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Human Capital during Acquisition

The consideration and valuation of human capital in knowledge-based companies

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FEA50E Degree Project in Business Administration for
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Abstract

Title: Human capital during acquisition - the consideration and valuation of human capital in knowledge-based companies.

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Purpose: The purpose of this thesis is to enhance the understanding of whether human capital is considered and valued during acquisitions of knowledge-based companies and, if it is taken into account, how it is considered and how the valuation is performed. The purpose is further to investigate why human capital is valued in this way and how an acquisition is affected by taking human capital into consideration.

Method: To achieve the purpose of this thesis, data was collected through qualitative, semi-structural interviews with the four largest audit firms, Deloitte, PwC, Ernst & Young and KPMG. The respondents are experts on company valuation with a great experience from acquisitions and one respondent is an expert on human resources due diligence. The approach of this thesis is descriptive and aims to describe the current condition within the research area.

Result: This thesis concludes that human capital is valued indirectly as a part of the total company valuation. The valuation is performed using discounted cash flows (DCF) and the market approach simultaneously. The valuation includes several assessments made by the appraiser and thus the value of the company includes subjectivity. The valuation of a knowledge-based company is not performed differently than a valuation of other sorts of companies but there are specific risks that need to be estimated. Possible explanations as to why these valuation approaches are used could be found in functional fixation, institutional theory and normative isomorphism. Human capital is further considered during the integration process. The integration is important in order to achieve all expected synergies and thus make the acquisition successful.

Contribution: This thesis is valuable for stakeholders in order to invest in a knowledge-based company since the required information to determine the risks of the company is often not available. Further, the thesis is of value for potential investors in order to enhance the understanding of the difficulty of seeing human capital as an asset and what to keep in mind when acquiring a knowledge-based company. The thesis is further valuable for all people seeking to enhance their understanding of how the valuation of human capital is performed during acquisitions.

Key words: Human capital, Knowledge-based company, Acquisition, Human resources due diligence.

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Abbreviations

BV – Book Value

CAC - Contributory Asset Cost

CAPM - Capital Asset Pricing Model

DCF – Discounted Cash Flows

DD – Due Diligence

E – Earnings

EBIT - Earnings before Interest and Taxes

EBITDA – Earnings before Interest, Taxes, Depreciation and Amortization

EV – Enterprise Value

HRDD – Human Resources Due Diligence

IASB – International Accounting Standards Board

IFRS – International Financial Reporting Standards

MPEEM – Multi-Period Excess Earnings Method

P - Price

PPA – Purchase Price Allocation

WACC – Weighted Average Cost of Capital

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1 Introduction

Associated with the development of technology the dependence of knowledge and skills increase in companies, which result in that the old industrial society has been replaced by a modern society characterized by services and knowledge-based companies (Johansson 2003). Knowledge-based companies refer to companies whose performance depends on their employees' expertise. An example could be consulting-firms where the consultants are the most important asset and without them the value of the companies would decline (Annell *et al* 1989).

One criterion to activate an asset in the balance sheet is, according to IASB conceptual framework p.49, that the company should have control over the asset (IASB 2013c). Since the employees can choose to leave the company whenever they want, the company lacks control over the employees, why the company cannot include them as an asset in the balance sheet. For knowledge-based companies, this could mean that they have to exclude their most important asset and that the financial reports can be misleading for the users. Consequently, the traditional financial reports lack the companies' full economic value (Power 2001).

There are more problematic aspects related to valuation of human capital than the lack of control. Above all, valuation is difficult because the value of an employee differs among various organizations since different education and experience are in demand. Further, it is difficult to separate the value created by human capital from what is created by other involved assets. Human capital often needs several other assets to create value and the separation among these is complex (Kaplan and Norton 2004). Several attempts have been made to accomplish a valuation of human capital and report it in the annual reports without success (Samudhram *et al* 2008). The value of human capital is still hidden in the disparity between companies' book value and market value (Kiessling and Harvey 2008).

Even if the employees are excluded from the balance sheets, the need to value human capital is still an issue in other situations, like acquisitions. A value of the company including human capital has to be set in order to determine a price. Since acquisitions have increased globally in recent years (Chakravorty 2012), valuation issues have become even more relevant. Intangible assets, including human capital, have also increased during recent decades. This trend enhances the importance of valuing intangibles and thereby human capital. In fact, only twenty percent of the listed companies' assets are tangible and financial assets. Eighty percent of the total assets consequently consist of intangible assets (Bederoff 2012). Another effect of this trend is that the difference between companies' book value and market value has increased, especially in knowledge-based companies, because of the large proportion of human capital that is not reported (Nyllinge 1999). This results in a decreased reliance of today's financial reports since the human capital is left out, even though it becomes of greater importance. The omission of human capital leads to a lack of a given method to value human capital, which is also affected by there being no law describing how companies should be valued during acquisitions. Thus, it is important to enhance the understanding of how human capital is valued during acquisitions.

1.1 Problem discussion

When a company decides to acquire another company, a price that matches the estimated value of the company is determined. The purchase sum can partly be referenced to specific assets in the target company, the company being acquired, but some parts cannot. This unknown part is called goodwill and includes immaterial assets, which often cannot be identified separately. Since the acquirer is willing to pay for these hidden values, they expect them to be valuable for the business. In knowledge-based companies a major part of the goodwill consists of human capital (Bederoff 2012) and that is also what is particularly paid for during acquisitions of knowledge-based companies. It is of interest to find out how the acquirers value the knowledge and the employees' worth and how the purchase price is determined. If the employees leave after the acquisition, the acquirer loses the asset that they paid for particularly, so it is of interest to find out how the acquirer insures against losses and takes this risk into account.

Thus, human capital is not only important to inspect in order to determine a price of a company but also to make the acquisition successful (Harding and Rouse 2007). Research shows that the number of unsuccessful acquisitions is between 70 and 90 percent, in terms of that the expected synergies are not met (Christensen *et al* 2011), and that 90 percent of the concerned companies lose market-shares by the third quarter after the acquisition. In order to avoid failure, a method called human due diligence can be used in conjunction with acquisitions. Human due diligence aims to smooth the integration between the companies concerned since there can be differences in cultures and approach to the acquisition (Harding and Rouse 2007). Harding and Rouse (2007) argue that the fact that human due diligence is ignored in many acquisitions results in problems integrating the different cultures of the companies and a loss of market share. Therefore, it is interesting to investigate to what extent the human capital is considered in other ways than only by valuation in numbers.

1.2 Purpose

The purpose of this thesis is to enhance the understanding of whether human capital is considered and valued during acquisitions of knowledge-based companies and, if it is taken into account, how it is considered and how the valuation is performed. The purpose is further to investigate why human capital is valued in this way and how an acquisition is affected by taking human capital into consideration.

1.3 Research questions

In order to achieve the purpose the following research questions will be answered:

- Which approaches are applied to value human capital during acquisitions of knowledge-based companies?
- Why is the human capital valued this way?
- To what extent and in which way is human capital taken into consideration during acquisitions and what are the effects?

1.4 Scope and Delimitations

All companies partly consist of human capital but in knowledge-based companies it is the most important asset. It is the employees and their knowledge that generate revenue and thus the human capital is of major importance in these companies (Annell *et al* 1989). Therefore, the investigation is confined to knowledge-based companies. When acquiring a company, there is a need to determine a price of the company including human capital and thus the human capital needs to be valued. Therefore, the investigation is further confined to valuation during acquisitions. The investigation of human capital in knowledge-based companies and how the valuation is performed during acquisitions was carried out through interviews with appraisers on audit firms. Hence, this thesis cannot make statements about other acquisitions where no help from experts at audit firms is used.

This thesis does not aim to find a way to include the employees in the balance sheets since several attempts to do so have already been made. Neither does it seek to establish the most common and appropriate valuation model of human capital since the research method chosen is not suitable for that sort of investigation. It does not focus on companies in a specific line of business or at foreign companies.

1.5 Contribution

This thesis is valuable for stakeholders in order to invest in a knowledge-based company with the human capital as its most important asset, especially since it is more risky to invest in a knowledge-based company compared with an ordinary company with high capital substance. The higher risk often depends on the required information to determine the risks not being available for stakeholders (Annell *et al* 1989). It is further of value for potential investors to take part of the complexity of seeing human capital as an asset and what to keep in mind when acquiring a knowledge-based company. The thesis is further valuable for all people seeking to enhance their understanding of how the valuation of human capital is performed during acquisitions.

2 Theory

The theory section initially describes the knowledge-based company to introduce the reader to what kind of companies this thesis concerns. It includes what distinguishes a knowledge-based company from other companies in the valuation process and the frequently occurring discrepancy between the book and market value in these companies. This is to understand the complexity of knowledge-based companies and why these could be problematic to value during acquisitions. Next, the theory describes what the intellectual capital is, including human and structural capital. The purpose of this thesis is to understand how human capital is considered and valued. To be able to understand and exclude human capital, the factors intellectual capital and structural capital are described. Intellectual capital is discussed since human capital is a part of intellectual capital, and structural capital since it is the remaining part of intellectual capital and because it affects the value of human capital. To understand why it is complex to value human capital in financial numbers and include it in the balance sheet, the factors behind this are described. Next, the usage of human capital reporting is described to understand how information about human capital could affect the valuation of the company.

Further, the theory describes how the valuation during acquisitions is usually conducted with the most common approaches. This is relevant to understand since the human capital is included in the value of the total company. Human capital is further considered when the accounting is made after the acquisition, why this is described in the theory. Due diligence and human resource due diligence prior to the acquisition could be a way to consider human capital in the acquisition process, why this is considered in the theory. Further, the human capital is a critical factor in the integration process during acquisitions, why this is mentioned. Thereafter, the theory describes the high amount of unsuccessful acquisitions to understand the problem with acquisitions and what might cause this.

Functional fixation in accounting is mentioned since the accounting was developed at a time when there were fewer knowledge-based companies, which could be a risk factor in the sense that the people valuing a company and making the accounting or the accounting rules might not adapt to new circumstances. Finally, institutional theory and isomorphism are mentioned since these relate to companies' behavior and hence could be reasons for the chosen valuation approach.

2.1 The knowledge-based company

The knowledge-based theory of the firm is based on the specialist knowledge of individuals within the firm (Grant 1996), hence the knowledge-based company relies on the sale of its knowledge. Knowledge-based companies are a special type of service company that have highly skilled employees and solve complex problems on non-standardized items. For example, this could be a law firm, accounting firm or consulting organization (Annell *et al* 1989). Unlike other companies, knowledge-based companies' most important assets do not exit the company when services are sold, but rather grow in the selling process when the employees and the company achieve new knowledge and experience working with the customers. At a minimum, the capital is sustained (Sveiby 1997; Sveiby 2001).

When valuing a knowledge-based company, one significant difference from other companies is the risk assessment, since the risk is harder to measure in knowledge-based companies. These companies have a relatively low operational risk. Instead, there are risks like being too dependent on a few clients, although the greatest risk is the dependency of the employees. These are risks that are difficult to measure, especially for stakeholders with a lack of information. It is important to find out how vulnerable the company is to defection, how stable the customer network is, the employee turnover rate and the employee demographics. It could be considered more risky to invest in a knowledge-based company compared to a company with a high capital substance. The greater risk derives from the difficulties with determining the companies' risks, since it depends on stability among key-persons and the health of the organization. This information is often not available for stakeholders (Annell *et al* 1989).

