Finally, traditional accounting lack in relevance because of its inability to capture increasingly important intangible assets. However, is it relevant to try to make traditional accounting able to capture those values, when the uncertainty is too great to value them reliably? Perhaps alternative reporting for intangible assets could be the solution to this problem. However, how relevant is alternative reporting when the lack of regulations makes it impossible to ensure its quality and reliability?

In this chapter we aim to come to our conclusion whether relevance has been lost in accounting for intangible assets.

As we have described and discussed throughout this essay, great problems exist in capturing important intangible assets in the traditional accounting systems of today. Even though it is of great importance for investors and other users of financial information to report for these intangible assets in corporate balance sheets, we believe that the problems connected with achieving that are too great. First of all, we consider the fact that the value of intangible assets to such an extent is connected with future value. This makes the value of intangible assets extremely uncertain and volatile, since no one neither can know nor control the outcome of the future. Furthermore, we consider the fact that the value of many intangible assets lies embedded or is the combination of other assets, and become apparent only within a specific context. This makes the value of such intangible assets extremely difficult to determine.

However, the lack in current accounting systems not capturing all intangible values makes traditional income statements and balance sheets misleading. By not being provided with sufficient and accurate information, investors, especially those with less experience and awareness of existing problems, could be negatively affected by current accounting systems. Professional investors are, to a wider extent than smaller private investors, able to look pass information provided in accounting and to make their own assessments about company's hidden values and potential. However, such assessments are extremely difficult since their uncertainties do not even permit companies to take them into the accounts.

Thus, in today's situation investors are compelled to make difficult assessments about hidden intangible values without complete information. Probably, better assessments about these values could be made by the companies themselves. However, accounting regulations hinder such assessments from being shown because of their lack of reliability. Thus, important information that could be provided by the companies is lost, making investors' doing worse assessments and perhaps forming wrong decisions. We believe that the market would benefit from an accounting system where more information could be provided by the companies themselves. Today, companies' market values, set by corporate outsiders, are the best indicators of companies' real economic values. However, market values can, as well as book values, be misleading. It must be considered that values set by the market not only are based upon well made assessments, but are also strongly affected by market psychology, speculations and expectations. Even though, it would not be reasonable to make companies set their own values, since such values must be set by sellers and buyers. It would however be better if the companies themselves could provide the market with relevant information, for sellers and buyers being able to assess the companies' fair values. It is better that information about companies' real values are provided by those having the highest knowledge and insight, i.e. the companies themselves.

However, we do not find the solution in taking intangible assets into the balance sheet at any cost. The important qualities of today's accounting, such as reliability, cannot be jeopardized. Of course, it is relevant to provide investors with complete information about intangible values, but this information does not necessarily need to be provided in numbers. It is not relevant to put numbers on something that is so uncertain and difficult to value. We believe that it is more relevant to leave information about such intangible assets, today hidden in the accounting, alternatively.

It is relevant for investors and other users of financial information to be provided with information about companies' future potential. Further, if this future potential lies in intangible assets, it should be more relevant to know how these are being developed and invested in, than their uncertain values. From our point of view, if a company invests in its intangible assets, this proves their existence and the fact that they are considered valuable to the company. A company would not invest in something without the expectation that this would generate incomes to the company in the future. Therefore, we mean that investments in intangible assets today are the best indications of these assets' importance and potential. Already today, most companies leave information about their investments in intangible assets. However, our opinion is that this information should be further developed and focused on the objective of these investments. The information should treat how these investments in intangible assets will contribute to the creation of value in the company.

