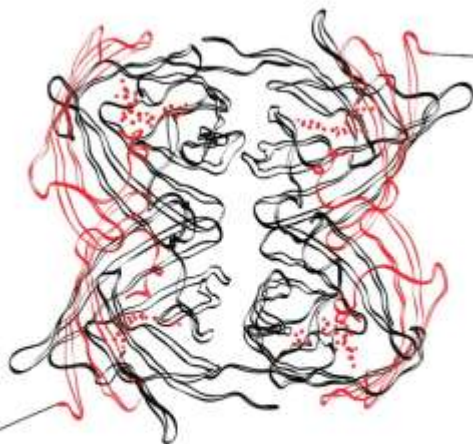
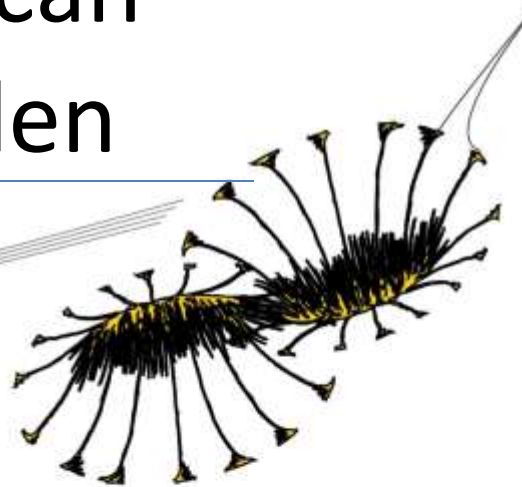




Human Capital Scan VNO-NCW Midden

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Development of a human capital scan for employers, commissioned by the VNO- NCW Midden

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Paul A. Franken

Summary

In this master thesis, a strategic human capital scan has been developed. (The full content of this scan can be found in Appendix 5.) The first goal of the scan is to make employers aware of potential shortages of people with the right education and capabilities. The second goal is to use the data retrieved from the scan in order to map the developments on the labour market. The human capital scan takes a top-down approach and a non-financial approach. The top-down approach means that this master thesis will use indicators that are generally applicable for a wide range of companies and are not adjusted to the specific circumstances of the individual companies. The financial approach means that the human capital scan will use non-financial indicators of human capital and will not assign monetary values to these indicators.

A literature review has been conducted to identify the most relevant indicators of human capital. With respect to the measurement of human capital, this literature review found four subjects, in which almost all researchers take in their positions. The first point of view is about the one-item measures versus multiple-item measures of human capital. This master thesis will use the point of view that multiple-item measures will be a more valid approach to measuring human capital. The second point of view concerns objective versus subjective measurement of human capital. This research will include both categories of questions in the human capital scan. The third point of view concerns the use of general versus specific indicators to measure human capital. The human capital scan will give more insight into the general and specific human capital of companies. The fourth standpoint concerns the fact that some studies focus on the company executives whereas other researchers focus on the whole workforce. This research will focus on the whole workforce.

Based on the literature review, this master thesis identified indicators that can relate to the content of human capital (education, training, experience, innovativeness) and the flow of human capital (turnover, internal flow, recruitment, flexible workforce size). VNO-NCW Midden, the commissioner of this research, also requested to map the future of the companies' human capital.

The human capital scan developed in this master thesis contains two important elements that make up the scan strategic. The first element is that it is mapping the content and flow of human capital. This provides a solid basis for the strategic decision making of companies. The second strategic element of the human capital scan is that there is a strategic part that focuses more on the details of the strategically most important employees.

Thus the scan consists of a part that focuses on the companies' human capital in general, and of another part that focuses on the strategically most important employees. The general part of the human capital scan asked for at least one objective and one subjective question, and for at least one question about the future with respect to the categories identified by the literature review (except for the innovation category which was covered only by subjective questions).

The content of the scan has been tested through ten interviews in ten different companies. These interviews revealed that especially the objective questions were difficult to answer. Most companies, for example, did not exactly know the number of employees with a bachelor degree. Sometimes the respondents interpreted these questions in different ways. For most of the questions that asked for objective information, companies made use of estimations. The subjective questions and questions about the future did not lead to serious problems and were easier to answer for the companies. The

interviews revealed that nine out of ten respondents were able to identify their strategically most important employees for the strategic part of the human capital scan. Based on the interviews, the necessary changes and additions were made to the human capital scan.

The methods and main outcomes of the literature used in this master thesis have been discussed in the final part of this master thesis. Based on the interviews conducted for this master thesis, a number of recommendations for the fine-tuning of the human capital scan have been made to make them more suitable for a large-scale sample and digital distribution.

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Chapter 1 Introduction

1.1 Practical research problem

In the Netherlands, there is a growing awareness of the need for people with the right technical education and capabilities, and of potential shortages of such people in the future. Labour market research forecasts major bottlenecks in the staffing of a workforce with the right educational background for technical and industrial occupations in the Netherlands (ROA, 2011). The Dutch government, in collaboration with nine top sectors of the Dutch business community and other organisations, presented the 'master plan beta and technology'¹ to tackle this problem. In spite of the clarity of this problem on the national level, companies are not fully aware of what this means for them individually, according to the VNO-NCW Midden. This is the reason why the employers' organisation VNO-NCW Midden has commissioned the research, which is meant to make the employers more aware of this problem by offering a scan which can be used as a tool so as to provide the employer with more insight in their employees. In this research, the tool is called the human capital scan. The intention is to use the information retrieved by this scan to make predictions about the labour market developments in a particular area.

1.2 Scientific research problem

People are of essential importance for a company's performance. This becomes very clear when companies announce a CEO's departure or appointment. A recent example is the announcement of the leave of Yahoo!'s CEO. He was suspected of putting a false degree on his résumé. While the major stock indexes were declining, Yahoo's stock rose with 3.1%.² Another recent example is the announcement of the new CEO of RIM (developer of the blackberry product line). After this announcement, the stock of RIM declined more than 9%.³ These examples make clear that investors do not only consider financial figures and numbers to judge a company's value.

Companies also become more aware of the importance of intangible assets. The Swedish company Skandia is an often quoted example of a company reporting about intangible assets in its annual report. This was one of the first methods for systematically reporting on intangible assets. However, according to Sveiby (2010), it seemed that Skandia did this mainly for PR purposes: it was beneficial for the share price of Skandia in the first years of reporting. This became clear when, a few years later, the share prices of Skandia dropped more than 90%. PR purposes are not the only reason for companies to measure or report on their intangible assets.

There is strong evidence for the importance of human capital for the performance of companies. Research shows direct effects of human capital on a company's performance (Hitt, Bierman, Shimizu & Kochar, 2001; Pennings, Lee & Van Witteloostuijn, 1998). This evidence is complemented with research showing the effects of HR practices on firm performance (see for example Delery & Doty, 1996; Huselid,

¹http://www.topsectoren.nl/humancapital/sites/default/files/documents/Masterplan%20B%C3%A8ta%20en%20Technologie_0.pdf

² http://www.mercurynews.com/business/ci_20619264/yahoos-stock-rises-wake-ceos-departure-third-point

³ <http://www.cbc.ca/news/business/story/2012/01/23/rim-balsillie-lazaridis.html>

1995).

In research about the effect of HR practices on firm performance, it is often argued that strategy acts as a contingency variable between HR practices and firm performance. There is no strong support offered by the researches testing this hypothesis (Becker and Huselid, 2006). Interesting in this case is the research by Hitt et al. (2001) on human capital. In this research, there is a different role for strategy. It is argued that if strategy has a good fit with human capital, this will subsequently lead to good performance. Hitt et al. (2001) reported they found that human capital moderates the relationship between strategy and performance. However, it is possible to interpret their results the other way around since they found in their statistical analyses an interaction effect of strategy and human capital. This means that it is also possible that strategy moderates the relationship between human capital and performance. Nevertheless, it seems that the fit between human capital and strategy leads to better performance, and not so much the fit between HR practices and strategy. This observation is further strengthened by Becker and Huselid (2006) who argue that companies with the same (general) strategies can have different HR practices. Or to put it differently: there are more ways for a company to attain the right human capital which can pursue the desired strategy. In the end, the employees are the one that perform!

Therefore, it is of essential importance that companies have insight into their own human capital. If companies do have this insight, they can decide to abandon or pursue a certain strategy. Based on this information, companies can also take measures to change or improve their human capital. Before companies have insight into their human capital, they need to measure it one way or another. Many scholars and practitioners put much effort into developing tools that help companies to measure their human capital.

The general thrust in the literature is that the different indicators for measuring human capital are not equally important for each company. Therefore, a “bottom-up approach” is used by most researchers. In this bottom-up approach, researchers develop structures or models that help companies identify the most important indicators by themselves. (See for example Roos, Roos, Dragonetti & Edvinsson, 1997; Meritum guidelines, 2001.) However, the commissioner of this research wants to provide employers with a generally applicable scan. Using such a capital scan can be labelled as a “top-down” approach, because with this point of view the indicators of human capital are not identified or adapted to the specific circumstances of the individual companies.

The top-down approach is only used to a limited extent in the literature. In an overview of 42 methods for measuring intangible assets (Sveiby 2010), it becomes clear that a few methods use a top-down approach. These few approaches are not based on the literature or too limited to gain useful insight in the human capital of companies. To be more specific, Rambøll (a Danish consulting group), for example, generated a list of human capital indicators based on their experience instead of the literature (Rambøll, 1999). Besides, Sveiby (2010) listed other top-down approaches that are based on financial indicators of the accounting profession which are too superficial for a solid human capital scan, as they estimate the value of intangible assets based on the company returns, earnings, assets and market values. Therefore, for the measurement of intangible assets (including human capital) it can be concluded that the top-down approach is underdeveloped in the literature, compared to the bottom-up approach.

1.3 Purpose of the study and central research question

The purpose of this study is to develop a generally applicable human capital scan that is capable of judging companies on their human capital and is at the same time suitable for labour market research. This twofold purpose demands a top-down approach where a standard list of generally applicable indicators will be identified (see paragraph 1.2 for more information about the top-down approach). With the intended tool it should be possible to benchmark companies and give them more insight into the shortcomings and bottlenecks of their human capital. Besides, as was noted, it is important that human capital has a good fit with the strategy of a company (Hitt et al., 2001). Therefore, it is important for the human capital scan to be strategic. Based on this information, the following central research question is formulated:

What does a strategic human capital scan for general usage look like?