For the majority of knowledge-based companies, there is a discrepancy between the book value and the market value (Lev and Zarowin 1999) and the discrepancy continuously grows (Kiessling and Harvey 2008; Lusch *et al* 1998). The market value can be described as the price the equity or company could be sold for. The book value is the value that the equity is recognized at in the balance sheet (Terry 1995). The difference between the book value and the market value is referred to as goodwill and consists partly of intellectual capital for knowledge-based companies (Kiessling and Harvey 2008). This can be illustrated as in figure 1 below.

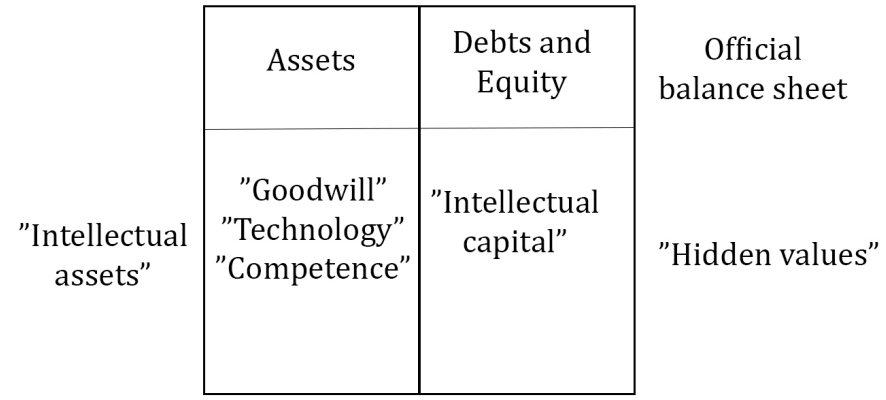

Figure 1. The figure above describes Edvinsson and Malone´s intellectual capital. The traditional balance sheet consisting of assets and debts are expanded to include the hidden values in the intellectual assets, such as goodwill, technology and competence as well as the intellectual capital. Constructed based on Edvinsson and Malone (1998: page 65).

2.2 Intellectual capital, human capital and structural capital

The most important assets for many knowledge-based companies are their intangible assets like their employees (Gamerschlag and Moeller 2011). The value connected to the employees and the organizations knowledge can be related to the intellectual capital, which could be defined as the factors that are left out of the balance sheet but that are still vital for companies' future success (Jacobsen *et al* 2005). The intellectual capital consists of human capital and structural capital (Edvinsson and Malone 1998; Edvinsson

1997; Lank 1997; Mortensen 1999), some separate relational capital as a third component (Zabala *et al* 2005; Jacobsen *et al* 2005). Edvinsson's (1997) definition of intellectual capital is illustrated in figure 2 below.

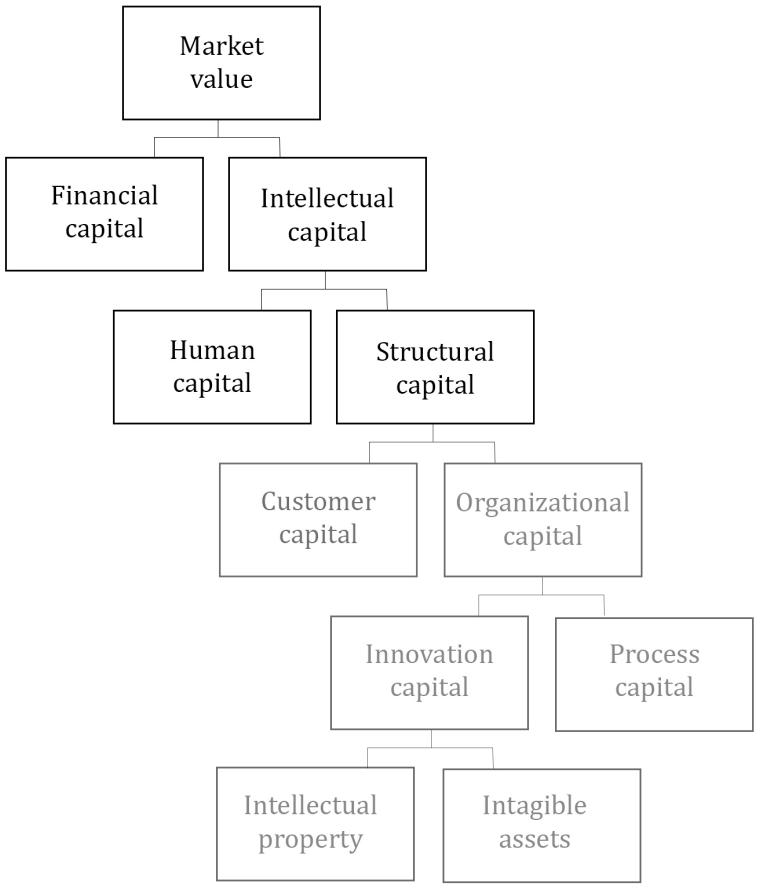

Figure 2. The figure above describes Edvinsson´s intellectual capital including the components of a company's market value. The market value partly consists of the intellectual capital including the human and structural capital. Constructed based on Edvinsson (1997: page 369).

Human capital is defined as the employee-dependent capital, for instance consisting of the employees' competence, experience, education, motivation, commitment and loyalty (Jacobsen *et al* 2005). Since the company does not own the employees in the sense that they could choose to leave the company at any moment, the human capital will exit the company when employees leave (Wyatt and Frick 2010), which means that the company does not have full control over the human capital.

To be able to make use of the human capital, the company needs a structural capital. The human capital is supported by the structural capital and is essential to be able to transfer knowledge to the organization instead of single employees (Edvinsson and Malone 1998). Structural capital refers to the experience and history that belong to the organization. This can, for example, be working processes, knowledge sharing, documentation, databases and systems that will stay in the company even if the employees leave (Annell *et al* 1989; Zangoueinezhad and Moshabaki 2009; Edvinsson and Malone 1998).

2.2.1 Valuing human capital

Since 2005, all listed companies within the EU are obligated to apply IFRS issued by IASB (The European Parliament and the Council of the European Union 2002). An asset is, according to IASB conceptual framework p.4.4:

> [...] a resource controlled by the entity as a result of past events and from which future economic benefits are expected to flow from the entity.
>
> (IASB 2013c, p.40).

Even if employees are a resource for companies, it does not meet the criteria of control and thereby not the definition of an asset (IASB 2013a). Further, an asset may not be recognized in the balance sheet until it can be measured with reliability, according to IASB conceptual framework 2013 p.4.38 (IASB 2013c). Valuation problems concerning human capital described below explain why human capital must be excluded from the balance sheets according to the problem with reliable measurement, in addition to the control criteria mentioned above.

As mentioned above the problem of reporting human capital in financial numbers does not only include the problem of not controlling the employees but above all the problem of valuing them. Valuing human capital is difficult for several reasons. Firstly, human capital must be set in a context to create value. An employee with specific training or education can be worth significantly more to one company where the education is relevant than to another company for which that specific education is not requested. Therefore, human capital has to be seen in relation with the company's strategy or long-term goal (Kaplan and Norton 2004). For the human capital to generate value for the company, it also has to be managed and directed properly (Zabala *et al* 2005).

In many companies the value of human capital does not exist without the existence of some other assets. For example, the employees could need tangible assets to be able to perform their job. This leads to another problem with measuring human capital, namely that human capital often has an indirect impact on companies' financial performance and creates value through a process rather than by itself (Kaplan and Norton 2004). This may involve a complexity in separating the value creation from human capital from value creation caused by other processes or assets.

Since human capital could be a part of a value creation chain, another problem with valuing human capital arises with the time dimension. An investment in human capital might take some time to create value. For example, an investment in education in sale techniques for the employees could lead to more sales in the long run rather than increased sales in the same reporting period as the education costs and the costs might not be a good indicator of the future value since it only creates value if it leads to better performance in the future (Kaplan and Norton 2004).

Several attempts have been made to develop a model for reporting human capital in the form of scorecards, monetary values, market values and return on assets. Although all of these models highlight human capital, none of them manages to reflect all of the aspects and value of human capital, and convert it to complete and reliable financial numbers. One generally accepted and widely used model for reporting human capital could improve the comparability between companies and thereby the investors' decision-

making, even if it would be separate from the traditional financial reports or not presented in numbers. The use of the same model may improve both internal and external human capital reporting (Samudhram *et al* 2008).

2.2.2 Human capital reporting

Even if human capital is excluded from the balance sheet, companies could report information about human capital in other ways. Human capital reporting is the information companies provide about their human capital and will facilitate the managers' decision-making, generating better financial performance and increased share value (Gamerschlag and Moeller 2011). Human capital reporting can therefore contribute to reduce the information discrepancy between the shareholders and the providers of the information, and could lead to a better reputation among potential investors and shareholders. Hence, human capital reporting could be advantageous for both shareholders and investors, as well as for the company (Gamerschlag and Moeller 2011). Some companies with significant human capital provide some information to their stakeholders about their human capital in their voluntary disclosures, but many companies do not report detailed information. Even if the information is not always provided in numbers, the information can help the stakeholders to get a clearer view of the companies' future prospects and facilitates investors' decision-making by providing them with more extensive information to evaluate the companies' market position and potential future success (Gamerschlag and Moeller 2011). According to Lank (1997), companies are increasingly requested to announce their structural capital and management of human capital in connection with decisions related to acquisitions or investments. Since a major part of investments in knowledge-based companies is spent on human capital, such as competence developing and education (Edvinsson 1997), human capital reporting can also be a way to justify such employee costs.

2.3 Valuation approaches used during acquisitions

As presented earlier, human capital needs to be valued during acquisitions in order to determine a price of the target company. An acquisition refers to when a company purchases and possesses control over another company (Terry 1995). During recent decades, there has been an increase in acquisitions in both volume and numbers. The general reason to make an acquisition is to maximize the shareholders' wealth (Chakravorty 2012).

The quality of valuation is affected by the appraiser's experience and is always influenced by subjective judgments. The value of the company can be described as the economic benefit that the acquisition is expected to provide. This value is a combination of expected future return and the risk of deviations from these expectations. The value of a company may differ between different possible acquirers since the expected synergies vary. Important to specify is what is valued, i.e. whether it is all of the shares, a certain portion of the shares or the company's net assets. Further, a measurement date has to be determined since the value of the company can vary between different days (PwC 2007).

In order to determine a value of a company, there are different approaches that can be used, of which some of the generally accepted are described below. There are two main

approaches: the income approach and the market approach, both of which are based on future cash flows, financial position and risks. They should be used simultaneously since they are complementary and both contain uncertainties. Another commonly used approach is the asset-based approach, which will also be described (PwC 2007). Human capital is not valued separately but rather indirectly as a part of the total company value in the income and market approach. Therefore, these approaches used for valuing the total company are used when valuing human capital.