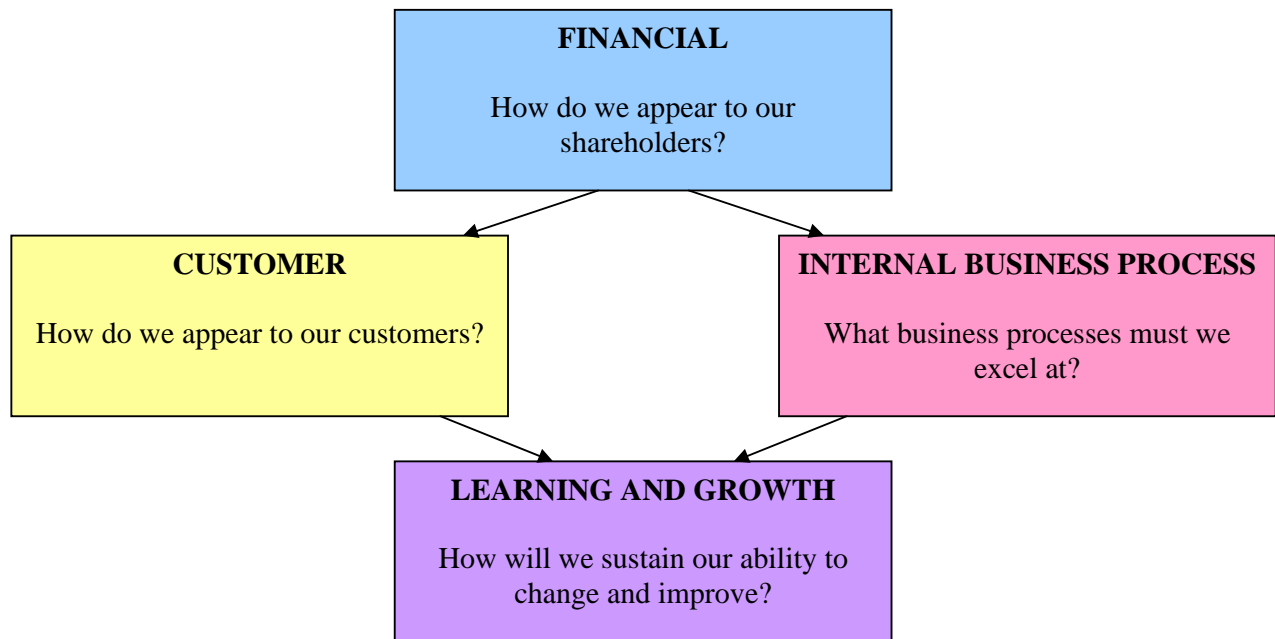
However, even though this alternative information that could be provided by companies is important in the decision-making of investors, it has to be objective to be completely relevant. To attain objectivity, and not to lose the reliability, the information has to be regulated and externally audited. Further, if this important information is to be provided by all companies, they probably must be obligated through regulations to do so. Providing this kind of information would, however, demand more resources in time and money for the companies.

Finally, is relevance lost in accounting for intangible assets? Yes. First of all because of the increasing importance of intangible assets in today's knowledge economy. Secondly, because of the fact that intangible assets are what make companies unique and distinguished from their competitors. Thirdly, and most importantly, because this is not reflected in accounting for intangible assets. However, it is not possible to reliably capture those important intangible values, hidden in today's accounting. To adapt the accounting system to permit the recognition of such intangible assets, therefore means, that the very important reliability would be lost. Further, if accounting loses its reliability, is not even the relevance lost? Therefore, we reach the conclusion that the accounting for intangible assets that we have today, even though it may not be completely relevant, perhaps is as relevant as it can be.

Propositions on Continuous Research

1. A more complete examination could be carried through, of how accounting for intangible assets is being handled in companies. Such an examination could provide a better overview of existing problems faced by these companies, and perhaps also propositions on how these problems could be solved.
2. A more complete examination of how intangible assets alternatively could be reported, and further which kind of information that is needed by investors. Such an examination could result in putting together a proposition of an “optimal” reporting model for intangible assets.
3. A study of accounting for intangible assets could further be made from other perspectives than the perspective in this essay. For example the perspective of auditors could be taken in order to get their, probably, more cautious view on reporting of values in intangible assets.

Appendix 1 The Balanced Scorecard Components by Norton and Kaplan



Source: Kaplan Robert and Norton David, *The Balanced Scorecard: Translating Strategy into Action*, Harvard Business School Press, Cambridge, Mass., 1996 (Freely drawn)