1.4 Research questions

To answer the central research question, it is important to scrutinise the available information with respect to the measurement of human capital. Different scientific research streams have made contributions to the measurement of human capital (economic literature, intellectual capital literature and strategy literature). In the last decades these research streams developed several tools for the measurement of human capital. An important aspect of this master thesis is to use these efforts in building a general measure of human capital. Therefore, this research will identify the general indicators of human capital. The central research question also states that the human capital scan should be strategic. Therefore this research scrutinises the literature on how the human capital scan could be made strategic. Finally, this research will elaborate on how the indicators and the strategic aspect are combined in a coherent strategic human capital scan and how the employers will get feedback from the human capital scan. This leads to the following subquestions:

What can be found about the measurement of human capital in literature?

Which indicators of human capital can be found in literature?

What are the possible strategic elements of a human capital scan?

What is the relationship between the strategic elements and indicators?

1.5 Practical and scientific relevance of this master thesis

The practical and scientific relevance of this master thesis logically emerges from what has already been described in the first paragraphs of this master thesis. The practical relevance of this master thesis is that a tool will be developed that makes companies more aware about their current personnel and related bottlenecks if applicable. The tool will not only make the companies aware of possible problems with respect to their employees but will also be used to offer the companies benchmarked feedback. Paragraph 1.2 mentioned that the top-down approach for measuring human capital is underdeveloped compared to the bottom-up approaches. Therefore, there is a lack of studies which unite different human capital indicators into a coherent and general human capital tool. The scientific relevance of this

master thesis is that it will fill this gap by identifying and uniting human capital indicators that can be found in literature, in a coherent and general measuring tool of human capital.

1.6 Conclusion

The main reason for this master thesis is that labour market research prospects bottlenecks in the staffing of a workforce that has the right educational background for technical and industrial occupations in the Netherlands (ROA, 2011). Companies are not fully aware what this means for them individually, according to the VNO-NCW.

Therefore, the first goal of this master thesis is to make employers more aware of this problem. This master thesis will develop a human capital scan to enhance the awareness of companies with respect to potential bottlenecks in the staffing of workforce with the right educational backgrounds and capabilities. The second goal is to gather information about labour market developments. The intention is to gather these developments from the companies that use the human capital scan. Therefore, based on the scientific literature, a general human capital scan will be developed that can give companies more insight into their human capital.

The methods available in literature for measuring intangibles assets/human capital do not provide sound tools that are capable of giving companies more insight into their human capital through a scan, because most methods available in literature describe a procedure or model that helps companies to identify the relevant human capital indicators. These bottom-up approaches where companies need to identify the indicators themselves are also not suited for labour market research. The human capital scan developed in this master thesis can be regarded as a top-down approach because the indicators are not identified by the companies themselves or adapted to their specific circumstances. This master thesis will identify the relevant indicators from literature and will also describe how the human capital scan is made strategic, because literature shows that a good fit between strategy and human capital is beneficial to the performance of companies (Hitt et al., 2001).

1.7 Outline of this master thesis

In the next chapter, this master thesis will answer the four subquestions. The main part of this chapter is a literature review which identifies the general indicators used for measuring human capital and the description of two elements that should make the human capital scan strategic. In this chapter the most useful indicators for the human capital scan will be identified. In the third chapter the indicators identified will be translated into a questionnaire that maps the organisation's human capital. Besides, a procedure will be described to pre-test the validity of the human capital scan developed. In Chapter 4, the outcomes of the pre-test will be reported and in chapter 5 this results and the accompanying methods will be discussed in more detail as well as the results of the literature review conducted in chapter 2. Based on the discussion recommendation are made. This master thesis develops a paper and pencil version of the scan. The next step is to digitalize this scan, therefore some specific recommendation on this topic are made chapter 6. The main conclusions will be drawn in the seventh and final chapter of this master thesis, conclusions will be drawn from the literature review and the pre-test, complemented with a discussion of the main outcomes of this master thesis. It will also contain recommendations for the further development of the human capital scan.

Chapter 2 Theoretical chapter

2.1 What can be found in literature about the measurement of human capital?

This part chapter will describe the literature concerning the measurement of human capital. Before we discuss the measurement of human capital, it is important to know what human capital actually is, because different research streams are contributing to the topic of human capital.

2.1.1 What is human capital?

In this chapter the term human capital is described with respect to different research streams. The description of the concept will begin with economic research on this topic which popularised the human capital concept. After that, the literature on intellectual capital and strategy will be described with respect to the concept of human capital.

These three literature streams correspond broadly to the three approaches to define human capital, as described by Chen and Lin (2003). They divide the literature in (1) human capital theory, which is the most commonly used theory in economic research with respect to human capital, (2) transaction cost economy theory, which is the realm of the accountancy literature, an important contributor to the intellectual capital literature, and (3) the company's resource-based view which is a strategic perspective, and thus belongs to the strategy literature.

2.1.2 Economic research literature

The term human capital became more established when the Nobel Prize winner G.S. Becker introduced this term in his economic research. To be more precise, he focussed on the investments in human capital. This research is based mainly on the national and international level. The research does not deal with individual companies, but focuses more on social topics from an economic perspective, such as income inequality (Becker, 1962). In later research, human capital was for example linked to health, fertility, and religious practices.

Becker describes human capital as the mental and physical capabilities of people (Becker, 1962). Schultz (1961), a contemporary of Becker and a Chicago economist as well (see Reder, 1982), was not very elaborative about the human capital concept either, and only talked about skills and knowledge. The main focus of Becker and Schultz was on the investments in human capital which they equated with education and training.

These scholars were not the first to recognise the importance of investments in human capital. Schultz, however, said the following about the human capital concept:

We are not unaffected by the long struggle to rid society of indentured service and to evolve political and legal institutions to keep men free from bondage. These are achievements that we prize highly. Hence, to treat human beings as wealth that can be augmented by investment runs counter to deeply held values. It seems to reduce man once again to a mere material component, to something akin to property. And for man to look upon himself as a capital good, even if it did not impair his freedom, may seem to debase him. (Schultz, 1962, p. 2)

This quote stresses the fact that scholars were very careful in using the concept of human capital, because society had very negative associations with it. This became clear in the way Becker (1993)

responded to the controversy on human capital in society when he wanted to publish a book on this subject. He said, "I hesitated a long time before deciding to call my book *Human Capital* (1964) and hedged the risk by using a long subtitle that I no longer remember." (Becker, 1993, p. 392) However, the failure to apply the human capital concept could be disastrous as Schultz (1961) showed using the following quote by H. von Thünen (1875):

The failure to apply the concept [human capital] was especially pernicious in wars; ". . . for here . . . one will sacrifice in a battle a hundred human beings in the prime of their lives without a thought in order to save one gun." The reason is that, ". . . the purchase of a cannon causes an outlay of public funds, whereas human beings are to be had for nothing by means of a mere conscription decree. (Schultz, 1961, pp. 2-3)

After the 1960s, viewing humans as capital became more accepted. This is, for example, very clear in the work of Pfeffer and Veiga (1999) in which they urge managers to treat people as their most important assets. Nowadays it is very common for researchers and other people to consider people to be assets. The economists described above were the first scholars who gave publicity to the concept of human capital. However, they were not very elaborative about it and mostly used education as proxy of human capital.

This has not been changed afterwards, because a literature overview on the specification of the concept of human capital in economic research still shows that almost all research uses education-related measures as a proxy of human capital (Wößmann, 2003). This could be explained by the fact that most of the economic research on human capital is based on the human capital theory. According to Blaug (1976), the "'hard core' of the human capital research programme is the idea that people spend on themselves in diverse ways, not for the sake of present enjoyments, but for the sake of future pecuniary and non-pecuniary returns" (p. 829). This hard core of the human capital research programme is logically connected to education.

Conclusion for the economic research literature

It can be concluded that the economic literature did not shed much light on the concept of human capital. In general, it equates investment in education with investment in human capital. Therefore, this literature stream does not give enough starting points for the development of the human capital scan in this master thesis.

2.1.3 Intellectual capital literature

The research on intellectual capital is a relatively young field of investigation, because the book by Roos et al. (1997) on intellectual capital states that research in this field started five years before they wrote their book on this topic. In the intellectual capital literature, the importance of intangible assets versus tangible assets is recognised by many scholars. The term intellectual capital is used to describe intangible assets, which are not taken into account in the 'traditional accounting'. For many companies there is a large gap between the book values of assets and their market capitalisation. This is problematic for the ordinary accounting, and will devalue the worth of this discipline for external stakeholders (Guthrie, Petty and Johanson, 2001).

According to Cañibano, Covarsi and Sanchez (1999), there is some agreement on the economic nature of

intangibles assets. “Intangibles are generally seen as sources of future economic benefits that lack physical substance and are controlled by the firm as results of past transactions or events” (Cañibano et al., 1999, p. 55), but they conclude that there is no consensus about the definition of intellectual capital in the accountancy literature.

In the research on the non-economic nature of intellectual capital, there is also no consensus on the definition of intellectual capital. Some researchers defend the view that intellectual capital can be decomposed in different kinds of capital. Roos et al. (1997), for example, divide intellectual capital into human capital and structural capital. Kristandl and Bontis (2007) comment on these categorisations that they do not describe the phenomenological characteristics of intellectual capital. They compare it with circumscribing a car as a Volkswagen, jeep, limousine, etc., while Roos et al. (1997) state that this categorising is “akin to defining the mountains, hills and rivers of the new terrain” (p. 28).

Kristandl and Bontis (2007) try to give more clarity about intellectual capital by developing a definition based on the resource-based view (RBV). Describing which attributes of intellectual capital lead to sustainable value is very useful, but it does not reveal anything about the content of intellectual capital, contrary to the categorisation of Roos et al. (1997). Both scientific efforts are important to gain a better understanding of intellectual capital and human capital. The definition of Kristandl and Bontis (2007) will be described in the next paragraph (2.1.4), which is about strategy literature.

Roos et al. (1997) who developed these categorisations did propose a definition of intellectual capital, but remained very vague. This is not very helpful in gaining a full understanding of the concept. Roos et al. (1997) proposed the following definition of intellectual capital: “Intellectual capital will include all the processes and the assets which are not normally shown on the balance sheet, as well as all the modern methods accounting consider (mainly trademarks, patents and brands).” (Roos et al., 1997, p. 24) In the clarification of their categorisation, Roos et al. (1997) also gave a description about human capital. According to Roos et al. (1997), human capital is “anything that thinks” and can be decomposed into “competence”, “attitude” and “intellectual agility”. Competence is about knowledge, skills, talents and know-how of employees; attitude is self-evident; and intellectual agility concerns the ability of employees to apply knowledge, seeing common factors, being innovative, and to turn ideas into products.

Conclusion for intellectual capital literature

Concerning the intellectual capital literature stream, it can be concluded that there is no consensus of what intellectual capital is (which encompass human capital) and the description of the intellectual capital is very vague. However, the categorisation of human capital by Roos et al. (1997) is regarded as an interesting starting point for the development of the human capital scan in this master thesis. The different aspects of human capital will be identified in this thesis through a literature review described in paragraph 2.3.