2.3.1 Income approach

The income approach focuses on the yield of the companies. The most frequently used model within the income approach is discounted cash flows (DCF). DCF determines a company´s value by estimating their future free cash flows. All future free cash flows are discounted to find out how much these cash flows are worth today, i.e. their present value. Generally the discount rate is the weighted average cost of capital (WACC), which can be described as the required rate of return from both owners and creditors. This rate needs to be generated from the assets of the company. If the business involves a high risk, the stakeholders require a higher rate of return, which makes the WACC increase. This will also be the case if the debt-equity-ratio increases since that would result in a higher risk. Difficulties with this method include determining the cost of capital and managing the risk associated with the forecast values (PwC 2007).

Several models could be used to determine the required rate of return for the company, of which the most common is the capital asset pricing model (CAPM). According to the CAPM, the required return depends on the risk of the investment. The risk includes both the operating and the financial risk, namely the risk linked to the variation in operating income and the risk linked to the company's financing and debt. The rate of return is affected by two main factors: the risk-free interest rate and the risk premium. The risk-free rate is what an investor can get when investing the capital without risk. The risk premium is the expected return above the risk-free rate that is required by the investor to perform the investment instead of investing it risk-free. The risk premium is dependent on several different factors: market risk premium, business risk in the industry, company size and unique company-specific risk conditions. Small companies are often allocated a higher rate of return than large companies, likewise companies with reliance of few key-persons, clients or products (PwC 2007).

2.3.2 Market approach

The market approach aims to compare a company that will be valued with similar companies. By looking at previously executed acquisitions of comparable companies and their pricing of the shares, a comparison can be done. Listed companies that are comparable can also be used in the comparison. Generally used are multiples like price to earing (P/E), price to book value (P/BV), enterprise value to earnings before interest, taxes, depreciation and amortization (EV/EBITDA), enterprise value to earnings before interest and taxes (EV/EBIT) or enterprise value to sales (EV/sales). Industry-specific multiples can also be used. This approach is advantageous since the value is based on the market's assessments. Difficulties include finding a similar company and making adjustments for differences between the objects being compared. The availability of suitable companies affects the reliability of the company valuation. Of importance is that the available information from the comparative transaction is critically reviewed and

that appropriate adjustments are made, which is difficult. Large and small companies often differ in terms of scale and risk, which makes the relative valuation more difficult to apply on small companies, since there is often more available information on large companies (PwC 2007).

2.3.3 Asset-based approach

The asset-based approach focuses on the difference between assets and debts, in other words, the company´s equity. Adjustments are made to reach the fair values of the assets and debts and thereby over and underestimations are considered. For example, if a property has increased in market value, this asset can be underestimated in the balance sheet. To determine the fair values can be difficult if there are no marketplaces for the assets and thus the estimation can be subjective. Intangible assets are often difficult to value and if they are unidentifiable, they will be treated like goodwill. A company's goodwill cannot be calculated without determining the value of the cash flows since goodwill is the difference between the value of the cash flows and the asset value. The asset value and the value of the cash flows should be similar but there are often deviations since it is impossible to calculate the goodwill by just considering the asset value. If a company has significant assets with unknown market values, the asset value can be improper to use. It can be seen as a method to present the values of the different components in the company value (PwC 2007).

2.3.4 Acquisitions in the accountings

After the acquisition is finalized, the purchase has to be declared in the accountings. To involve human capital in the accountings involves several problems mentioned above, which have to be resolved during acquisitions.

IFRS 3 deals with transactions that meet the definition of a business combination and partly establish principles for how the acquirer should account and value the acquired company and related goodwill (IASB 2013b). According to IFRS 3 p.5, the acquirer should account the business combination by using the acquisition method. The steps of the method are to identify the acquirer, set the acquisition date, account for and value all of the identifiable assets and debts, and equally with the goodwill (IASB 2013b). When accounting and valuing the identifiable assets and goodwill, the purchase price allocation (PPA) is used (Key and Strauss 1987).

All the identifiable assets that have been acquired should be valued to fair value. To be identifiable, the assets need to be separable from the rest of the assets or arise out of contractual or legal rights. Further, the identifiable assets must meet the asset definition to be accounted separately (IASB 2013b). Since the employees do not meet this definition, the activation of the employees' value cannot be done separately (IASB 2013a). The part of the purchase sum that cannot be connected to an identified asset will be activated as goodwill (IASB 2013b). Doing the identification of all identifiable assets can result in that the acquirer identify and activate assets in the target company that were not activated as an asset in the target company's balance sheet before the acquisition. This can be the case if the target company has intangible assets like patents, trademarks or customer relationships since these have been developed internally and thereby expensed directly (IASB 2013b).

The multi-period excess earnings method (MPEEM) is used when valuing a specific asset at PPA. MPEEM is a version of the income approach that has been developed for accounting reasons. The method isolates the cash flows from that specific asset and removes the costs of using other assets that are required for the specific asset to exist. Those required assets are often called contributory assets and the costs of using these are called contributory asset costs (CAC). For example, MPEEM is often used when valuing customer relationships (Baecker 2007).

2.4 Due diligence

Before an acquisition of a company it is common practice to conduct a careful examination of the target company. This inspection process is called due diligence and is often divided into different areas, such as trading agreements, legal, tax and financial. Acquisitions are risky since the information of the target company is often inadequate. Therefore, few are willing to acquire another company without examining the company further (Atkinson and Clark 2007a). Usually, experts are hired to assist the acquirer´s employees during the due diligence. The process may begin when the purchasers have given an approximate bid and written a letter of intent, meaning that they intend to buy the company. This bid can be renegotiated after the due diligence since the transparency has increased and some previously unknown conditions may have been detected (PwC 2007).

During the due diligence, the areas above are examined and potential risks are highlighted. The task is to discover as much as possible about the target company's current position and its future prospects, and thereby confirm earlier assumptions. This is done by interviewing key-persons, and investigating business and financial information. The information given is often limited, as is time, resulting in a need to prioritize. Focus should be on the areas of the target company that are expected to provide the greatest value at the acquisition. Further, estimations on how the target company can create value when being combined with the acquirer company need to be done. If the due diligence leads to a result that advocates an acquisition, a price will be determined (Gole and Hilger 2009).

2.4.1 Human resources due diligence

Human resources due diligence focuses on soft values. The name of the process differs between various authors in the literature, but the main features are the same. Further, the name human resources due diligence will be used.

In most cases a narrow financial due diligence is accomplished, resulting in thorough knowledge about the financial, commercial and operational data. In this review the human resources are often excluded (Atkinson and Clark 2007a). A consequence of this often proves to be a loss of key-persons and thus reduced competence in the company (Atkinson and Clark 2007b). Human resources due diligence provides a more thorough examination of the target company than a standard due diligence and goes beyond financial, strategic and legal conditions. In this process, acquirers investigate the cultural and geographical conditions to find out if integration is possible and how it must be performed to be successful. The examination starts before the decision to acquire is taken (Atkinson and Clark 2007a), and the information found is then used within the

integration process that follows. It is important that no surprises show up during the integration process (Atkinson and Clark 2007b).

The employees' incentives to remain within the company are also examined since there is a risk for defection in connection with acquisitions. To make key persons from the target company stay even after the acquisition, it is necessary to make them feel secure from the beginning and smooth the changing process. Key-persons are in need of clear directives from the new owner and they can also be assigned bonuses and stock options (Walker and Price 2000). Another way to make key-persons stay is to use earnouts, meaning that the final purchase sum depends on future results (Ragozzino and Reuer 2009), or non-compete agreements, which is an agreement of not being involved in similar businesses as the company concerned for a certain time (Oswald 2012).

Human due diligence is a time consuming process that often requires several months of work. When a company is in a process of acquisition, it is sensitive to delays since it gives competitors the opportunity to come in with a quick bid, which may result in a lost deal. On the other hand, it is risky to not make a detailed examination since unexpected surprises can arise in retrospect (Atkinson and Clarke 2007a).

2.5 Integration

The synergistic gains that are expected to come up with acquisitions derive partly from economies of scale and scope, improved management, increased market shares, diversification, financial advantages and improved production techniques (Chakravorty 2012). To achieve all the expected synergies, the companies must be integrated. It is still uncertain if the expected values of the synergies can be achieved since the value created depends on how the two organizations fit each other. Consequently the acquirer must be secure that the resources combine together (Haspeslagh and Jemison 1987). When it comes to tangible assets, it is uncomplicated to examine the suitability before the acquisition. The outcome of integrating human capital is much more difficult to predict, which make acquisitions of knowledge-based companies even more uncertain (Haspeslagh and Jemison 1991). To get a maximized effect, it is important to have a clear strategy and a plan that details in which way the acquisition will strengthen the company. Pointing at the positive synergy effects is not sufficient (King *et al* 2004). Often there is no plan and instead, the acquisition develops at random (Atkinson and Clarke 2007b). Still, the fact is that more emphasis is placed on the integration of IT systems rather than the integration of corporate cultures (Atkinson and Clarke 2007a).

2.6 Unsuccessful acquisitions

Only 20 percent of all acquisitions achieve the expected synergies, meaning that many acquisitions fail in creating the estimated value (Atkinson and Clarke 2007a). In fact there is research that proves acquisitions have a modest negative effect on the financial performances, which is the reverse of what is expected. It is important to remember that there can be other incentives to acquire another company than improved financial performances, such as non-financial motives. Such motives for acquisitions could be weaknesses in the organization, or uncertainties in environmental and technological areas. These non-financial incentives could partly explain the increasing number of acquisitions even though research demonstrates poor profitability (King *et al* 2004).

However, the more common explanation for the high number of failures is that there is a lack of consideration for the people involved. For example, there can be discordant corporate cultures, overestimated synergies or change difficulties (Walker and Price 2000). It is not unusual that the decision to implement an acquisition is taken despite unrealistic expectations. It is also common that CEOs‘ ambitions affect the decision too much (Atkinson and Clarke 2007a).

2.7 Company behavior

There are several theories that are suitable for describing business behavior. These could together, to some extent, explain why valuation of the human capital is performed like it is.

2.7.1 Functional fixation in accounting

The concept of functional fixation originates from the gestalt school in psychology, where functional fixation means that a person is fixated with using an object in the same way that it has been previously used and fails to see new possibilities of use (Eysenck and Keane 2005). Functional fixation in accounting refers to that accounting decisions might not adjust to a change in conditions, but rather stick to past experience, resulting in a failure to adapt the accounting to new circumstances (Ashton 1976). The increasing share of intangible assets implies that today’s accounting is limited since it is based on historical transactions and accounting decisions (Lev and Zambon 2003), why the accounting methods might has to be adjusted.

2.7.2 Institutional theory and legitimacy theory

Institutional theories describe companies as being influenced by normative pressures, which could come from external or internal sources. These pressures could originate from reasons of legitimizing, for example state requirements or standard procedures (Zucker 1987). Legitimacy theory implies that the companies are a part of a social system and that the companies need to be accepted by the social system to be legitimate and to be able to exist (Deegan 2002). According to Zucker (1987), the companies’ chances of survival increase with actions of legitimizing, which lead to normative behavior among companies but could lead to distraction from task performance.

2.7.3 Isomorphism

Isomorphism tries to explain why organizations behave similarly and could be split into three processes, namely coercive, mimetic and normative isomorphism. Coercive isomorphism implies that the similarities stem from formal or informal pressure, for example laws or culture expectations; mimetic isomorphism stems from uncertainties in organizations; and normative isomorphism derives from professionalization. Professionals within an organization often have educational similarities and professional networks affecting them, which makes them similar to each other (DiMaggio and Powell 1983).