Appendix 2 The "Value Chain Scorecard" by Baruch Lev

Discovery and learning	Implementation	Commercialization
<p>1. Internal renewal</p> <ul style="list-style-type: none"> - Research and development - Work force training and development - Organizational Capital, processes 	<p>4. Intellectual Property</p> <ul style="list-style-type: none"> - Patents, trademarks, and copyrights - Licensing agreements - Coded know-how 	<p>7. Customers</p> <ul style="list-style-type: none"> - Marketing alliances - Brand values - Customer churn and value - Online Sales
<p>2. Acquired capabilities</p> <ul style="list-style-type: none"> - Technology purchase - Spillover utilization - Capital expenditures 	<p>5. Technological feasibility</p> <ul style="list-style-type: none"> - Clinical tests, Food & Drug Administration approvals - Beta tests, working pilots - First mover 	<p>8. Performance</p> <ul style="list-style-type: none"> - Revenues, earnings, and market share - Innovation revenues - Patent and know-how royalties - Knowledge earnings and assets
<p>3. Networking</p> <ul style="list-style-type: none"> - R&D alliances and joint ventures - Supplier and customer integration - Communities of practice 	<p>6. Internet</p> <ul style="list-style-type: none"> - Threshold traffic - Online Purchases - Major Internet alliances 	<p>9. Growth prospects</p> <ul style="list-style-type: none"> - Product pipeline and launch dates - Expected efficiencies and savings - Planned initiatives - Expected breakeven / cash burn rate

Source: Lev Baruch, *Intangibles: Management, Measurement & Reporting*, Brookings Institution Press, Washington DC, 2001 (Freely drawn)

Appendix 3 The Danish Intellectual Capital Statements Act (June 2001)

Knowledge Narrative	Management Challenges	Initiatives	Indicators
<ul style="list-style-type: none"> - Product or service: Secure and systematic assessment of taxes for businesses - Use value: Prevention of unfair competition - Knowledge resources: A simple, effective, and correct tax collection system advising users on the administration of often complex statutory rules and regulations 	<ul style="list-style-type: none"> - Deep insight into users' conditions 	<ul style="list-style-type: none"> - Analyze users' expectations and satisfaction - Monitor business activities - Monitor new legislation 	<ul style="list-style-type: none"> - Number of new laws on taxes, excises, and duties - User satisfaction measurement - No. of annual surveys
	<ul style="list-style-type: none"> - Hiring and retaining employees 	<ul style="list-style-type: none"> - Plan future need for competencies - Create a family-friendly workplace - Promote Odense Customs and Tax Region, including its role in society - Develop a relationship between wages and results - Develop assignments characterized by responsibility and independence 	<ul style="list-style-type: none"> - Staff turnover - Age distribution - Number of schemes on part-time work leave and other time off - Number of applicants - Number of employees with new salaries - Number of employees with bonuses - Employee satisfaction survey
	<ul style="list-style-type: none"> - Development of professional and personal competencies among the personnel 	<ul style="list-style-type: none"> - Create an overall understanding of Odense Customs and Tax Region's products - Develop knowledge sharing across professions - Introduce competency development - Introduce development methods 	<ul style="list-style-type: none"> - Number of job changes in the organization - Number of courses and other knowledge-sharing activities - Number of international exchanges - Training cost size - Competency evaluation
	<ul style="list-style-type: none"> - Development of new effective processes 	<ul style="list-style-type: none"> - Develop a process and a culture of improvement 	<ul style="list-style-type: none"> - Number of process descriptions - Number of improvement proposals - Benchmarking
	<ul style="list-style-type: none"> - Electronic accessible rules, practices, processes, and experience 	<ul style="list-style-type: none"> - Anchor rules, practices, processes, and experience electronically - Monitor results of new legislation, user behavior, etc. 	<ul style="list-style-type: none"> - Number of applied process descriptions - Number of decisions - Number of new acts and changed practices
	<ul style="list-style-type: none"> - Quality assurance with respect to equal treatment 	<ul style="list-style-type: none"> - Prepare quality declarations - Prepare quality assurance guide - Analyse users' expectations and satisfaction - Always behave politely and correctly 	<ul style="list-style-type: none"> - Number of language analyses - Number of quality assurance decisions - Number of appeals - Number of complaints - User satisfaction surveys in this area

Source: Jan Mouritsen, et al., *Intellectual Capital Statements—The New Guideline*, Danish Ministry of Science, Technology and Innovation, 2003.

Appendix 4 Calculations on Book and Market Values

The Volvo Group⁸²

Share price, the A-share December 26, 2005:	374,5 SEK
Number of A-shares December 31, 2005:	135 520 326 shares
Market value A (share price * number of shares):	50 752 362 087 SEK

Share price, the B-share December 26, 2005:	374,5 SEK
Number of B-shares December 31, 2005:	290 163 718 shares
Market value B (share price * number of shares):	108 666 312 391 SEK