2.1.4 Strategic literature

Kristandl and Bontis (2007) note that it is possible to see the company from two different viewpoints: the product side and the resource side. They propose, with respect to intangibles, to see the company more from the resource side than to view it from the product side. The strategic literature is very relevant for the recourse side and especially the resource-based view. This paragraph will describe how human capital can be defined from the perspective of the strategic literature.

The RBV of the company is relevant because Barney (1991) notes that this view is about the internal characteristics, opposed to views and theories that focus on the external environment. Barney adopts the definition of Daft (1984) who stated that “firm resources include all assets, capabilities, organisational processes, firm attributes, information, knowledge, etc. controlled by a firm that enable the firm to conceive and implement strategies that improve its efficiency and effectiveness” (Barney, 1991, p. 101). Barney (1991) divided company resources into physical capital resources, human capital resources and organisational capital resources.

This is how Barney (1991) defines human capital resources, “Human capital resources include training, experience, intelligence, relationships and insight of individual managers and workers in a firm” (p. 101). This definition is not very precise and more a list of what human capital could be. This is logical because he is merely proposing forms of resources which can lead to sustained competitive advantage. Based on the assumption that firm resources are heterogeneous and immobile, he proposes four attributes of firm resources that are necessary for obtaining a sustained competitive advantage with these resources. The resources must be valuable, rare, imperfectly imitable and non-substitutable, which thus is also applicable to human capital.

Kristandl and Bontis (2007) investigated the literature on intangibles, searching for attributes of the RBV that were stated in the definitions of intangibles proposed by other scholars. The rarity attribute of the RBV was not mentioned in the investigated definitions. The other attributes of the RBV were mentioned; there were no contradicting definitions. They proposed the following definition of intangibles:

Intangibles are strategic firm resources that enable an organisation to create sustainable value, but are not available to a large number of firms (rarity). They lead to potential future benefits which cannot be taken by others (appropriability), and are not imitable by competitors, or substitutable using other resources. They are not tradable or transferable on factor markets (immobility) due to corporate control. Because of their intangible nature, they are non-physical, non-financial, are not included in financial statements, and have a finite life. (Kristandl and Bontis, 2007, pp. 1518-1519)

Conclusion for strategic literature

It can be concluded that this literature stream does not reveal much insight into what human capital actually is. Therefore, this view is not very relevant for the development of a human capital scan with regard to content, although this literature – and especially the RBV – is important to making the human capital scan strategic.

2.1.5 Conclusion

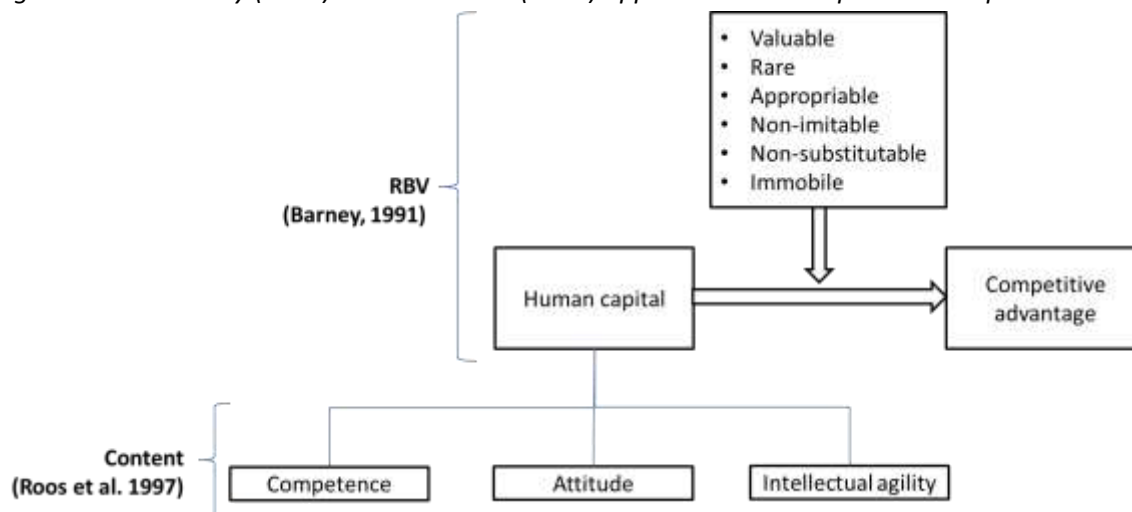
The economic literature does not shed much light on the human capital concept, because most research in the field focuses on the investments in education which are considered a good proxy for human capital. Unfortunately, in general the authors in this field do not mention much more about human capital.

The literature on intellectual capital is more elaborative about human capital, which is seen as a part of the intangibles of a company. Roos et al. (1997) subdivide human capital into different categories such as knowledge, skills, abilities, attitudes and innovativeness. Thus this literature stream focused on the content when they defined human capital, whereas the strategic literature’s focus is on when the

human capital resources give a sustained competitive advantage to companies. The views of Roos et al. (1997) on human capital and the views of Kristandl and Bontis (2007) on intangibles - in this case specifically applied to human capital – will be used as key insights for the further development of the human capital scan. Figure 1 shows these two approaches and their interrelationship.

The three branches departing from human capital show that human capital is an overarching concept that consists of more specific domains. (Roos et al. (1997)) The arrow from human capital to competitive advantage makes clear that it is expected that human capital can lead to competitive advantage for companies, and thus to better performance. The introduction of this master thesis already referred to the research by Hitt et al. (2001) that showed the positive effect of human capital on performance (see also the articles in the literature review of this master thesis, paragraph 2.3). It is expected that human capital can only lead to competitive advantage when it is valuable, rare, appropriable, non-imitable non-substitutable and immobile (Kristandl and Bontis, 2007).

Figure 1. How Barney (1991) and Roos et al. (1997) approach the concept human capital



2.2 Measurement of human capital

Based on 42 methods for measuring intangible assets, Sveiby (2010) proposed four broad categories of measurement approaches: (1) Return On Assets (ROA) methods, (2) Market Capitalisation (MC) methods, (3) Direct Intellectual Capital (DIC) methods, and (4) ScoreCard (SC) methods. The ROA methods are based purely on financial information, because they are used to determine the profitability of a company compared to its total assets. The MC methods are also strictly financial approaches, because they focus on the difference between a company’s market value and book value, as an indication of the value of intellectual capital or intangible assets.

In the DIC methods and the SC methods, the components of intellectual capital (human capital is a major part of intellectual capital) are identified, in contrast to the ROA and MC methods. The introduction of this master thesis already stated that one of its aims is to develop a tool that gives employers more insight into their human capital. The ROA and MC methods do not give this additional insight as they do not identify the different components of human capital/intellectual capital. Therefore, these methods will be left out of consideration.

The difference between the DIC and SC methods is that the DIC methods make a monetary estimation of

the value of the different components of intellectual capital, whereas the SC methods use indices and indicators to measure intellectual capital. These two methods will be discussed in more detail in the next two paragraphs. In this master thesis, the DIC methods are named the “financial approach” and the SC methods the “non-financial approach”.

2.2.1 Financial approach

Scholars and practitioners pursuing the financial approach are involved in a long struggle to get unified measurement and reporting of human capital in the financial statements. The Human Resource Accounting (HRA) discipline advanced the accounting for human assets to a large extent. One of the first efforts in this struggle was the article by Lev and Schwartz (1971). They explored if it was possible to incorporate human capital in the financial statements, and also proposed a procedure for the financial measurement of human capital. Lev and Schwartz (1971) stated the importance of distinguishing human capital from other kinds of capital.

One important distinction they mentioned between human capital and non-human capital is that human capital is not freely transferable in the market. Related to this distinction is the possibility for non-human capital to infer its value based on the market prices, but this does not hold for human capital. This distinction makes it very difficult to determine the value of human capital, according to Lev and Schwartz (1971). Based on the approaches for measuring and calculating the value of human capital on the national level, developed by the economists like Becker and Schultz, they proposed an approach to measure human capital on the company level. With this approach, the monetary value of different employees can be calculated. Other researchers proposed other measures to do this, i.e., by refining and combining the methods of Lev and Schwartz and others (Flameholtz, Bullen and Hua, 2002). However, nowadays accounting is still based on the view that investments in human capital are expenditures, instead of investments in assets (Flamholtz, Bullen & Hua, 2002, and Bokahri et al., 2012). This means that HRA is not adopted by accountants. This seems logical because most authors acknowledge that people can only be owned in a slave community.

Although HRA is not adopted by accountants, it should be expected that reliable and valid financial measures of human assets have been developed since 1970. Ironically, HRA is criticised for being too subjective, since a lot of assumptions have to be made for calculating the values of employees, such as length of tenure of employees, salary increase, and probability of turnover (Bontis et al., 1999). While this subjectivism may be less problematic if HRA is used for internal purposes, it makes HRA less applicable to an external comparison of companies. For this reason, this view is not adopted for the development of the human capital scan. In the next paragraph, the nonfinancial approach of human capital measurement will be discussed.

2.2.2 Non-financial approach

Sveiby (1998) states, “If we measure the new with the tools of the old, we will not “see” the new.” With this statement he tries to explain that the 500-year-old accounting system is not capable of measuring the intangible assets of the modern economy. Therefore he makes a plea for new proxies. Sveiby (1998) notes that this need for new proxies was first acknowledged in practice because companies already adopted measures with respect to operational efficiency, such as products produced per hour, number of breakdowns, bed utilisation in hotels etc.

In the last two decades, scientists and practitioners made a lot of effort in developing non-monetary

measures of intangible assets. Since the year 2001, the development of the non-monetary measures gained momentum. In his overview article of intangible measures, Sveiby (2010) described ten financial approaches and six non-financial approaches for the measurement of intangibles until the year 2000. From the year 2001 until 2010 this reversed to sixteen non-financial methods and two financial methods. One of these non-financial approaches is the intellectual capital index (IC index) proposed by Roos et al. (1997). According to the developers of this index, it is crucial to base the IC measures on a company's identity and strategy. Key success factors could be identified, based on a company's strategy and identity. Subsequently, those key success factors can be translated into indicators, which can be grouped in clear focus areas. Together they form the basis of the IC management system. The authors explain in their book how this IC management system can be used to construct the IC index which is a single index summarising all intellectual capital (including human capital). The authors explain how this IC index can be linked to a company's market value.