3 Method

This section describes the approach used to conduct this investigation as well as the motives behind different choices made during the process. By using this information, it should be possible to conduct this investigation again.

3.1 Research approach

To obtain enough applicable information to achieve the purpose, a qualitative approach was used. A qualitative approach is preferable when a deeper understanding within the research area is required (Blumberg *et al* 2011), as in this case. Since this thesis aims to answer questions like 'why', and to enhance the understanding rather than to measure the use of the models in figures, there was a need for qualitative information. Thus, it was appropriate to use interviews, which open the possibility to examine the research questions and achieve a deeper understanding. The approach was also descriptive, since the thesis aims to illustrate the current condition within the research area. This thesis aims to identify and describe how valuation of human capital is performed in reality, in connection with acquisitions. According to Blumberg *et al* (2011), descriptive studies are structured with investigative research questions answering for example what, when, how and who.

3.2 Implementation of literature review

The theories and models presented earlier were collected from scientific articles that are peer reviewed, which make the theories and models reliable. The collection was made by searching in databases like Business Source Premier, Scopus and Emerald using keywords as 'acquisition', 'human due diligence', 'human capital', 'knowledge-based company' and 'valuation approaches'. To describe certain well-known models that were found in the scientific articles, books were sometimes used. One book used in the literature review was written by PwC, despite one of the respondents representing PwC. This could cause a distorted picture of reality but since the book was only used to describe well-known models, the risk for a distorted picture is low.

3.3 Interviews

The data for the thesis was collected through semi-structural interviews with respondents knowledgeable in the area of the subject. Qualitative interviews are preferable when seeking an unknown explanation (Blumberg *et al* 2011), why qualitative interviews are the best method to reach a deep understanding of the complex research questions in this thesis. The respondents' expertise and experience in valuations of real companies helped to put a real-life perspective on the valuation of human capital during acquisitions.

Interviews can be problematic in the sense that the answers may be subjective and not reflect reality, which can result in a distorted picture of the problem, especially when relying on few interviews. A survey with a large number of respondents can give a more generalizable picture, but since the research questions are complex, there was a need to ensure that the respondents understood the questions and that the authors of this thesis understood their responses correctly. The best way to achieve that was through

interviews. Four interviews with the four largest audit firms were conducted since the data collection was considered to be satisfactory after this number of interviews. There were no great differences in the responses received and thus there was no need for additional interviews. The generalizability of the answers would increase with a higher number of respondents but the generalizability of the four interviews is high enough for the scope of this thesis. Since the respondents represent the four greatest operators in the market, and hence reasonably perform a large number of acquisitions, the number of interviews was considered satisfactory.

3.3.1 Selection method

Since the aim of the thesis is to enhance understanding rather than to make statistical conclusions, the respondents were not selected through a random sample. The respondents were selected according to their knowledge and expertise in the area. The four largest audit firms were contacted to try to find the most knowledgeable persons with experience in business valuations and consideration of human capital during acquisitions. The purpose was to interview them since their collective knowledge would contribute to reaching an enhanced understanding. The largest audit firms were contacted, together called "The big four", including Ernst & Young, PwC, Deloitte and KPMG (Civilekonomerna 2011). All of these have separate units that work daily with acquisitions and therefore often come across the complexity of problems that this thesis involves. These units consist of consultants offering their services to companies that are going to perform an acquisition. Since these consultants experience a higher number of acquisitions than a single company, they contributed with a wider range of knowledge to this thesis than single companies would have been able to.

The initial contact with Deloitte, Ernst & Young and KPMG were through phone calls to the most suitable numbers found on the audit firms' websites. The initial contact with PwC was through an immediate relative to one of the authors of this thesis, who works at PwC in Gothenburg. The offices in Gothenburg were first contacted but both PwC and Deloitte directed us to experts in Stockholm since they were more knowledgeable in this research area. In all cases several people were contacted before the respondents were reached.

The audit firms were involved in finding the most suitable person for the thesis. At PwC, two respondents were selected since their collected knowledge covered the scope of this thesis while one respondent from each of the other audit firms were considered to be sufficient. At PwC one of the respondents were an expert on human resources due diligence while all the other were valuation experts.

3.3.1.1 Discussion of chosen selection method

The selection method of this thesis contains several choices that can be discussed. First, it is always difficult to make confident statements based on a non-probability sample. Since only a few respondents were interviewed to make the statements, their answer could not be applied reliably to all valuing of human capital. The purpose of the chosen selection method was to find the most knowledgeable person within the largest audit firms in Gothenburg. Since the audit firms were involved in the selection process of the respondents, there is a risk that the respondents were not the persons with the best expertise in the area of subject or that the respondents differed in knowledge. However,

since all of the respondents work daily with questions relevant to this thesis, the respondents were suitable. Another weakness with the selection method is that the respondents were not selected in the exactly same way, which could have led to a difference in which persons were reached and a difference in expertise or area of knowledge. The reason why the methods to reach the right respondents were not identical with every audit firm was that the focus was on reaching the best respondents and different information was available to do so.

Another criticism of the selection method used could be that all the data was collected from experts in the same industry and that their view might differ from other parties involved in valuing human capital. For example, companies or banks involved in acquisitions might use other valuation models, experience other problems with valuating human capital or consider human capital to a different extent than expressed by the audit firms. However, as mentioned above the experts on the audit firms can be assumed to be involved in a high number of acquisitions, and hence was the most appropriate respondents for this thesis to get a generalizable and representative view of many acquisitions.

3.3.2 Interview method

The interviews were semi-structured with open questions but with guidance from the interviewers in order to stick to the subject. Semi-structured or unstructured interviews, sometimes called qualitative interviews, are preferable in qualitative research where the purpose is to explore the area of subject (Blumberg *et al* 2011). Three of the interviews were conducted with two interviewers present, the authors of this thesis. The fourth was conducted with only one interviewer present because of unpredictable circumstances.

In this case, semi-structured interviews were preferred over unstructured interviews partly due to the possibility to send the guidelines for the questions to the respondents beforehand. This gave them a possibility to prepare and to give more considered and correct answers. Further, semi-structural interviews made it easier to stick to the subject during the interviews and to make sure that all the relevant subjects were covered (Blumberg *et al* 2011). In this research area unprepared answers were not more suitable since this thesis strives for qualitative responses. Compared to structured interviews, semi-structural interviews made it easier to solve communication problems that arose during the interviews (Beatty 1995). It allowed having some structured questions at the same time as the risk of misunderstandings was reduced through the possibility to ask supplementary question or reformulate questions. Completely structured interviews were not optimal for this thesis, since it was valuable to let the respondents highlight what they considered to be most important. Further, semi-structural interviews were preferable due to the possibility of probing, which, according to Blumberg *et al* (2011), make the respondents answer in a better, more relevant way in contrast to structured interviewers.

The interviews were conducted in Swedish, since it is the mother tongue of both the interviewers and the respondents, which reduced the risk of misunderstandings. The questionnaire used as a base at the interviews, which were supplied to the respondents prior to the interviews, was compiled based on the research questions and purpose of

this thesis. The questionnaire used was in Swedish and a translated version is presented in appendix 1.

3.3.2.1 Face-to-face and telephone interviews

Two out of four interviews were conducted face-to-face. The face-to-face interviews were preferable since it reduced the risk of misunderstandings compared to telephone interviews. It also increased the possibility to elaborate on the complex questions to make sure that the best possible understanding was reached (Blumberg *et al* 2011). The face-to-face interviews were conducted at the respondents' offices, namely at the offices of KPMG and Ernst & Young in Gothenburg. The interviews with PwC and Deloitte were conducted through telephone interviews since the most knowledgeable respondents were placed in Stockholm. An alternative could have been for the interviewers to travel to Stockholm but due to time and cost issues, a telephone interview was chosen. The telephone interviews were conducted with the respondents placed at their offices in Stockholm and the interviewers placed in a home environment in Gothenburg, in an attempt to reduce possible distracting environments. All of the interviews were recorded to make it easier for the interviewers to fully concentrate on the respondent and to make sure that all relevant information was registered. After the interviews the recordings were transcribed into text before the information was summarized and analyzed.

3.3.2.2 Discussion of chosen interview method

The interviews were not conducted in the exact same way, since two were conducted through telephone and the others face-to-face. This might have led to a difference in responses due to the interview method and it would have been preferable to conduct the interviews in the same way. One of the interviews was performed with only one of the authors present, which was not optimal since it would have been easier to make sure that everything was covered if both interviewers were present and the questions asked might slightly differ when the interviewer present asked all the questions.

The method involving interviews could have led to a number of response errors, which could be split up into participant-initiated errors and interviewer errors (Blumberg *et al* 2011). The first participant-initiated error could be that even though the respondents were given a possibility to prepare for the interview as they were sent the questions beforehand, it was not possible to know to what extent the respondents actually prepared before the interview. Respondents could have prepared to different extents due to time or motivation issues and the preparation may not have been optimal for the interviews. However, the respondents were perceived to be prepared for the interviews as they all had read and thought about the questions beforehand. Further, Blumberg *et al* (2011) argue that there is a risk that information is missed due to that the respondents were unwilling to answer, or were not knowledgeable enough to answer. The interviewers made sure to encourage the respondents to answer as fully and completely as possible. The recordings of the interviews were another possible participant-initiated error since it could have made the respondent feel uncomfortable and hence have an effect on the answers. For example, the fear of answering incorrectly or to release controversial information could have increased due to the recording (Blumberg *et al* 2011), which might have led to a decreased response rate. However,

since the respondents had the possibility to choose not to be recorded this risk should be low.

There was also a risk for interviewer error when conducting the interviews. Firstly, when interviewing there is always a risk for bias, i.e. that the interviewers affect the respondents' answers, either consciously or unconsciously, for example through body language. The interviewers might also have affected the respondents just by their presence (Blumberg *et al* 2011), for example by their age or sex. Further, the possibility of probing was partly beneficial to get as much information as possible but probing could have meant an increased risk for bias in the sense that it could have led the respondents in a certain direction (Blumberg *et al* 2011). The interviewers tried to be aware of the risks for bias and tried to minimize them as much as possible. Lastly, even though a recording device was used to capture all the information, there was still a risk that the interviewers misunderstood what the respondents said or left out information when the interviews were transcribed or when the information were translated from Swedish to English for the thesis.

3.4 Research ethics

When conducting research involving human beings it is important to consider several ethical aspects, of which the ones considered to be most important for this thesis are presented below. To inform the participants could have made them more comfortable to answer the questions since they had a better understanding of why they were being asked (Blumberg *et al* 2011). Therefore, the respondents were informed in the initial phase of the interviews about why the study was conducted and for what purpose. Further, the interviews were conducted with full consent from the respondents. The respondents left their consent of the interviews to be recorded and the recordings were only used for transcription of the interviews for this thesis and may not be used for any other purpose or by any other person but the authors of this thesis. The maximum times allocated for the interviews were set beforehand and were strictly adhered to in order to make the respondents feel comfortable. The respondents were informed that they have the right to read the finished thesis if they wish. The respondents were also asked to read the summary of their interview to reduce the risk of misunderstandings and open the possibility to make changes before the thesis was finalized. All the respondents wanted to read the summary and were therefore given that opportunity. Further, the respondents had the right to remain anonymous, which they were informed of. The respondents were asked at the time of the interviews if their names, title and/or companies were allowed to figure in the thesis. None of the respondents wished to remain anonymous but according to Blumberg *et al* (2011) the possibility to remain anonymous could have made sure the answers were more accurate and was also important to protect the respondents.