Market value (A + B): 159 418 674 478 SEK

Total number of shares: 425 684 044 aktier

Book value on equity December 31, 2005: 78 508 000 000 SEK

Difference between market value and book value of equity: 80 910 674 478 SEK

Equity percentage share of market value: 49,25 %

AstraZeneca⁸³

Share price December 30, 2005:	388, 5 SEK
Number of shares December 31, 2005:	1581 000 000 shares
Market value (share price * number of shares):	614 218 500 000 SEK

Book value on equity December 31, 2005: (13 597 000 000 USD * rate 7, 94 USD/SEK)	107 960 180 000 SEK
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Difference between market value and book value of equity: 506 258 320 000 SEK

Equity share of market value: 17, 58 %

⁸² Numbers from the Volvo Group's annual report and www.di.se (2006-04-27)

⁸³ Numbers from AstraZeneca's annual report and www.di.se (2006-04-27)

List of References

Daum Juergen, *Intellectual Capital Statements: Basis für ein Rechnungswesen –und Reportingmodell der Zukunft*, München, 2003

Daum Juergen, *Interview with Baruch Lev*, shortened version from *Intangible Assets or the Art to Create Value*, 2002, published in the German Newsletter “Controlling & Finance”, issue 02/2002

Daum Juergen, *Interview with Leif Edvinsson*, The new New Economy Analyst Report – November 13, 2001 (a)

Daum Juergen, *How accounting gets more radical in measuring what really matters to investors*, The new New Economy Analyst Report – July 26, 2001 (b)

Edvinsson Leif, *Corporate Longitude: What You Need To Know To Navigate The Knowledge Economy*, Financial Times Prentice Hall, Pearson Education, Inc., Upper Saddle River, N.J., 2002

Edvinsson Leif and Malone Michael, *Det intellektuella kapitalet*, Liber ekonomi, Malmö, 1998

Holmen Jay, *Intellectual Capital Reporting*, Management Accounting Quarterly Vol. 6, No. 4, 2005

IASB, International Financial Reporting Standards 2005, full text of all IFRS extant at 1 January 2005

IASB, *IFRS 3 – Business Combinations*, effective date: March 31 2004, published by the Official Journal of the European Union

IASB, *IAS 38 – Intangible assets*, effective date: July 1 1999, revised March 31 2004, published by the Official Journal of the European Union

IASB, *Framework for the Preparation and Presentation of Financial Statements*, approved by the IASC Board, April 1989, adopted by the IASB, April 2001

Kaplan Robert and Norton David, *The Balanced Scorecard: Translating Strategy into Action*, Harvard Business School Press, Cambridge, Mass., 1996

Karlgård Rich, *Rest In Peace, Book Value*, FORBES ASAP, 1993

Leitner Karl-Heinz, *Managing and reporting intangible assets in research technology organisations*, R&D Management 35, Blackwell Publishing Ltd. 2005

Lev Baruch and Daum Juergen H., *The dominance of intangible assets: Consequences for enterprise management and corporate reporting*, Measuring Business Excellence, Vol. 8, No. 1, Emerald Group Publishing Limited, 2004

Lev Baruch, *Intangibles: Management, Measurement & Reporting*, Brookings Institution Press, Washington DC, 2001

Mouritsen Jan, et al., *Intellectual Capital Statements—The New Guideline*, Danish Ministry of Science, Technology and Innovation, 2003

Mouritsen J. and Larsen H.T., *Valuating the future: Intellectual Capital supplements at Skandia*, Accounting, Auditing & Accountability Journal, Vol. 14, No. 4, 2001

Pike Stephen and Roos Göran, *Mathematics and Modern Business Management*, Journal of Intellectual Capital, 2004

Skandia, *Visualizing Intellectual Capital in Skandia*, 1994 (available at www.skandia.se)

Smith Dag, *Redovisningens språk*, Studentlitteratur, Lund, 2000

Stewart Thomas, *The wealth of Knowledge: Intellectual Capital and the Twenty-First Century Organization*, New York, 2001

Stewart Thomas, *Intellectual Capital: The New Wealth of Organizations*, Currency Doubleday, New York, N.Y, 1997

Interviews

Interview with Mikael Hagström, Director of Group Accounting, the Volvo Group, 2006-05-05

E-mail Interview with Leif Johansson, Expert on Accounting for Intangible Assets, 2006-05-19

Annual Reports

AstraZeneca's annual reports from 2005, 2004, 2003 (available on www.astrazeneca.se)
Volvo's annual reports from 2005, 2004, 2003 (available on www.volvo.se)

Websites

www.astrazeneca.se
www.skandia.se
www.volvo.se
www.di.se