Another well-known approach is the balanced scorecard. Kaplan and Norton (1992) gave the same reasons as Sveiby (1998) for using other measures than financial ones. They stated that the traditional financial performance measures are outdated and not suitable for companies in the knowledge economy. According to the developers of the balanced scorecard, the financial approach should be combined with operational measures to provide a more balanced view of a company's performance. The balanced scorecard measures are divided into four groups: customer perspective, internal perspective, innovation and learning perspective, and financial perspective. According to the authors, these four perspectives help companies in limiting the number of measures. The strategy of a company plays a central role in the balanced scorecard for developing the right measures.

2.2.3 Conclusion

The literature with respect to the measurement of human capital can be divided into Return On Assets (ROA) methods, market capitalisation (MC) methods, direct intellectual capital (DIC) methods and scorecard (SC) methods. The ROA and MC methods are less relevant for the development of the kind of human capital scan this master thesis aims for, because these methods are purely based on financial figures (returns, assets, book value, market value).

The DIC and SC methods are more suitable for the intended human capital scan because they identify the components of human capital. The difference between the methods is that the DIC methods assign monetary value to the components of human capital while the SC methods are purely based on non-monetary indicators. In this thesis, the DIC methods are named the financial approaches, the SC methods the nonfinancial approaches.

This thesis will use the non-financial approach to develop the human capital scan. This approach is chosen because too many assumptions need to be made to calculate the monetary value of human capital (Bontis et al., 1999). Bokahri et al. (2012) even state that "there is no single reliable financial method available for valuation and measurement of human resources valuation and measurement of human resources values all over the world." (p. 5282) Besides, different authors state the modern economy needs new measures. Therefore, the focus of this master thesis will be on the non-financial approach to measure human capital; the thesis will try to identify the indicators of human capital by means of a literature review which is described in the next paragraph.

2.3 Which indicators of human capital can be found in literature?

In the previous paragraph, it was argued that this master thesis will take a non-financial approach to measure human capital. However, it is not so obvious which indicators are most relevant for this measurement, when the aim is to gain more insight in the human capital of a company. In this master thesis, it is assumed that the most relevant indicators will be connected to the firm performance. Therefore, a literature review will be conducted on studies investigating the effect of human capital on firm performance. It will become clear that the reviewed studies neatly fall in the approaches chosen for the human capital scan because all the reviewed studies take a top-down (see paragraph 1.2) and non-financial approach (see paragraph 2.2) for the measurement of human capital.

This means that the indicators for human capital are non-financial and not adjusted to specific circumstances of the individual companies. This review will especially focus on these indicators that operationalise the human capital concept. A brief overview of the literature, with respect to studies that investigate the effect of human capital on performance, will be presented before the review.

2.3.1 General overview of literature on studies investigating the effect of human capital on performance

Ployhart and Moliterno (2011) describe the efforts of different scientific fields – from psychology to economics – concerning research that investigates the effect of human capital on performance. While psychologists mainly focus on the micro-level, economists and business researchers mainly focus on company-level phenomena.

The meta-analysis of Avey et al. (2011) is a good example of a focus on the micro level. Avey et al. investigated the relationship between psychological capital (hope, efficacy, resilience and optimism) and employee attitudes, behaviours and performance. Other examples are the numerous studies about the influence of cognitive ability on job performance (see for example meta-analyses of Hunter, 1986), studies of the effect of emotional intelligence on job performance (see meta-analyses by O’Boyle et al., 2011); another example is a study investigating the effect of political skills and getting along on job performance (Blickle et al., 2010).

While the micro-level research is already conducted for many years, the macro-level (company level) research is just beginning to flourish. At the micro-level, researchers do not refer to the term human capital. However, at the macro-level, human capital is an established concept in a wide range of scientific literature (see previous paragraph – 2.2 – about the measurement of human capital).

2.3.2 Literature review

A literature review is conducted to identify the relevant indicators of human capital. These indicators were obtained from studies that investigate the influence of human capital on firm performance. From these studies it is possible to infer which indicators used for human capital are relevant for companies. At first, the Scopus search engine was used to identify the studies investigating the effect of human capital on firm performance. In order to obtain all relevant studies, the query – “human capital” AND “firm performance” – was entered into the Scopus search engine, leading to 112 results. Based on the titles and abstracts, it was determined that 56 studies dealt with the influence of human capital on firm performance. For 45 of these 56 studies, it was possible to retrieve the full content.

All the retrieved studies (45) take the top-down approach described in the first chapter (1.2) of this master thesis, meaning that the indicators are not adjusted to the specific circumstances of the

individual companies. Besides, all the studies take a non-financial approach (see paragraph 2.2) for the measurement of human capital because all the studies used non-financial indicators to measure human capital and did not assign monetary values to these indicators.

2.3.2.1 General information of identified studies

The general information is based on the titles and abstracts of the 56 studies dealing with the influence of human capital on firm performance. When the year of publication is considered, it becomes clear that more than half of the studies were conducted after 2009. It seems that the number of studies are increasing each year (see Figure 2). The multidisciplinary nature of the field becomes very clear when the journals are considered that published more than one study on the relationship between human capital and firm performance (see Table 1).

From the content of the abstracts it was identified that almost all researchers who statistically tested the relationship between human capital and firm performance reported a positive effect of human capital on firm performance. The meta-analysis of Crook et al. (2011) showed a strong overall effect of human capital on firm performance of $\bar{r} = 0.21$, which means that if human capital increases with one standard deviation, performance increases with 0.21 of one standard deviation. In general, it can be concluded that the studies revealed a strong effect of human capital on firm performance.

The abstracts of the studies were read to identify if they mentioned a theory in the abstracts, because with a good theory a phenomenon could be explained or predicted (Cooper and Schindler, 2011). In Table 2, the theories/views are shown that were mentioned in the abstracts. The first noteworthy point is that the resource-based view/theory is the view/theory mentioned by far the most. It should also be noted that most articles used a 'view' or 'perspective' instead of a theory. Thus, most researchers have a view or perspective that gives direction or support to their research. There are only a few studies that are really theory-driven.

A good exception is the meta-analysis of Crook et al. (2011). They analysed studies that investigated the relationship between human capital and firm performance. Based on the resource-based theory (RBT), they argued for three possible moderators of this relationship. Path dependency, imperfect strategic factor markets and appropriability were the three moderators that were tested. Path dependency means that human capital is built during a certain time period in a path-dependent way. The imperfect strategic factor market moderator concerns the argument that if the value of human capital increases it becomes more firm-specific, and appropriability deals with the question of how many of the potential positive effects of human capital can be appropriated by the organisation. The study by Crook et al. (2011) found support for the moderating effect of imperfect strategic factor markets and appropriability, but did not find support for the path-dependent development of human capital.

Figure 2. Number of studies by year with respect to human capital and firm performance (n=56)

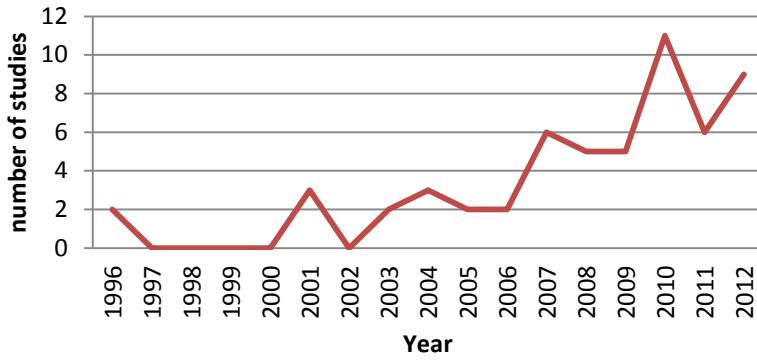
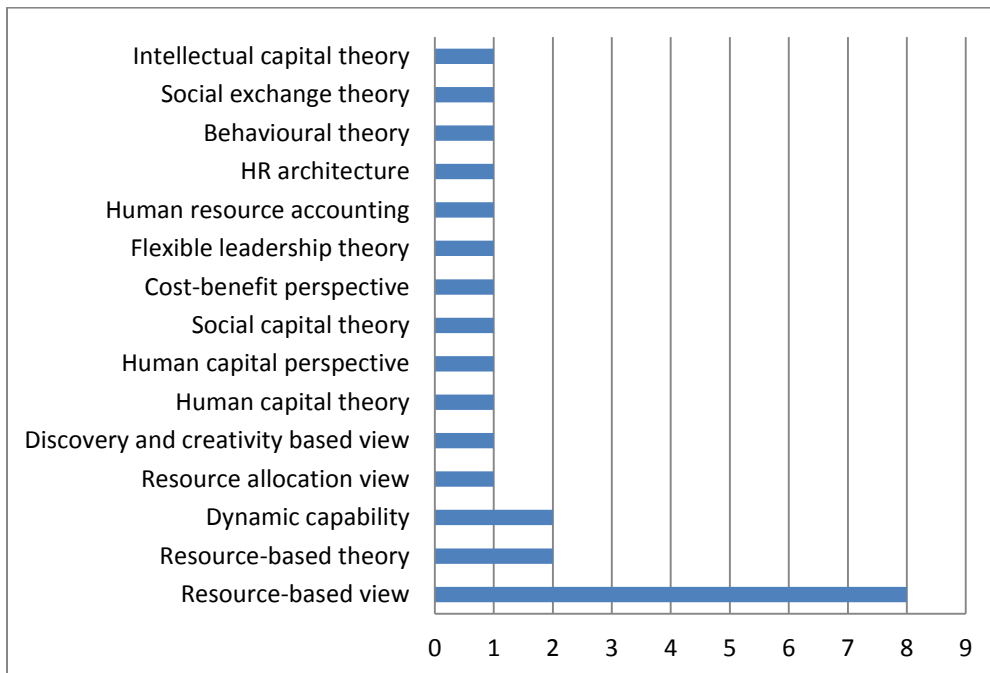


Table 1. Journals that published more than one study of human capital and firm performance

Journal	Number of studies
International Journal of Human Resource Management	4
Academy of Management Journal	3
Strategic Management Journal	3
Small Business Economics	3
Remaining journals (n=43)	1

Table 2. Theories/views mentioned in the abstracts of the articles about firm performance and human capital



Note: 32 out of 56 studies did not mention a theory/view in their abstracts

2.3.2.2 Indicators used in the sample of studies

Where possible, the full contents of the articles have been accessed for this master thesis (45 of 56 articles). This was done to determine how human capital was measured and to identify the main effects of these constructs. See Appendix 1 for the full details of these measures and for the most important and relevant outcomes of these studies. Table 3 states the general indicators used in the different studies.