3.5 Credibility

It was important to secure the credibility of this thesis and to illuminate potential weaknesses with the research. To achieve credibility the reliability and validity needed to be secured. Reliability concerns the fact that the study is reliable and will achieve the same results if tested again (Blumberg *et al* 2011). In order to obtain reliability, highly knowledgeable persons in the area of this thesis were interviewed. Further, the

respondents were given the questionnaire before the interviews to enhance the chances of correct answers, which reduced the risk for defects in the collected data. The respondents represented the four largest audit firms, why they reasonably assist in a high number of acquisitions. Their approaches concerning this research area should therefore be generalizable. Considering this, a similar study should not give significant different replies. Naturally, the respondents had personal opinions that affected the responses and thereby, there could be some deviations. The possibility for the respondents to read a summary of the interviews increased the reliability.

Validity concerns that the study measures what it is supposed to measure (Blumberg *et al* 2011). To achieve validity and to ensure that what is examined is what actually was intended to be examined, the research questions were ensured to be answered in the conclusion. The results of this thesis should be generalizable for acquisitions where audit firms are hired to assist. Statements about other acquisitions where no help from experts are used cannot be made out of this thesis. Since there was a possibility to remain anonymous, the respondents should have felt able to answer fully and accurately since their identity could be protected. According to Blumberg *et al* (2011), the possibility to remain anonymous might increase the validity.

4 Empirical findings

In this section the results of the interviews with the four largest accounting firms Deloitte, PwC, Ernst & Young and KPMG are presented. The interviews are presented one by one in order not to overlook the sometimes subtle differences in the respondents' answers. In this thesis the small deviations are of importance and thus it would be unsuitable to present the interviews all together because it requires a generalization of the responses to some extent.

4.1 Interview Mats Lindqvist, Deloitte 2013-03-04

Lindqvist is partner, financial advisor and head of valuation services and business modeling at Deloitte. He has worked with company valuation at Deloitte since 1994 in both Sweden and England. Today he is responsible for the team of experts working with advice services when valuing companies at Deloitte in Sweden. The team value companies involving financial instruments and intangible assets during acquisitions, and valuation could be made either for the selling company, the buying company or as an independent valuation.

4.1.1 Valuation approaches

Considering the valuation approaches used by Deloitte, Lindqvist highlights two main approaches, the income approach and the market approach, of which the income approach is the most common one.

4.1.1.1 Discounted cash flows (DCF)

According to Lindqvist, DCF is the most common income approach model in operating companies. When determining the discount rate the company-specific risks must be set. Lindqvist and his working team use the CAPM as a base and add company-specific risks on top of the model. A company with unlisted shares should have an additional risk premium compared to a company with listed shares. A higher return is also demanded for a smaller compared to a larger company. The most difficult risk premium to determine is the company-specific risks, which could be highly significant in knowledge-based companies, for example due to the risk that employees leave. Determining such risk premiums is often based on a gut feeling involving a high level of experience. Since the valuation involves such uncertain factors, it is important to complement the income approach with the market approach.

The factors of uncertainty in the valuation could also be managed when estimating the future cash flows. The decision of the risk premiums must lie in hand with the estimation of the future cash flows. If the cash flows involve adjustments due to risk, the required return does not have to be as high and vice versa. Most important is that the likeliest outcome is reached.

The risk could be harder to determine in knowledge-based companies due to the risk of the employees leaving the company for competitors or to start their own business. This often leads to a high required return for knowledge-based companies like consulting companies. Since it is hard to put a price on such shares, Lindqvist finds it more appropriate for such companies to be owner run rather than to be listed. Lindqvist

considers an acquisition of a knowledge-based company to be more risky than an acquisition of an industry-based company, due to the easiness of replacing employees.

In the risk assessment it is important to determine parameters like employee turnover rate, if the employees are faithful and secure, or if there is a high turnover. It is also important to consider the age of the employees, since it is neither optimal to buy a company with employees exclusively near the age of retirement nor a company with exclusively young employees.

When acquiring a knowledge-based company, it is also important to analyze the structural capital, which involves if the company has managed to transfer knowledge and customer relationships from specific employees to the organization. It is important that the customer relationships and knowledge are spread over a number of employees in knowledge-based companies to minimize the risk for the knowledge and customer relationships to exit the company with employees. Therefore, it is important to analyze the dependence of key employees when valuing knowledge-based companies. Another parameter analyzed in that area is the companies' incentive programs, namely programs whose purpose is to tie the employees to the company and give them incentives to stay rather than leave. In acquisitions this is often made by an earnout, namely an additional price received after staying in the company for a certain time.

4.1.1.2 Market approach

The income approach is often complemented with the market approach, where the market prices of similar assets are analyzed. The market approach can be made by looking at the trade multiples of comparable listed companies or by analyzing the multiples paid in previous acquisitions of comparable companies. For example, in knowledge-based companies, like consulting companies, one multiple could be value per consult. The most common multiples for all companies are the enterprise value (EV) with different denominators, like sales (EV/sales), earnings before interest, taxes, depreciation and amortization (EV/EBITDA) or earnings before interest and tax (EV/EBIT).

4.1.2 Valuing human capital

During acquisitions, human capital is often valued as a part of the total company valuation. Lindqvist cannot think of a better way to value human capital than the indirect method, with focus on cash flows as is used today. Still, he points out that all models are incomplete approximations of reality. Valuing companies are not only a science but also a form of art depending on the appraiser's experience and gut feeling. There are appraisers that believe in valuing a company to an exact figure but this is not possible, according to Lindqvist. In his working team they always determine an interval of the company's value since there are many uncertainties. The only thing known about the future is that the expectations are never fulfilled.

Since the impact of IFRS began there has been an improved adaption to today's business structures with not only tangible assets but intangibles assets as well. Earlier the total overprice (the difference between the purchase sum and the book value) was allocated to goodwill but now a more detailed identification of the acquired assets is made. This

gives a fairer view of what has been acquired. Still there is a need for a well-developed practice of how this allocation of the purchase sum should be done.

4.1.2.1 Multi-period excess earnings method (MPEEM)

After the acquisition is completed, attempts can be made to value assets like customer relations in the PPA according to IFRS 3 using the MPEEM. In this process a separate value of human capital is calculated to obtain the cost of using the employees. The value is often based on what it would cost to recruit and train all the employees again. This also includes the inefficiency costs.

4.1.3 Due diligence

Lindqvist argues that in the due diligence process, human capital is considered but not sufficiently. The focus is often on other important parts, e.g. financial, legal and tax, since these are more tangible. This can be due to human capital being much more complicated to inspect since it is harder to specify the problems of human capital in an organization than the financial problems, for example.

Human resources due diligence is used to some extent but there is room for improvement, particularly at large acquisitions of consultancy businesses or other knowledge-intensive companies. This is in order to improve the realization of the synergies and make the integration successful. Even if there is help available with human recourses due diligence, far from all companies use it, since many think they can do it by themselves. Many do not understand how time consuming the process is and all that needs to be done.

4.1.4 Integration

Both Deloitte and some of their competitors offer advisory services in company integration. This process should start before the acquisition by estimating synergies and risks with the integration. When considering buying a knowledge-based company, it is important to have the integration of the companies' cultures in mind. Companies' cultures could be hard to merge and could be an important factor for employees' job satisfaction, and hence critical for keeping them in the company. There is a need of a strategy in an acquisition describing how to keep the employees after the merger and how to take advantage from the expertise in the acquired company. Since the companies are becoming more and more knowledge-intensive it becomes increasingly important to handle these questions in advance. How this is done depends on the company but it can be done as a part of the due diligence. The fact is that many acquisitions fail since the expectations of the synergies are too high. In some cases the expectations are correct but then it can be the integration that fails, which results in that the synergies are not reached even though there was potential. The integration is even more important in a knowledge-based company since it is more complicated to integrate different corporate cultures than machines.

4.2 Interview Fredrik Persson and Gustav Granqvist, PwC 2013-03-11

Fredrik Persson is a manager and human resources management consultant with a focus on HR and people aspects of mergers and acquisitions at PwC. He holds a Master of

Science within human resources management from Gothenburg University and has worked within the human resources field for a number of companies such as Volvo Cars and Svenska Bostäder. Fredrik started working at PwC consulting within the group People and Change in 2010.

Gustav Granqvist is an associate that works with valuation and analysis, and is specialized in company valuations at PwC. He studied at Stockholm University and received a Master of Science degree in business and economics in the spring of 2011. In August 2011 Gustav started at PwC's Corporate Finance within the valuation and analysis team. Gustav is specialized in company valuations and has performed a variety of valuations during his time at PwC.

4.2.1 Valuation models

Granqvist highlights the income approach, namely DCF, and the market approach with multiples as the main valuation models used, of which the DCF is the predominant one. He continues with pointing out that regardless of valuation model, the same value should be reached. When valuing a company, it is important to realize that value and price are not necessary the same. The value of a company is set by the cash flows, while the price can include other aspects worth paying for, like expected synergies. The price can also be higher to make the shareholders of a company willing to sell their shares and therefore the acquirer sometimes offers a premium.

4.2.1.1 Discounted cash flows (DCF)

When valuing a company, it is important to see the overall picture. If the future cash flows are generously estimated, this could be adjusted either by decreasing the future cash flows or applying an extra risk premium to the discount rate. Hence, it is important to look at the estimated cash flows and required return as a whole, and the reasonableness of the total estimation. Valuations of knowledge-based companies are basically conducted the same way as other companies, using DCF as a base. The risk involved in the discount rate could involve somewhat different factors for knowledge-based companies, for example the dependency on key employees. A high dependency requires a higher required return, since a higher risk that the future cash flows will not eventuate is followed by a higher discount rate. The dependency of key employees is often higher in smaller companies compared to larger.

4.2.1.2 Market approach

The calculated DCF is often compared to other noted companies using multiples in the market approach to examine if the calculated DCF is similar compared to other companies. Hence, the market approach is used to support the DCF. The most frequently used multiples are, depending on the type of company, EV/sales, EV/EBITDA and EV/EBIT. Concerning knowledge-based companies, for example a consulting firm, the multiples EV/consult, revenue/consult, EBITDA/consult, EBIT/consult could also be used. The estimations are often made with considerations of estimations made by analysts. Comparisons with other companies could also be made using transaction multiples. Granqvist highlights the difficulties with finding comparable companies. For example, companies with the same concept could differ in size and thereby be hard to compare. The size and diversification of a company affects the risk, hence the bigger

company and the higher diversification, the lower the risk. If no comparable company is to be found, a market approach is often of no use.

4.2.2 Valuing human capital

Persson and Granqvist believe that today's methods for valuing human capital are applicable since they focus on the cash flows. The cash flows are what the shareholders can get part of in the future and thereby what is most interesting, in knowledge-based companies as well as in other companies. Persson argues that the acquisitions of knowledge-based companies are not generally more risky than other companies but that the risk has to be seen in relation to the cash flows.