In the measures of human capital mentioned in Table 3, some major common threats can be found. From Table 3 it is clear that researchers focus on executive incumbents of a company (CEOs, boards, owner, top management) or on the total workforce of a company (employees). The focus on the total workforce is the only approach that is appropriate for this master thesis because it should also be possible with the scan to map the developments on the labour market, as was mentioned in the first paragraph (1.1) of this master thesis.

Both in studies that measured the human capital of the executives and in studies that measured the human capital of the workforce, positive influences of human capital on firm performance were found. Most of the studies did not develop questionnaires but used simple indicators as proxies for human capital. Table 3 was extended with human capital indicators that are proposed by different authors and were not already used in the sample of 45 studies. The extra indicators were adopted from Lim, Chan and Dallimore (2010) who constructed a list of human capital indicators proposed by different authors. These indicators are marked with an asterisk.

Table 3. Indicators of human capital used in the sample of 45 studies investigating the influence of human capital on performance, extended with indicators proposed by different authors and adopted from Lim, Chan and Dallimore (2010). The indicators proposed by the authors were added only if they were not used in the analysed sample of 45 studies, and are marked with an asterisk.

CEOs	Boards	Founder / entrepreneur / owner	Top-management teams / top managers / senior managers / managers
Education of CEO	Education of boards	Education	Education
		General to specific level	Years Level
Reward	Reward	Experience	Reward
Salary	Shareholding	Business experience in family history	Ratio of top three managers' salary to total salary
Bonus and share of stock options	Size (internal/external)	Business experience	
	Number of females*	Successful experience	
Extent of change in CEO leading the firm	Age	Industry experience	Experience
		Experience as employee	
Experience		General experience	Size
From general to specific		Professional background	Number of (female) managers
Skills		Ownership	Credibility of management
Generic skills		Inherited business	
Industry-related skills		Sole proprietorship	
Industry-specific skills		Personality variables	
		Need for achievement	
		Locus of control	
		Risk-taking propensity	
Locus of control		Demographic variables	
		Ethnic origin	
		Age	
		Gender	
		Marital status	
		Family status	
		Birthplace	
		Caste	
		Innovation	
		New product introduction	
		Product innovation	
		Process innovation	

Table 3. continued

Employees	
<p>Education/training</p> <ul style="list-style-type: none"> Level Years General Specific Sufficient people with the right education perceived education 	<p>Innovation</p> <ul style="list-style-type: none"> Perceived creativity New solutions/products/processes suggested* Savings from implemented employee suggestions* Proportion of employees making new idea suggestions (proportion implemented)* Value added per employee*
<p>Reward</p> <ul style="list-style-type: none"> Employee salary to total sales Percentage of shares owned by employees/ programme for employees to buy company shares* Percentage of persons subject to a system of earned income according to objectives* Percentage of persons receiving variable earned income* Percentage of variable earned income in terms of total earned income* 	<p>Motivation</p> <ul style="list-style-type: none"> Perceived effort of employees Motivation index* <p>Turnover/retention</p> <ul style="list-style-type: none"> High performer turnover rate Low performer turnover rate Full-time permanent employees turnover* Employee turnover*
<p>Experience</p> <ul style="list-style-type: none"> Perceived Objective Specific Years of experience in profession* Rookie ratio (percentage of employees with less than two years of experience)* 	<p>Demographic variables*</p> <ul style="list-style-type: none"> Average age of employees* Average age of full-time or permanent employees* Gender diversity* <p>Tenure*</p> <ul style="list-style-type: none"> Average years of service with company* Average years with company of full-time or permanent employees* Full-time temporary employees*
<p>Knowledge, skills and abilities</p> <ul style="list-style-type: none"> Employee productivity Ratio of employee added value Perceived skills Perceived competency Perceived expertise of employees Perceived talent of employees Perceived ability Perceived education Perceived knowledge Uniqueness of skills Productivity of employees Skills required for the job Proportion of skilled/trained employees 	<p>Recruiting*</p> <ul style="list-style-type: none"> Percentage of openings requiring advanced or substantial experience filled during the previous year* Replacement cost key personnel* Reputation of company employees with head-hunters*

Table 3. continued

Employees (continued)	
Training*	Remaining*
Percentage of persons trained in terms of total number of staff*	Empowerment index*
Cost (per capita, percentage of payroll) of training, communication and support programmes (full-time permanent employees, full-time temporary employees)*	Proportion of time spent of full-time or permanent employees at corporate facility*
Time spent in training (days/year)	IT literacy of staff*
Percentage of full-time permanent employees*	Leadership index*
	Employee satisfaction*
	Employee commitment*
	Effectiveness of learning transfer in key areas*
	Empowered teams*
	Hours spent by senior staff explaining strategy and actions (overlap expertise)*
	Hours spent in debriefing*
	Value added per salary dollar*
	IT investment per employee*
	Stakeholder satisfaction indicators*
	Quality performance ratios*
	Processing time for administrative tasks*
	Value added per employee*
Organisational level variables	
Perceived complementary of human capital	
Human capital organisational fit	
Identification with company values and vision	
Organisational learning*	
Percentage of persons promoted from the total number of staff*	
Number of employees (full-time or permanent, and full-time temporary employees)*	
Number of part-time employees or non-full-time contractors/average duration of contract*	

2.3.2.2 Main outcomes and conclusion of the indicators found in literature

First a remarkable difference can be noticed between the indicators used in the sample of studies and the indicators proposed by different authors which were not used in the sample of studies. Most of the additionally proposed indicators were about the “flow” of human capital. Tenure, turnover and recruiting indicators are good examples of indicators that are linked to the flow of human resources. It seems logical that these indicators were not used in the analysed sample of studies, because these indicators are probably not directly related to a company’s performance. However, they can influence the other indicators which are related to firm performance. Good recruiting practices will not directly influence the performance of a company, but will be achieved by the recruited employees who have better knowledge skills and abilities. Therefore, these indicators will also be incorporated in the human capital scan.

The part of this master thesis about defining the term human capital mainly focused on the content of human capital. The definitions mainly focused on the knowledge, skills and abilities of employees. The article by Lim, Chan and Dallimore (2010) that gives an overview of human capital indicators proposed by different researchers, shows that indicators with respect to the flow of human resources are considered relevant by most researchers. It seems logical that these indicators were not used in the reviewed articles of this master thesis because it is not expected that these indicators are directly

related to the performance of companies.

However, the indicators that say something about the flow of human capital through and out of the organisation will be included in the human capital scan, because they change the content (knowledge, skills, abilities and experience) of the workforce. Besides, the flow indicators are very relevant to gain more insight into the fluctuations on the labour market. Therefore the indicators, with respect to the flow of human capital, will be included in the human capital scan.

This means that there are two categories of indicators included in the human capital scan: Indicators that measure the content (education, experience, training) of human capital, and indicators that measure the flow (recruiting, internal movement and turnover) of human capital. Next to these two categories, another important element should be that the human capital scan is strategic. A detailed discussion of the indicators that are used in the studies and investigate the influence of human capital on firm performance, will be followed by a description of how the human capital scan is made strategic (paragraph 2.4). Before describing how this will be accomplished, the indicators that are used in the studies, investigating the influence of human capital on firm performance, will be discussed in more detail.

2.3.2.2 Discussion of the indicators found in the literature review and the implications of the results for the content of the human capital scan

In this part, the indicators found in the studies of the literature review will be described in more detail, followed by a discussion of what these findings mean for the development of the human capital scan. The researchers take in several standpoints when measuring human capital. These are the four subjects in the measurement of human capital where most researchers take in their position.

1. One indicator versus multiple indicators to measure human capital.
2. Objective versus subjective measurement of human capital.
3. Measurement of human capital with general versus specific indicators.
4. The company's human capital resides in the executives versus resides in the company's total workforce.

For subjects 2 and 3, it is possible to take in both standpoints at the same time. However, on these areas most researchers also take in one standpoint at the expense of the other. Below it will be discussed how these four subjects were approached by the studies of the literature review. Besides it is explained which positions this master thesis will take in and why.

One indicator versus multiple indicators of human capital

The indicators with respect to education are the most used indicators of human capital in the studies investigating the influence of human capital on firm performance. In some studies it was the only indicator to measure human capital (see for example the studies by Yao, Han & Feng, 2007 and Kong & Zhang, 2010). Kong and Zhang (2010) stated that there is no good measurement of human capital. According to them, education is highly correlated to other human capital factors; therefore it is appropriate to use the educational level as a measure for human capital. Another reason, also reported by Kong and Zhang (2010) is that in labour economics, education is used as the most important proxy for human capital (as was already described in paragraph 2.1.2).

However, the two reasons mentioned by Kong and Zhang (2010) to use only education as a proxy of

human capital are not very convincing. One indicator does not completely reflect the many elements of the complex concept of human capital. If the human capital indicators indeed highly correlate with each other, it would be advised to build a measure of human capital. This is because the high correlation between the items are an indication of high construct validity and more items can also raise the perceived content validity.

Thus, with a good developed scale of human capital, researchers can be more certain that they really measure what they want to measure. That is why this master thesis makes every effort in the development of a measurement scale for human capital.

Objective versus subjective measures of human capital.

Another remark that can be made on the indicators is that they can be roughly divided into objective measures (age, education, reward etc.) and subjective measures (personality, motivation, perceived ability). All researchers of the sample of studies used in this master thesis focused on one group of these measures. The only exception was the study by Sahin, Nijkamp and Stough (2010), but they only linked the subjective measures to the term human capital, and their outcomes only comprise descriptive statistics. Thus, it is unclear how subjective measures and objective measures of human capital relate to each other.

The influence on firm performance is found for both kinds of measures. In general, it is better to have a more objective measurement. In some circumstances, however, it is not possible to obtain objective information on human capital and some aspects (e.g., motivation and personality) cannot be measured objectively. As the studies of the literature review did not compare the effectiveness of objective and subjective measures, it is unclear how they relate to each other or whether they complement each other. This master thesis will take a balanced approach in the development of the human capital scan, meaning that both objective and subjective measures will be included.

General versus specific measures of human capital

Another important point is to see how specific the indicators of human are. Some researchers, for example, operationalise human capital by asking for educational level and general experience whereas others focus on more specific knowledge and experience to operationalise human capital. Most authors acknowledge that there is a difference between the general and the more specific measures/indicators of human capital, because they make a distinction between these two kind of measures (see for example Crook et al., 2011, and Dimov & Shepherd, 2005).

Crook et al. (2011) did a meta-analysis on studies that investigated the influence of human capital on performance. In their study, they made a difference between the specific measures of human capital and the general measures of human capital and tested if there were differences between the influences of these measures on performance. They found a stronger influence on firm performance for the more specific measures.

An example of a study that included general and specific measures of human capital in their research design, is the one by Ployhart, Van Iddekinge and Mackenzie (2011) (which was not part of the 56 studies of the literature review), which investigated the relationship between general capital and firm-specific capital. Their sample consisted of 238 franchises of quick service restaurants in the U.S. General human capital was measured by a validated selection test that measured cognitive ability and personality traits that were related to service provision. The specific human capital was measured by the

ratio of employees who had taken an optional advanced level training. The study provided evidence that the influence of general human capital on the unit performance was fully mediated by specific human capital.

Thus the study by Crook et al. (2011) shows that specific human capital has a stronger influence on firm performance; the study by Ployhart, Van Iddekinge and Mackenzie (2011) shows that the influence of general human capital is mediated by specific human capital (optional advanced level training). This means that it is necessary for companies to have a good general human capital to obtain a high firm performance, but in itself it is not sufficient for high firm performance: only when general human capital is transformed into specific human capital will it lead to better performance.

The human capital scan will mainly consist of general indicators, because the first chapter of this master thesis mentions that a top-down approach will be pursued for the development of the human capital scan. This means that the indicators will not be adjusted to the specific circumstances of the individual companies; this will automatically lead to more general indicators in the human capital scan. The limitation – a scan with general indicators – will be mitigated by the indicators that ask for the educational level of the employees.

The research by Ployhart, Van Iddekinge en Mackenzie (2011) shows that general indicators are not directly related to performance but through an optional advanced level training (specific human capital). It is expected that the extent of training says something about how general capital of companies is transformed into specific capital that has an influence on the performance of companies. Therefore, this master thesis will include general indicators of human capital (education, experience) to gain a general insight in the human capital of a company; it will also include questions about training to infer to which extent this human capital is transformed into the specific human capital that leads to better firm performance.

Human capital residing in the executives versus human capital residing in the total workforce

Another major point is that the different studies on human capital reveal that the human capital of companies does not reside in one group, because studies focus on different employees of a company. Therefore, it can be argued that the human capital of a company is a combination of the human capital of all the members of an organisation: from lowest employee in rank to the CEO. Although most researchers will agree with this view, most of them focus on the total workforce, without distinguishing between employees or only focussing on company executives. One of the exceptions is the study by Carpenter, Sanders and Gregerson (2001). They found that international experience of CEOs, combined with higher experience of top management teams, leads to a stronger performance than one of the factors by itself. Another exception is the research from Winne and Sels (2010). They measured the human capital of the owners/managers of a company and the human capital of their employees. They found that the educational level of the owner/manager predicted the human capital of employees, which was measured by the percentage of highly educated employees. The studies by Carpenter, Sanders and Gregerson (2001) and Winne and Sels (2010) implicate that the most comprehensive picture of a company's human capital and its influence on the company's performance are a combination of the human capital of different groups (CEO, owner, managers, employees). This master thesis will not make different groups nor identify the human capital of each individual group, because this will end up in too difficult and extensive a human capital scan. What this master thesis will do, is to

give the respondents the opportunity to identify the strategically most important groups of employees and gain more insight in the human capital of this specific group.

2.3.3 Main conclusions of the literature review

A literature review was conducted to identify the most relevant indicators of human capital. A total of 45 studies, investigating the influence of human capital on firm performance, were examined to identify the relevant indicators. The studies obtained human capital from different groups of persons occupying different positions in a company.

The human capital was obtained from CEO's Boards, owners, top management and employees (workforce). The studies of the literature did not reveal remarkable differences in the indicators of these groups. However, there was a remarkable difference between these indicators and the list of indicators by Lim, Chan and Dallimore (2010) which was compiled with indicators proposed by different researchers. The major difference was that the indicators with respect to the flow of human capital (recruiting, tenure, turnover) were missing. Therefore, indicators on these categories will also be included in the human capital scan.

The literature review revealed that there are different views on different subjects with respect to the measurement of human capital. The first subject was whether human capital should be measured with one item or with multiple items. This master thesis will measure human capital with more items, because it is expected that human capital can be measured in a more reliable and valid manner using multiple item measures, and that only with this multiple items can labour market developments be mapped.

The second subject was about the subjective versus the objective measurement of human capital. In this master thesis, the view is taken that both approaches are important. Therefore, both approaches are incorporated in the human capital scan.

The third subject concerned the use of general versus specific indicators. From the literature it can be derived that companies can transform general human capital in specific human capital through training. As a consequence, questions with respect to training will be included in the human capital scan, as will questions that are used to operationalise the general indicators of human capital.

The fourth view dealt with the point whether the human capital resides in the company executives or that it resides in the company workforce. In this master thesis, we take in the standpoint that the entire workforce of a company is the best reflection of the human capital of companies.

2.4 What are possible strategic elements of a human capital scan?

It has already been reported in the introduction of this master thesis that research points to the importance of a good fit between the human capital and the strategy of a company (Hitt et al., 2001). Some studies of the literature review conducted in the previous paragraph (2.3) also showed that the influence of human capital on firm performance depends on the strategy of a company (see for example Geogiadis & Pitelis, 2011; Liu et al, 2010, and Hitt et al., 2001).

This paragraph will explain which strategic elements are incorporated in the human capital. The *Oxford Dictionary* (n.d.) defines strategy as "a plan of action designed to achieve a long-term or overall aim." The human capital scan will be developed in such a way that it makes companies aware of and makes them think about whether their own strategy can be attained with their own human capital. There are

two elements incorporated in the human capital scan to make it strategic.

The first element is that the human capital scan offers an overview of the content and flow of human capital. This overview will provide a solid basis for judgments about the ability of human capital to achieve the company's strategic aims. In the literature review described in paragraph 2.3 of this master thesis, a list of possible human capital indicators was identified. In paragraph 2.4.1 of this master thesis, the most relevant indicators for the human capital scan will be identified.

The second strategic element of a human capital scan is that it will focus on the company's specific human capital (see paragraph 2.3.2.2 of the literature review), next to the company's general human capital. To be more precise: this master thesis will focus on the specific human capital that is high in strategic value and uniqueness. Strategic value and uniqueness dimensions have been adopted from Lepak and Snell (2002). The second element will be explained in more detail in paragraph 2.4.2.

2.4.1 Strategic element 1: Companies gain insight into the flow and content of their human capital

The first strategic element described in the previous paragraph was that the human capital will offer an overview of the flow and content of human capital. In paragraph 2.3 of this master thesis that dealt with the indicators of human capital used in the literature, an extensive list of indicators was generated to measure human capital. It has already been highlighted that the indicators can be subdivided into two categories: the first category are indicators that can be considered to be proxies for the content of human capital, the second category are indicators that can be considered to be proxies for the flow of human capital.

The literature review conducted in this master thesis revealed that a large amount of indicators in the literature can be used as proxies for the content and the flow of human capital. These indicators are not equally appropriate to all companies. For this reason, for each category of indicators listed in Table 3, the most important and useful indicators were identified (see Table 4). For each category it was determined whether the indicators of this category belonged to the content of human capital or to the flow of human capital.

For each indicator it was is very clear to which category it belonged, except for reward. On the one hand, it can be argued that rewards belong to the flow category because if a company offers higher rewards than its competitors, the organisation will prevent human capital from flowing to another organisation. On the other hand, it can be argued that rewards belong to the content category because altogether it can be expected that employees receiving higher rewards have more valuable skills, knowledge and/or abilities.

It is very likely that rewards will influence the flow of human capital, but this indicator does not directly measure the flow of human capital, contrary to all the other indicators of the flow category in Table 4. Therefore, this indicator is not assigned to the flow category. It is not assigned to the content category either, because reward is not a very objective variable to determine the value of human capital for a company because the reward of employees depends on factors like collective employment agreements, minimum income and the tightness of the labour market. For this reason, the reward indicator will not be included in the human capital scan.

For the recruiting category, a new indicator was proposed, because this indicator was needed to provide the participating firms with better feedback. Also, two indicators were added to the human capital scan. The indicators were "the size of the flexible workforce" and "the age of the workforce". The

commissioner of this research commissioned us to include questions related to the flexible part of the workforce.

The question about age does not directly measure the flow of human capital, but it is an important variable to consider, especially when a large part of the workforce reaches retirement age.

The indicators of the scan are the most basic and objective variables. It is expected that they are relatively easy to determine. It is an option to extend the human capital scan with questionnaires that identify the employees' motivation, satisfaction, commitment, knowledge, skills, abilities, leadership qualities etc. in more detail.

Table 4. Indicators of the human capital scan

<p>Content of human capital:</p> <p>Education: level of education, sufficient people with the right education Training: percentage of employees trained in terms of the total number of employees, training cost (per capita, percentage of payroll), time in training (days/year) Experience: years of experience in profession, rookie ratio (percentage of employees with less than two years of work experience) Innovation: extent to which employees are capable of making innovations</p>
<p>Flow of human capital:</p> <p>Turnover/retention: turnover rate Recruiting: percentage of openings in terms of the total number of employees*, percentage of openings filled Internal flow: percentage of employees promoted in the total workforce, percentage of employees changing jobs (within the company) in the total workforce Size flexible workforce**: percentage of employees on temporary contracts at the end of the year***, percentage of the firm's total working hours for people from private employment agencies***, percentage of employees with part-time contracts, expenses on freelancers as percentage of total payroll</p>
<p>Remaining variables Age of employees****</p>

*Proposed indicator added to provide the firms with better feedback.

** At the special request of the commissioner of this research, this category was included.

*** Adopted from Kleinknecht et al. (2006).

**** Indicator that is very relevant in the Dutch context, due to its aging workforce.

2.4.2 Strategic element 2: Focus on specific human capital

The second strategic element is that this master thesis will focus on the specific human capital of uniqueness. The human capital that is of high strategic value and uniqueness is considered the specific human capital described by different authors of the literature review (conducted in this master thesis, see paragraph 2.3). The strategic value dimension and uniqueness dimension were adopted from Lepak and Snell (2002) who used these dimensions to describe four different employment modes. How this specific human capital is identified in the human capital scan, will be described in Chapter 3 that deals with the development of the human capital scan. In paragraph 2.5 it will be described and in Figure 3 it

will be depicted how these first two strategic elements are related to each other in the human capital scan.

2.4.4 Conclusion about the strategic elements of the human capital scan

There are two elements that make the human capital scan of this master thesis strategic. The first strategic aspect is that the human capital scan will offer an overview of the content and flow of human capital. The second strategic element is that the human capital scan will focus on specific human capital that is high in strategic value and uniqueness. The strategic value and uniqueness dimensions are adopted from Lepak and Snell (2002). How these strategic valuable employees and their uniqueness are identified will be described in paragraph 3.2. These two strategic elements will provide a solid basis for strategic decision making. The first element will provide a good overview of the current condition of the general human capital of a company. However, employees are not equal in their strategic importance for companies. Therefore, the human capital scan will first help companies identify their strategically most important employees. For these employees, it is also relevant to identify if these employees are unique, because according to the RBV the valuable human capital will lead only to competitive advantage if it satisfies the rarity, non-imitability and non-substitutability attributes (Barney, 1991). These three attributes will be captured with the questionnaire by Lepak and Snell (2002) on the uniqueness of human capital (see Table 8 in paragraph 4.2).