Granqvist and his working team are using the MPEEM when performing the PPA in order to determine the value of a specific intangible asset. This could, for example, be customer relationships, which are valued by the cash flows from contracts. From these cash flows the charge for using other necessary assets, like employees, are subtracted. For using the employees, the charge is the replacement cost including the inefficiency cost and training cost of new employees. MPEEM includes a sort of valuation of human capital but would not be used in order to determine a value of human capital during acquisitions.

4.2.3 Due diligence

The traditional focus of the due diligence process is financial but Persson believes that other factors have received increasing influence in the process, for example the employees. This may be a result of the knowledge that knowing as much as possible about the employees has a major implication on the integration. Unexpected circumstances that are detected in retrospect are nothing to strive for. Being aware of the differences enhances and speeds up the exchange between the integrating companies.

4.2.4 Integration

Human resources due diligence is not always a given part of acquisitions but the use increases. The HR and people aspects should be taken into account in all acquisitions involving many employees and is particularly important to consider for knowledge-based companies. Depending on the purpose of the acquisition, different factors appear to be important in the human recourses due diligence. If the intension is to integrate the company and thereby the employees, a generally accepted factor that is essential to observe is the corporate cultures of the involved companies. An assessment of the company cultures' characteristics for the acquiring and the target company should be performed in order to identify similarities and differences in order to best address these in the integration. An examination of the employees is also performed with parameters like education, competence, employee turnover, demographics, relationships with other employees, conflicts and relationships with the union.

In order to make the employees remain in the company after the acquisition, an analysis of all key-persons in the target company is almost always performed. The key employee-dependency is investigated, usually with a focus on the management team. The focus depends on the purpose of the acquisition since if the company is bought in order to

access a specific competence, the people who possess this competence will be important to keep. There are different incentives to make the employees remain in the company. It could be economic compensation linked to their remaining in the company a certain time or to their achievement of a specific result. It is also important to involve the key-persons in the integration process to make them feel a sustained level of responsibility and job satisfaction. Money is not exclusively important. Factors like influence, power and responsibility also affect the employees.

4.3 Interview Martin Emilson, Ernst & Young 2013-03-13

Emilson is a senior manager in valuation and business modeling at Ernst & Young. He works at Ernst & Young in Gothenburg in tight connection with the valuing team at Ernst & Young in Stockholm. The valuing could be for reasons like acquisitions, accounting, tax or disputes and is conducted for companies of various sizes, from start-ups to very large corporations. The valuing could concern entire companies or specific assets, often depending on size of company. Large companies often have more specific questions while small companies could need help with whole acquisitions. Emilson has previously worked as a manager consult at Accenture and at Ernst & Young's valuing team in Stockholm and London.

4.3.1 Valuation approaches

Valuation of knowledge-based companies is conducted in much the same way as other companies. Emilson mentions three main valuation approaches, namely the income approach, the market approach and the asset-based approach, of which the income approach and the market approach are used almost exclusively. The asset-based approach is unsuitable for knowledge-based companies to use.

4.3.1.1 Discounted cash flows (DCF)

In the income approach, the DCF is used. When estimating the future cash flows, the basis is often estimations and business plans made by the company in question. The reasonableness of the business plan is judged using benchmarks, for example by making sure that the business plan is not overestimated. If it is presumably overestimated, the cash flows are decreased or the discount rate is increased. The discount rate is estimated using the CAPM, where estimates from listed companies are used. The share prices of the noted comparable companies are set using consensus estimates from analytics, which are expected to be the average expectation. Emilson uses a small capitalization premium, which is an additional risk premium for small companies, when calculating CAPM and WACC. He partly explains the small capitalization premium with the fact that smaller companies often have less structural capital than larger companies.

Emilson believes that the DCF model is beneficial since it is theoretically correct and well supported. However, he argues that models are not better than what is stored inside them. The risk is thus that companies use too positive forecasts to get well paid, and thereby get high values. If the value estimated by using multiples turns out to be significantly lower, the value from the multiples is used in order to remove the subjectivity.

4.3.1.2 Market approach

In the market approach, multiples are used with transactions from comparable companies or multiples from comparable listed companies. The most common multiples used are based on the enterprise value to exclude the financing part, such as EV/sales, EV/EBITDA and EV/EBIT. In addition to these, other branch specific multiples can be used, like market value per employees for consulting companies. Emilson highlights the problems of finding comparable companies and justifying why those companies have been chosen.

4.3.2 Valuing human capital

Human capital is not directly considered during acquisitions since it is included in the discounted cash flows. Theoretical, Emilson claims that the value of human capital is the excess value of the employees' performance compared to their salary. He highlights problems with this point of view, such as that many knowledge-based companies prefer some employee turnover and hence prefer some employees to leave. If the employees were the most important asset and value creators in the company, any employee turnover would be hard to justify. He argues that employees often are important if the focus is on specific employees but not as important if the focus is on the employees as a whole since employees always are replaceable. With a focus on specific employees the employees could be more important. It could, for example, be the founder or a person that has built the company about to be acquired. Frequently occurring in such cases are non-compete agreements and/or earnouts. The value in non-compete agreements could lie in the person's knowledge or customer relationships, thus it is not always the human capital that is valued in these agreements. Emilson argues that the existence of such agreements often increases the value of the company.

The purchase prices of small knowledge-based companies are often low since the employee dependency is high. If the customer relationships are not contracted, there is a risk that all the employees resign and the employees might start a competing consultancy, taking with them customers indifferent to the choice of agency if there is no trademark that affects the clients. Because of the possibility of this outcome, there is an extremely high risk in acquiring these kinds of companies and thereby the price is low. Another problem arising from this is that by acquiring this sort of risky company at a low price, the value of human capital will not be identified as a value since it is not paid for because of the high risk, despite the fact that the human capital is much more valuable in a small knowledge-based company than in a large one with a lot of structural capital. The purchase price must therefore be adjusted given the risk.

4.3.2.1 Multi-period excess earnings method (MPEEM)

Valuation of human capital can be made for accounting reasons. According to IFRS 3, the assets and debts should be valued to their fair value after the acquisition. Intangible assets are often valued to zero before the acquisition but have to be valued to their fair value after the acquisition; in this process the human capital must be valued. The MPEEM is used when valuing the intangible assets, like customer relations, where the costs of all contributory assets are valued and subtracted.

4.3.3 Due diligence

Ernst & Young do not work with human resources due diligence and Emilson believes that this is very unusual, but at the department of operational transaction support they examine the commercial side of an acquisition, the integration process, synergies and market growth.

4.3.4 Integration

During acquisitions, corporate cultures are considered in the integration process, performed after the deal is closed, in order to make the integration as smooth as possible. Optimally, the business is not affected by the integration and the front against the customers is intact. Therefore, it is important to have an integration plan to handle arising problems. It is of great importance how the employees are informed about the acquisition, especially if it causes cuts among the employees. Otherwise it is possible that problems with the integration affect the revenue generation. Further, it is important to be aware of what has been acquired and to understand the factors that are particularly important in the acquired company. Otherwise changes in the company can end up unsuccessful.

Depending on the corporate culture, different employee turnover rates are requested. Some companies have a special culture and may not want to let new employees in and thus keep the employee turnover at a low level. In consultancies, on the other hand, a high employee turnover is requested. Emilson gives an example of a consultancy with a requested turnover at seventeen percent. To achieve the target level, they adjust the wages; if the employee turnover is too high, they raise the wages, and if it is too low, they reduce the wages. In many companies an employee turnover of seventeen percent would be an indication of current problems in the company and the requested level may rather be two or three percent. The appropriate level of the employee turnover rate varies between different companies. During an acquisition it is not optimal that employees resign since it is important to keep the company intact. During this period there are many other changes in the business and it is not appropriate to have major changes in the workforce at the same time. If a company acquires a competitor, the risk for large losses of employees increases since there are emotional ties between the parties and they may not be willing to work in the new organization.

On a global basis acquisitions fail since companies acquire to overprice according to Emilson. Emilson exemplifies that if a company is worth 100 on stand-alone basis but because of the expected synergies, the acquirer determines the value to be 150. The purchase sum is set at 130. After the integration process the value proves to be 110 and the acquirer has lost 20. This acquisition would be unsuccessful according to the statistical studies, where unsuccessful acquisitions are determined to be those that do not achieve the expected synergies. It is a question of price versus synergies. One explanation as to why the companies acquire to overprice is that the decision to buy the company is often made before it has been analyzed, when it should be the converse. The decision to acquire another company is often based on a gut feeling of the CEO and is performed even if the financial situation does not recommend it.

4.4 Interview Erik Westerholm, KPMG 2013-03-18

Westerholm is a senior manager in transaction services at KPMG in Gothenburg. He works with acquisition issues and assists clients when buying or selling companies. Partly he also works with valuation issues.

4.4.1 Valuation approaches

When valuing companies in conjunction with acquisitions, the income approach is used together with the market approach. In some cases the asset-based approach can be used but this method is not suitable for knowledge-based companies since it requires having many assets that are market valued.

Westerholm highlights that if the valuation of the company is done correctly, the value should be within a reasonable range regardless valuation approach. The starting point is often the DCF in the income approach where the most in-depth analysis is done. Then multiples are used to make another valuation. If these two models show different values, it is important to examine why and adjust possible errors. Gut feeling and discussion with others also matter in the calculation. The company's value is presented in a range.

4.4.1.1 Discounted cash flows (DCF)

The DCF, within the income approach, is the base of the valuation. Westerholm believes that the best way of working with the DCF is to determine the most likely scenario for the cash flows and then adjust this scenario with the probability of deviations in the WACC. The opposite would be to make a downward adjustment of the cash flows. The required rate of return is affected by the risks of the business, like dependency of key-persons, market risks and geographical risks. In knowledge-based companies the dependency of key-persons is often high but this can also be the case in many other companies. Incentives are often used to ensure that key-persons stay during an acquisition but because of EU legislation it is not possible to tie the key-persons in contractually for more than two years and therefore this does not reduce the risk.

4.4.1.2 Market approach

In the market approach multiples are used in the comparison. It is important to use the most suitable multiple, which in some case can be EV/EBITDA and in another case EV/EBIT or P/E. There are specific multiples for knowledge-based companies, like revenue per consultant. The market approach is easy to use and transparent but contains more assumptions than the DCF and thus entails a greater risk of error. Another problem with the market approach is to find a suitable object of comparison, since no companies are fully comparable. Comparison is often made between private companies and listed, which is challenging, and adjustments are always required.

4.4.2 Valuing human capital

Knowledge-based companies are not valued in a special way even though there are specific risks that affect these companies. The employees generate the cash flows and are thereby the production of the company. The cash flows are therefore what are examined even in knowledge-based companies. Westerholm finds it interesting to consider that the accounting system could have been different if it was developed today.

He argues that there has been an opportunity to make a change in conjunction with IFRS and that several attempts have been made to make human capital visible in the financial statements without success. The old balance sheets and income statements are still used. The problem with valuation is that even if the calculation is correct, the value is not real if no one is willing to pay that price.