2.5 What is the relationship between the strategic elements and indicators

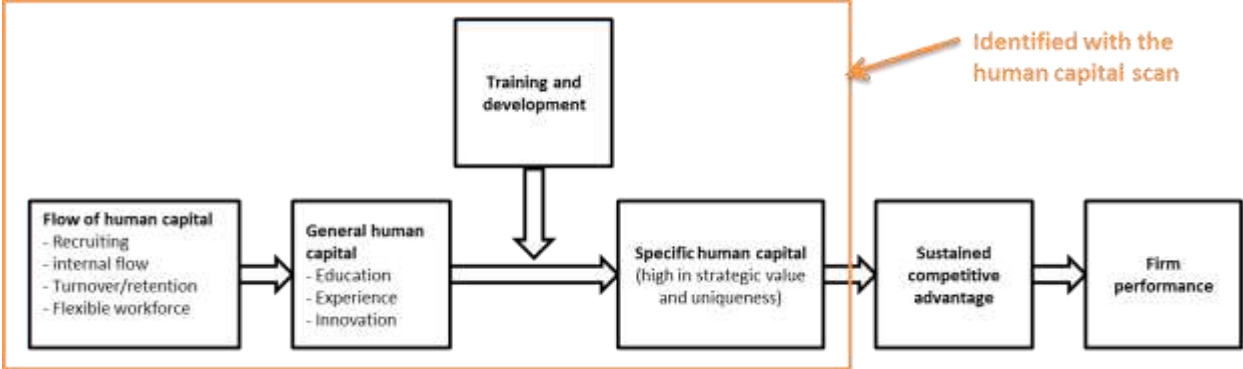
In this paragraph it is explained how the two strategic elements and indicators are related to each other. Figure 3 starts with the flow of human capital with an arrow pointing to general human capital because it is expected that the constellation of the company's general human capital is determined by the flow of human capital into, through and out of the organisation.

Next, there is an arrow pointing from general human capital to specific human capital, because a study of literature review in this master thesis (see paragraph 2.3) revealed that specific human capital had a stronger influence on firm performance (Crook et al., 2011); another study of the review (Ployhart, Van Iddekinge and Mackenzie, 2011) revealed that the relationship between general human capital and firm performance was fully mediated by specific human capital which was measured by a number of employees who had completed an optional advanced training. From the study by Ployhart, Van Iddekinge and Mackenzie (2011) it can be inferred that the training and development of employees lead to more specific human capital that is of higher strategic value and of higher uniqueness for companies. Training is depicted as a moderator between general and specific human capital because it is expected that through training and development general human capital transforms into specific human capital, that is unique and has a high strategic importance. Strictly speaking in the logic of RBV, this will not lead to competitive advantage if human capital and the resources of competing companies are homogeneous distributed among companies. This is because these companies will do the same with respect to the training and development of employees (see Barney (1991) for a more detailed explanation of this point).

However, in the real world the human capital and resources of companies are not homogeneous distributed and it is expected that more training and development lead to more specific human capital. It is expected that this specific human capital leads to better performance when it is of high strategic

value and uniqueness for the company. Therefore, the strategic part of the human capital scan will identify the extent to which training and development is in accordance with the company's strategy. The last arrows point from specific human capital to sustained competitive advantage and from sustained competitive advantage to firm performance. The specific human capital is expected to lead to sustained competitive advantage because it is expected that it is almost impossible for competitors to imitate or substitute this specific human capital that is unique and valuable.

Figure 3. Graphical depiction of the relationships between the constructs of the human capital scan



Chapter 3 Development of the human capital scan

Until now, the elements have been described that belong to the human capital scan. In this part of the master thesis, the information will be combined to develop a questionnaire for identifying the general human capital of companies, and will be combined in a part of the scan that focuses on the strategically most important employees. Before the procedure for the development of the human capital scan is described, more information about the background and motives of the research will be given.

At the beginning (paragraph 1.1) of this master thesis, it was stated that there will be shortages of people with the right education. This is the reason for the employers' organisation VNO-NCW Midden to commission this research so as to make employers more aware of these future shortages. At the same time, VNO-NCW Midden aims at getting more insight in the regional developments on the labour market. Therefore, the measuring tool of human capital should meet both goals.

In order to be able to make predictions about developments on the labour market, it is important for the human capital scan to retrieve company-level information that is generally applicable to all companies filling in the human capital scan. This was described as the top-down approach in paragraph 1.2 of this master thesis.

In paragraph 2.4.1 of this master thesis it was discussed that the intended scan should enable companies to gain general insight into the content and the flow of their human capital. However, this information is too general for companies to take very specific measures. For this reason, the human capital scan will be extended with a part that assists companies in identifying their strategically most important human capital. To this end, additional questions are included that will identify the uniqueness, content and flow of this specific human capital. In the procedure described below, it is explained how this master thesis will develop the human capital scan.

3.1 Procedure

In the first phase of this master thesis, a human capital scan will be developed based on the literature. Paragraph 3.2 will describe how the items of the scan are inferred from the information obtained in theoretical chapter of this master thesis. This will be followed, in paragraph 3.3, by a description of the strategic part of the human capital scan. Subsequently, paragraph 3.4 will describe how the developed human capital scan will be tested.

3.2 The human capital scan

The questionnaire consists of nine indicators; these can be subdivided into indicators that measure the content of human capital; indicators that measure the flow of human capital; one indicator that measures the training and development of human capital; and one indicator that measures the age of human capital.

This last indicator (measuring the age of employees) cannot be found in Figure 3 in paragraph 2.5. The indicator related to age is included because of the old age of the Dutch workforce and is, to some extent, related to the flow of human capital although it does not directly measure the flow of human capital.

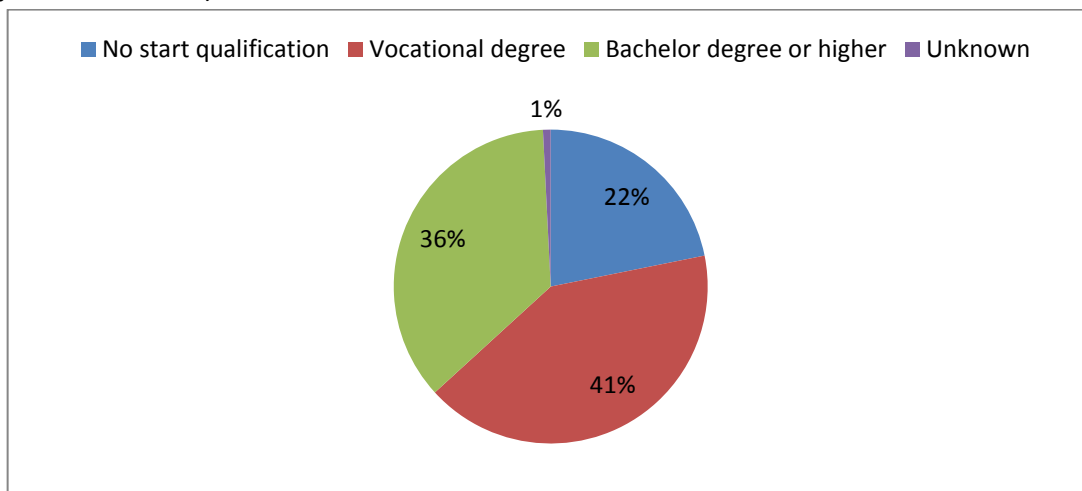
For every indicator, objective and subjective questions are included in the questionnaire, except for the innovation category. The subjective questions are divided into questions that focus on the present and

the future. The questions about the future are included because VNO-NCW Midden wants to make predictions about the future developments on the labour market. The objective questions can be found in Table 5 (paragraph 4.1.3), the subjective questions in Table 6 (paragraph 4.1.4), and the questions about the future in Table 7 (paragraph 4.1.5). This master thesis starts with describing the indicators that measure the content of human capital.

The content of the human capital scan consists of the following categories: education, training, experience and innovation. In the theoretical chapter of this master thesis, it has already been reported that education is the most commonly used proxy for human capital. Hsu and Wang (2012) and Kong and Zhang (2010) used average educational level as a proxy for human capital while Liu et al. (2010) and Yao, Han and Feng (2007) used the proportion of employees with higher education to measure the human capital of companies. Both measures are summary measures and give limited information about the composition of the workforce. It is unclear, for example, which percentage of the employees has an occupational degree (mbo). This information is especially important for mapping the development on the labour market – one of the aims of this master thesis. Therefore, the item to measure education is proposed in Table 5 (paragraph 4.1.3).

“No start qualification” means that the educational level of these people is not high enough to find a job, according to the Dutch government. The vocational education group (mbo 2-4, havo, vwo) consist of people having a start degree but their educational level is lower than a bachelor degree. This group is named the vocational degree category, because most of the people in this category have vocation-related degrees (mbo 2-4); it is expected that employees with only havo/vwo degrees (higher general secondary education) will occupy functions of the same level as employees with vocation-related degrees (mbo 2-4). The final category consists of people with at least a bachelor degree. The proportions of each group in the Dutch workforce can be found in Figure 4.

Figure 4. Educational level of Dutch workforce for the age group 25-65 in 2011 (information obtained from CBS Statline)*



* The Dutch workforce consists of the people that work more than 12 hours a week, accepted work for more than 12 hour a week or who declare to be willing to work more than 12 hours and are putting effort into finding this kind of work.

The measures of educational level proposed by the abovementioned authors could also be calculated using the first question in Table 5. However, it should be noted that companies are not equal in their need for highly educated employees. For this reason, the question was added whether the current educational level of their employees is high enough to attain their goals.

The training variable was also split up into these educational level degrees. This division was made because research showed that people with higher educational attainment are more likely to receive training (Green, 1993; also see Blundell et al., 1999, for an overview of returns of education on the individual, firm and national levels). The answers on this question will provide insight into which groups of employees in terms of educational background are most likely to receive training.

The theoretical part of this master thesis showed that more experience as entrepreneur is not always positive for the firm performance. Unfortunately, there were no studies in the sample of studies of the theoretical chapter that investigated the influence of employee experience on firm performance. However, it is expected that the inverted U-shape relationship between entrepreneur experience and firm performance revealed by Ganotakis (2010) will also be found for employees. This is because Skirbekk's (2008) overview of research on age and productive capacity concluded that in general productive capacity will increase in the employees' early years on the labour market, will stabilise subsequently and will often decline in the later years of their working lives.