4.4.3 Due diligence

Due diligence often focuses on the financial and legal aspects. Westerholm believes that what is studied, except the obvious, in a due diligence process varies between companies. The need to illuminate cultural differences is smaller if a very large company acquires a small company and they do not intend to work together to a great extent. It is important instead to understand what creates profits and ensure that these drivers are left after the acquisition so that the value is not destroyed. However, the cultures are important if the companies are to be merged and thereby widely collaborate. If the goal is to access certain knowledge, it is important to focus on allocation of key-persons and the development of incentives to make them stay. Important to highlight is that non-financial incentives, like the culture at the working place, are equally important.

KPMG works with some parts of human resources due diligence but call it corporate intelligence partly consisting of analyzing organizations and key-persons, and screening employees' relations with other business and their merits.

4.4.4 Integration

It can be risky to acquire a knowledge-based company. Westerholm has experienced problems in conjunction with an IT company about to buy a competitor. It was recognized that the cultural differences were so significant that the acquisition would not be successful and the acquisition was thus interrupted. The difficulty is that there are so many individuals involved and these are much harder to match than machines.

In small companies the dependency of key-persons is higher. There can be one person possessing all customer contacts and without these there are no revenues. These persons are important to keep, which for example incentives or shareholder agreements can achieve. Earnouts could also be a good option to use if the seller accepts it. The difficulty with earnouts is that the key-persons can only be secured to stay in the company a relatively short time, approximately two years. It would be optimal to secure a much longer period. During the period when the key-persons are linked to staying in the company, it is important to simultaneously work with the integration. This is in order to ensure that the key-persons' knowledge remains in the company when the key-persons leave. In listed companies, the value is often heavily affected if key-persons resign since it causes uncertainty. However, sometimes the stock price may even rise since there are expectations of an improvement.

During an acquisition it is important to retain the value of the company and since it is the employees that generate the revenues in knowledge-based companies, it is important to make them stay. In order to achieve this, it is vital to consider how the information about the acquisition is communicated to employees to reduce the uncertainty. Further, it is important to make a plan of the integration and to create

commitment among the employees. During acquisitions the employee turnover rate gives an indication of the employee situation and if there is a need of recruitment.

It is less complicated to identify and calculate the synergies of an acquisition than to realize them, since the expectations are often too high, especially when the expected value of the synergies can be raised during a bidding process in order to create room to pay more. The synergies can be different kinds of cost savings, like administrative savings or others. It is more difficult to calculate expected purchasing synergies, like reduced purchase price, since these are difficult to assess. The problem is that there are expectations that the new organization will lead to cost savings, but often the new organization has different needs and therefore raises new costs. The synergies are therefore often not as high as expected. The fact is that many acquisitions are value destructive.

5 Analysis

In the analysis of this thesis the research questions will be answered by comparing the empirical findings and the theory. The respondents' answers will also be compared and interesting and important differences will be highlighted. By answering the research questions of this thesis the purpose of this thesis is achieved.

5.1 Which approaches are applied to value human capital during acquisitions of knowledge-based companies?

5.1.1 Valuation approaches

Valuation of a knowledge-based company is not performed differently than a valuation of other sorts of companies according to the respondents. All of the respondents indicate that the income approach, namely DCF, and the market approach are used simultaneous. Westerholm and Emilson also mention the asset-based approach, but only in the sense that it is improper to use for knowledge-based companies. This is consistent with the theory of this thesis (PwC 2007).

5.1.2 Discounted Cash Flows (DCF)

According to both Annell (1989) and the respondents the specificity of knowledge-based companies is that there are specific risk factors, and that these are more difficult to estimate. The dependency of key-persons is often high, which increases the required rate of return, and this dependency is often higher in small companies than in large ones. Lindqvist highlights other factors that affect the risk, such as employee turnover rate, amount of structural capital and incentive programs. He argues that working with incentives to make the employees remain within the company decreases the risk. Westerholm, on the other hand, is not of the opinion that incentive program leads to a decreased risk factor, since the key-persons only can be tied to the company for a limited period of time. From this the assumption that the risk factor is not definitive but varies based on the assessments made by the individual appraiser can be made. PwC (2007) argues that calculating the cost of capital, which includes the risk, is the income approach's most difficult part. This complexity explains why the risk can differ between various appraisers.

5.1.3 Market approach

The respondents highlight EV/EBIT, EV/EBITDA, EV/sales and P/E as the most frequently used multiples, which all are described as common in the theory (PwC 2007). A commonly used multiple used for knowledge-based companies, besides the ones mentioned above, is revenue/consultant, which is mentioned by all the respondents. PwC (2007) identifies that industry specific multiples are common. Granqvist, Emilson and Westerhom all highlight the problem of finding comparable companies. Granqvist argues that if the companies are not comparable the market approach is of no use and Westerholm claims that adjustments are always required to make the companies comparable. The challenge to find comparable companies, and possibly making adjustments, includes subjective judgments, which could lead to a valuation influenced

by the appraiser. PwC (2007) agrees that this is the most difficult part with the market approach and thus there are some uncertainties related to the approach.

5.1.4 Discussion of the approaches

Emilson argue that if the two models calculate total different values of the company, the market approach is used, since the DCF contains more subjectivity. In contrast, Westerholm argues that the market approach contains more assumptions than the DCF, and thus involves a greater risk for errors. Therefore, Westerholm argues that the DCF is the base of the valuation, which is supported by Lindqvist and Granqvist. Further, Lindqvist and Westerholm argue that the gut feeling is important when determining a value of a company. They also highlight that the value is presented in a range, since an exact value cannot be determined. PwC (2007) argue that both approaches should be used simultaneous, which all respondents agree with, and do not point out any approach to be of major importance. In addition, PwC (2007) highlights that there are uncertainties connected to both approaches.

The views of the respondents partially differ when it comes to the approaches and their usage. The choice of which approach that dominates could affect the determined value of the company, even though Westerholm points out that the determined value should be the same regardless of the method used. This applies if the valuation is conducted properly, which includes making assessments that to some extent depend on the gut feeling. Even though the value is presented in a range, it reasonably ought to be differences in the valuation depending on which method that is used as the dominating one, since different approaches requires different assessments.

As Granqvist points out, it is important to have in mind that value and price is not necessarily the same thing. Granqvist argues that the value is set by the cash flows, while the price could include other things, like synergies. This could be related to Emilson's statement concerning that the value of human capital could be high despite a low price of a company due to high risks, which decreases the value. Emilson argues that this is complicated since it could be hard to determine a fair value of the human capital in the above models due to the high risks connected to human capital, and hence a company with a large human capital might be undervalued.

5.1.5 Valuing human capital

Human capital is valued indirectly in the DCF and market approach, and a separated valuation is not performed. Lindqvist, Granqvist and Emilson argue that a kind of valuation of human capital is performed in the MPEEM, where the value of human capital is what it would cost to recruit and train all the employees again, including the inefficiency costs of new employees. This value of the employees is still not useful when valuing a company as an entirety.

Gamerschlag and Moeller (2011) emphasize that intangible assets, like human capital, are knowledge-based companies most important assets. Further, Annell *et al* (1989) argue that it is important to look at the employee turnover rate when determining the risks of such companies. Interesting is that Emilson points out that many knowledge-based companies prefer some employee turnover, and that this is problematic if human capital would be the companies most important assets. If they were, the companies

should prefer the employee turnover rate to be as low as possible. This might be explained by a well-developed structural capital in these companies, which retain the value within the company even when employees leave. Edvinsson and Malone (1998) argue that the company needs structural capital to be able to make use of the human capital, but it could be questioned if human capital has a separate value, or if it is a tool to make use of the structural capital in companies where structural capital is well developed. In companies with low structural capital, the value of human capital might be higher since the future performance depends on employees that could leave, instead of structures that will stay in the company. Thus, a question that arises is how the value of human capital should be separated and were the line between human and structural capital should be drawn.

5.2 Why is the human capital valued this way?

Human capital is valued indirect in the valuation approaches mentioned above. A question that arises is why these approaches are used when valuing human capital and therefore, this is described below. Important to note is that this is not an overall analysis of this question, since other factors might affect the usage of the current approaches that are not discussed in this thesis.

5.2.1 Valuation difficulties

As theory describes (e.g. Kaplan and Norton 2004; Zabala *et al* 2005) there are several difficulties connected with determining a value on human capital, since the value can be measured in different ways and varies among organizations. Even if a value could be determined, this value could not be included in the balance sheets, since the companies lack control over human capital. Because of this, there is no value of human capital in the balance sheets that can be used when determining the acquisition price. However, the book value is not used in the income and market approach but rather the cash flows. The book value does not represent the fair value of the assets, and during acquisitions the purchase price should represent the future value with regard to the risk, since that is what the acquire will get advantage of. The book value is based on historical values and accounting decisions, why the future value is more relevant.

The book value is used in the asset-based approach, but adjustments are made to reach the fair value. The asset-based approach is not suitable for knowledge-based companies since their most important assets are excluded, this according to both theory (PwC 20007) and the respondents. Possible is thus that the asset-based approach, or another approach, could be used if there was a value of human capital presented in the balance sheets. In that case the asset-based approach might become a better complement to the income and market approaches than it is today. According to theory (PwC 2007), the lack of a market value regarding human capital is still topical for the asset-based approach. Thus, the fair value of human capital needs to be determined by the company, which includes subjectivity as in the market and income approach. As presented above, there are several issues connected with valuing human capital, and thus a group of employees may have various fair values in different companies. Persson and Granqvist continue to emphasize that the cash flows are most important to examine, even in knowledge-based companies and thus, they argue that income and market approach are of satisfaction.

5.2.2 Company behavior

Today, human capital is valued indirectly during acquisitions, meaning that a separate value is not determined, but rather a total value of the company including human capital. None of the respondents can think of a better way to value human capital. According to the theory of functional fixation, there is a risk of not adapting the accounting to new circumstances, and thus hold on to the old. Possible is that the old valuation approaches inhibits the development of new models more suited to the companies of today, where intangibles are increasingly important. All the respondents mention that the models include assessments and thus subjectivity. Hence, the valuation of the same company might end up differently if performed by different people. This must be seen as a problem with the valuation approaches used today, and a consideration should be made if there is a better way to value companies. According to functional fixation, there is a risk that the respondents all mention the models used today as the best because they are unable to change their way of thinking of company valuation and valuation of human capital.

Further, the respondents' use of valuation approaches could be explained by the institutional theory in the sense that they use the approaches because of normative pressures and of legitimizing reasons. The pressures could arise from that the approaches are praxis to use, and a deviation to a different approach could cause disruptions. For example, customers might feel an insecurity to choose an audit firm that uses a non-standard approach, and hence prefer well-used standard approaches. The companies need to be accepted by the social system surrounding them, which could be a reason to choose valuation approaches that is already accepted to the expense of trying new ones.

Another explanation to the respondents' homogenous use of valuation approaches could be normative isomorphism. All the respondents are well-educated professionals with university education, which could have led them to similar ways of thinking, and hence behaving. Further, the respondents presumably use the same business journals, magazines and professional organizations as a source of information, which could have led to similarities in behavior. The institutional theory and normative isomorphism could be an explanation why the approaches are used, while functional fixation could explain the respondents' possible inability to see other better ways of valuing human capital.

5.2.3 Human capital reporting

Since several attempts have been made to implement a model to activate the value of human capital in the balance sheets without success, this might not be possible within a reasonable period of time. Instead human capital reporting is used to bring information about human capital to the stakeholders and potential investors. This information could be of importance for a company that is about to invest in another company, to decide if a due diligence should be performed and the purchasing plans continued. According to Annell *et al* (1989) it is more risky to invest in knowledge-based companies, since it is difficult to assess the risk, a statement supported by Lindqvist. Emilson highlights that the risk is not higher for knowledge-based companies if there is a balance between risk and price, thus if there is a great risk for defection of key-persons the price needs to be low. This correlation could also explain why Granqvist and Westerholm do not point out

knowledge-based companies to be more risky to acquire. Further, the theory describes (Annell *et al* 1989) that the risks are difficult to assess for stakeholders since the required information is hard to access. Therefore, it is valuable for stakeholders that the companies have a detailed human capital reporting. Like Gamerschlag and Moeller (2011) argue, this could contribute to a better overall picture of the company and could be considered a complement to the traditional reports. This is of importance due to the increasing discrepancy between the book value and the market value. Further, according to theory (Samudhram *et al* 2008) the comparability of companies would increase if the same generally accepted model of reporting human capital were developed, which would help potential investors to decide which companies to investigate further for a potential acquisition. Thus, by using human capital reporting the stakeholders could get some of the requested information about human capital. This solves some of the information problems that arise from the indirect valuation used today, where a specific value of human capital is not presented.

5.3 To what extent and in which way is human capital taken into consideration during acquisitions and which are the effects?

Human capital is considered in the valuation process as a part of the company value like presented above. In knowledge-based companies there are several risks connected to human capital, which needs to be considered in the valuation. During acquisitions, human capital also needs to be considered in other contexts than during valuation and these are described below.

5.3.1 Due diligence

In the due diligence process, the examination of human capital has a minor role according to the respondents and theory (Atkinson and Clark 2007a). Instead, human capital is examined during the integration process. Lindqvist and Persson argue that there is a need for improvement in this area, since that would increase the chances for a successful integration. Of the companies that the respondents represented, PwC is the only one that works with human resources due diligence. Still, the other audit firms work with integration issues and other issues connected to human capital, but other terms than HRDD are used. Atkinson and Clark (2007a) argue that HRDD should begin before the decision to acquire is taken, this to find out if the corporate cultures are possible to integrate and how the integration must be performed to be successful. Lindqvist also points out that the integration should start before the acquisition. Emilson on the other hand, describes that the integration process starts after the deal is closed. Optimum is thus an early start of the integration process, but this is not always achieved. According to theory (Walker and Price 2000), a late start of the integration process, with insufficient regard to human capital, can lead to a less successful acquisition. From this, the assumption can be made that everyone is not aware of what impact the integration have on the result of the acquisition, and that there is still room for improvement in this area. However, according to Atkinson and Clarke (2007a), there is a need of balance between making an as exhaustive due diligence as possible and to be fast enough to win the deal. This can have an impact on that the integration process sometimes starts later than would have been optimal.

5.3.2 Integration

Haspeslagh and Jemison (1987) argue that the integration process is critical to achieve all expected synergies. To do so, it is important to not destroy value during the integration. In knowledge-based companies the importance of key-persons are high, and therefore it is important that these remain in the company. All of the respondents highlight that there is a need for an acquisition plan to make the employees feel secure during the changing process, and thus reduce the risk for defection, which is confirmed by the theory (King *et al* 2004). The respondents describe ways to tie key-persons to the company, such as incentives, earnouts or non-compete agreements. Persson argues that non-monetary incentives also are of importance for the employees. Lindqvist and Westerholm highlight, likewise the theory (Haspeslagh and Jemison 1991), that employees are more difficult to integrate than tangible assets and that the integration process therefore is even more important in knowledge-based companies than in other companies. Persson agrees but argues that this is important for all acquisitions involving a high number of employees.

5.3.3 Unsuccessful acquisitions

All respondents are aware of the fact that the number of unsuccessful acquisitions is high. The respondents agree that one explanation is that the expectations of the synergies are too high, which also Atkinson and Clarke (2007a) highlight. Other reasons mentioned during the interviews are that many purchase decisions are made before the target companies has been analyzed, which often results in acquisitions to overprice, or that the synergies is correct, but are not reached since the integration process is too poorly executed. Walker and Price (2000) also claim that the lack of consideration to the employees involved is an explanation to the high number of failures. Even if the respondents do not mention this, all agree that the employees are an important part in making the acquisition successful, especially if the two organizations are expected to work together.

6 Conclusions and Discussion

"The purpose of this thesis is to enhance the understanding of whether human capital is considered and valued during acquisitions of knowledge-based companies and, if it is taken into account, how it is considered and how the valuation is performed. The purpose is further to investigate why human capital is valued in this way and how an acquisition is affected by taking human capital into consideration."

This thesis concludes that there is no exact value of a company and that the value is rather presented as a range where possible deviations from the estimated value are taken into account. The estimated value can differ depending on different assumptions made by the appraiser, why it is important to understand that the value is influenced by a high degree of assessments, made based on experience. Subjectivity is thereby a part of the value. During this thesis a united picture of how human capital is valued during acquisitions was experienced. The valuation is performed indirectly using the DCF and the market approach simultaneously.

Valuation of a knowledge-based company, which to a large extent consists of human capital, is performed in the same way as other companies. Still there are differences in how the company risks are assessed and this in turn affects the value of the company. In fact, there are specific risks connected to knowledge-based companies and these are often difficult to determine. These risk factors can be valuable for stakeholders who are considering investing in a knowledge-based company since information required to determine the risks otherwise could be hard to access. In order to enhance understanding of these specific risks, this thesis can be valuable. Some of the information required to determine the risks is possibly available from the human capital reporting. This information is, to some extent, subjective and presented differently between companies and thus not completely useful. The problem concerning the lack of information would be reduced if the human capital reporting were introduced as a standardized, mandatory, regulated part of companies' core reporting since there is a need for more thorough, objective information. This could also be seen as an opportunity for knowledge-based companies to highlight their most important and valuable asset.

Further, it is of importance for both shareholders and future acquirers to be aware of the risks connected to the integration process during acquisitions. In fact, many acquisitions fail because of a poorly performed integration and the expected synergies are thereby not reached. Further, it is important to start the integration process before the acquisition deal is closed to secure success but in reality this is not always the case. Sometimes the integration process starts after the deal is closed, which is not optimal. The conclusion is that even if human capital is considered during acquisitions there is a need of progress in this area to improve the outcomes of acquisitions.

The valuation approaches used to value human capital indirectly are scientifically accepted and, according to the respondents, satisfactory. Still, we believe that the approaches are affected by functional fixation, institutional theory and normative isomorphism, and that these could explain some of the causes for the valuation approaches used today. It is possible that there is a better way to value human capital but that the development of a new approach is affected by the fact that everybody uses

these models today and is thus unable to see new valuation opportunities. Still, we believe that it is valuable to apply approaches that are well known and generally accepted as today's models are. We cannot see that a new better valuation approach could be completely objective with no need for assessments, which is one of the disadvantages of the current approaches.

The respondents used in this thesis each represented audit firms, which could have affected the respondents' view of company valuation. Their view may differ from other parties involved in company valuation, why this thesis is limited to acquisitions where help from experts on audit firms are used. The respondents represented the largest audit firms on the market and their view might differ from smaller actors but since the larger actors reasonably preform a larger number of acquisitions, their views should be generalizable to a large number of acquisitions. Further, the respondents differed somewhat in experience and area of expertise, which could affect the ability to answer some questions and the respondents' commitment to the thesis. Moreover, the respondents might have answered in a certain way to make sure that themselves and the audit firm they represented were presented in a positive way rather than giving answers that completely reflected reality. The respondents were perceived to answer with themselves and their audit firms in mind throughout the interviews, and hence, they probably twisted their answers to fit the expectations but without deviating too much from reality. The respondents are all experts within their area and hence aware of how the different aspects of valuing and considering human capital should be performed. The risk is therefore that the respondents answered how it should be according to their knowledge rather than how they actually work. This could explain the homogenous answers among the respondents since none of them wanted to be perceived as inferior compared to the other audit firms. This is consistent with institutional and legitimacy theory. The fact that the respondents are well educated and familiar with the research in this area could also explain the similarities between the theory and the empirical findings, hence explained by normative isomorphism.

6.1 Further research

First of all, it would be interesting to conduct the above research in a larger context, interviewing a higher number of respondents to be able to make more robust statements. It would also be interesting to interview companies involved in acquisitions to find out their point of view of the valuation approaches used, and the considerations of human capital during acquisitions. There is also a need to examine human capital in other contexts than during acquisitions. For example, banks may have to consider human capital in order to perform a credit rating and it would therefore be interesting to examine how banks consider human capital.

It would be interesting to further investigate the value of human capital in relation to the value of structural capital, i.e. how these values correlate and ways to separate these. It would also be of interest to investigate the valuation approaches' reliability by comparing the valuation made with the cash flows over a period of time. Further, a sort of valuation of human capital is performed in the MPEEM. In this thesis the MPEEM is only mentioned synoptically. In further research it would be interesting to undertake a more extensive examination of how human capital is valued in the MPEEM.

The integration process largely affects the outcome of an acquisition. A more thorough examination of how the integration should be performed to be successful would also be valuable since this thesis concludes that there is a need for improvement in this area.

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Appendix 1

Appendix one shows the questionnaire used as a base at the interviews. The original questionnaire was in Swedish, why a translated version is presented below.

Questionnaire

Today there are many knowledge-based companies with the employees as their most important assets. This leads to questions concerning how the employees are valued since there are no clear guidelines. The employees are excluded from the balance sheet due to lack of control over the employees and difficulties with a reliable measurement. When acquiring a knowledge-based company these valuation problems get actualized since a price must be determined and thus all assets needs to be valued. We investigate how this valuation is performed in praxis and whether the human capital needs to be considered in other ways.

Thank you for answering these questions. Without your help this thesis would be unfeasible.

Valuation of human capital during acquisitions

1. Are there specific models for company valuation? Which models are used?
   - **1.1.** How and to what extent are these used?
   - **1.2.** Advantages and disadvantages of these?
2. Are there any differences in valuation of knowledge-based companies compared to valuation of other companies?
3. What is the problem of valuing knowledge-based companies?
4. Are there specific risks for errors when valuing knowledge-based companies in connection with acquisitions?
   - **4.1.** Is it more risky to invest in a knowledge-based company?
5. To what extent are the human capital considered in the total company valuation?
   - **5.1.** Can the human capital be valued separately or is it valued indirectly?
6. Do you think there is a better way to value human capital?
   - **6.1.** If the accounting system were developed today instead of during the industrial society, would it then be possible that the valuation was performed differently?

Consideration of human capital

7. Is there other ways to consider human capital during acquisitions?
   - **7.1.** Is it common to compare, for example corporate cultures, demographics and employee turnover?
8. To what extent is the human capital taken into consideration at due diligence?
9. Does your firm work with human resources due diligence?
   - **9.1.** To what extent is this performed?
10. How do you assess the risk that employees may leave during acquisitions?
    - **10.1.** How can this risk be minimized?
11. How are the expected synergistic gains assessed?
    - **11.1.** Are these valued?
    - **11.2.** Is this valuation reliable? Is there any risk for errors?