Based on the studies described above it is expected that it is detrimental for a company's performance if the company has too many employees with either too little experience or too much experience.

Therefore, one question focuses on the employees with little experience, and one question focuses on the employees with a lot of experience.

To remain competitive it is essential for companies that their human capital is innovative. There were some objective measures of innovation such as the number of suggested and implemented ideas that were identified from the literature review conducted in this master thesis. However, this kind of information will not be systematically recorded in every company. Therefore, the more generally applicable 4-item questionnaire (see for items on innovation Table 6 in paragraph 4.1.4) proposed by Hsu and Sabherwal (2011) will be used, because their study showed that this measure was directly related to innovation. These questions do not directly measure innovation, but identify important characteristics of the company's human capital that are conducive to innovation.

The following measures of the human capital scan focus on the flow of human capital. The recruiting/selection measures focus on the inflow of new people into the organisation, while the turnover/retention measures focus on the outflow of people out of the organisation. It is important to have the right balance between these aspects to attain, to enhance or to decrease the content of human capital.

These measures are also divided into the proposed classification of educational level, because it is important for companies to be aware of how the inflow and outflow influence the content of their workforce. For instance, it can be problematic for a company if the turnover of highly educated people is high and at the same time they have difficulties in attracting highly educated employees.

The last indicators which are related to the flow of human capital are focusing on the human capital flexibility: the internal flow and flexible workforce indicators. In the literature about flexible labour, the distinction between functional and numerical flexibility is often made. Functional flexibility concerns the flexible employment of employees within the company, i.e., the internal flow of human capital. This

could be accomplished by rotating and promoting people through the organisation – reason to propose the two objective questions in Table 5 in paragraph 4.1.3.

Numerical flexibility deals with adjusting the size of the workforce according to the employer's current needs. To attain this numerical flexibility, companies, for example, give their employees temporary contracts or use freelancers to do the job. Kleinknecht et al. (2006) propose measures for the numerical flexibility of the workforce. The first indicator proposed by Kleinknecht et al. (2006) to measure numerical flexibility asks for the percentage of persons who joined or left the firm. This information is already captured with the turnover/retention and the recruitment indicators.

The other two proposed indicators are related to the size of the flexible part of the workforce and are included in the category flexible workforce size. Two variables are added to this category. These variables ask for the number of consulted freelancers (*zzp'ers*) and the number of part-timers. The group of freelancers is a relevant group with respect to the flexible workforce size because research shows that this group is growing very fast in the Dutch workforce (see for example Kösters, 2009).

The last questions deal with the age of the workforce and do not need further explanation; they can be found in Table 5,6 and 7 in chapter 4.

3.3 Strategic part of the human capital scan

The strategic part of the human capital scan will be presented in this part of the master thesis. With the human capital scan, a general overview of the content and flow of the human capital is offered. Thus, until now employers have only broad and general insights in their human capital. The strategic part of the scan in this master thesis assist companies in identifying their strategically most important human capital and give them more insight in the uniqueness, content and flow of this specific human capital. In Figure 5, the five steps of the strategic part of the human capital scan are shown; the content of this part can be found in Table 8 in paragraph 4.2.

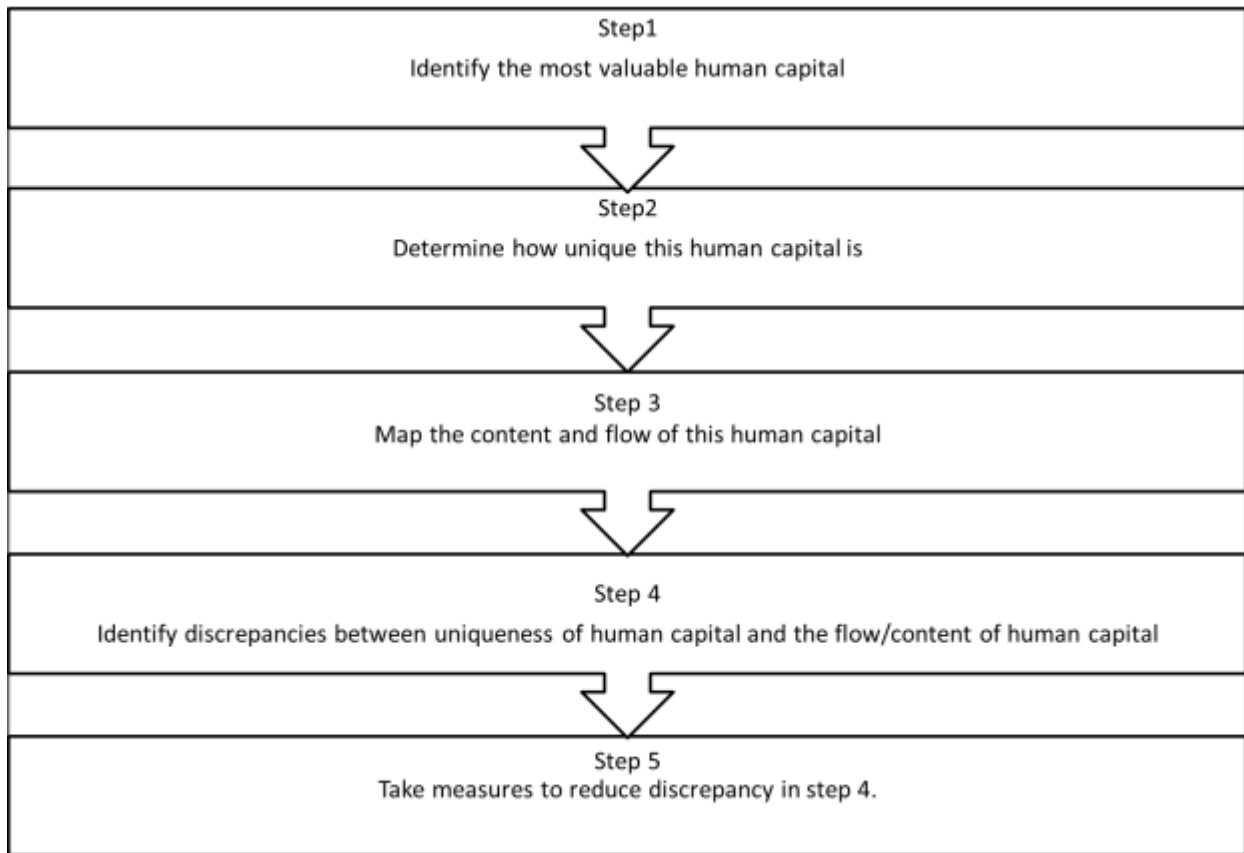
The strategic part described below is based on the employment modes of Lepak and Snell (2002). These employment modes will be described in paragraph 3.3.1.

The first step will be to identify the company's most valuable human capital. The research by Lepak and Snell (2002) showed that employees with the same jobs can have different values for companies. Lepak and Snell (2002), for example, found that employees with administrative positions could be found in both contract work employment mode (employees have low strategic value) and in job-based employment mode (employees have high strategic value).

According to Barney (1991), resource are "valuable when they enable a firm to conceive or implement strategies that improve its efficiency and effectiveness" (p. 106). By combining the insights of Lepak and Snell and Barney, it can be concluded that the same human capital can differ in value for companies and that the value of this human capital depends on the strategies of a company. However, the strategies could be too general to find out what the most important employees are. Therefore, companies also need to overview their tactics.

The tactics of company are about the question of how they want to attain these strategies; it will give insight into which employees are essential for attaining the strategy. For example, some companies want to provide their customers with better products, while others want to offer better services to their customers. Companies need to follow certain tactics to attain these strategies.

Figure 5. Strategic part of the human capital scan



A tactic for a company that wants to provide customers with better products, can be to invest more in research and development, while for the companies who want to offer a better customer service it would be a better tactic to train their administrative employees. For the company that wants to offer better products, the research and development employees are the most important employees, while for the firm that is pursuing the high service strategy the sales employees are the most important employees to attain the company strategy.

These examples make it clear that for accomplishing a company's strategy, specific groups of employee are important. The first step will be completed once the most important group(s) of employees is (are) identified. These employees belong to the knowledge-based employment mode or to the job-based employment mode, according to the model of Lepak and Snell (2002), because in both modes the employees are of high strategic importance. These two modes are differentiated by the uniqueness of human capital. Human capital is more unique in the knowledge-based employment mode than in the job-based employment mode (see Figure 6 in the next paragraph).

In step 2 it will be determined by way of a questionnaire adopted by Lepak and Snell (2002) (see Table 8 in paragraph 4.2) how unique the human capital of the identified group is. By answering these questions it will become clear if the employees belong to the knowledge-based or job-based employment mode.

In step 3, companies will have to complete the objective questions from the human capital scan related to the content and flow of its human capital. These questions will not make a distinction in educational

level. There will only be one question that asks for the average educational level of these employees. The content and flow of the total workforce has already been mapped with the human capital scan. However, it is possible that the content and flow of the specific group of employees differ from the total workforce.

Step 4 will identify if the human capital indicators of this group of employees are in accordance with the employment modes of Lepak and Snell (2002) where this group belongs to. It is described in paragraph 3.3.1 that the knowledge-based and job-based employment mode differ in if the company makes or buy this employees. Thus, if employees belong to the knowledge-based employment mode they are unique and very difficult to acquire in the labour market. In this mode, it is most effective for companies to develop their human capital internally and to prevent the turnover of their human resources. Thus, in this mode, one can expect a relatively low turnover, older employees, a lot of training and experience, high innovation, high investment in recruiting and selection, relatively long tenure, low size of the flexible workforce and more promotions.

In the job-based employment mode, the employees are not very unique and can be relatively easily acquired in the labour market. Thus, in this mode, one can expect that the turn-over is higher than in the knowledge-based employment mode. Besides, it is also expected that these employees do not receive much training, are less experienced and innovative, and companies are less likely to invest much in the recruitment and selection of these employees, because they have relatively shorter tenure and are less likely to be promoted, compared to the knowledge-based employment mode. It is expected that the flexible size of the workforce is bigger in this mode, because employers can more easily adjust their labour size to the demand for work and these employees are relatively easy to obtain in the labour market.

Therefore, in the feedback, the group of employees will be compared to other groups of employees that belong to the same employment mode. With this feedback, companies get insight if there are discrepancies between human capital indicators and the employment modes. In the feedback, the employment modes and the human capital indicators will also be explained.

In step 5, the company can take measures to reduce the discrepancies, based on the feedback they have retrieved.

3.3.1 Employment modes of Lepak and Snell (2002)

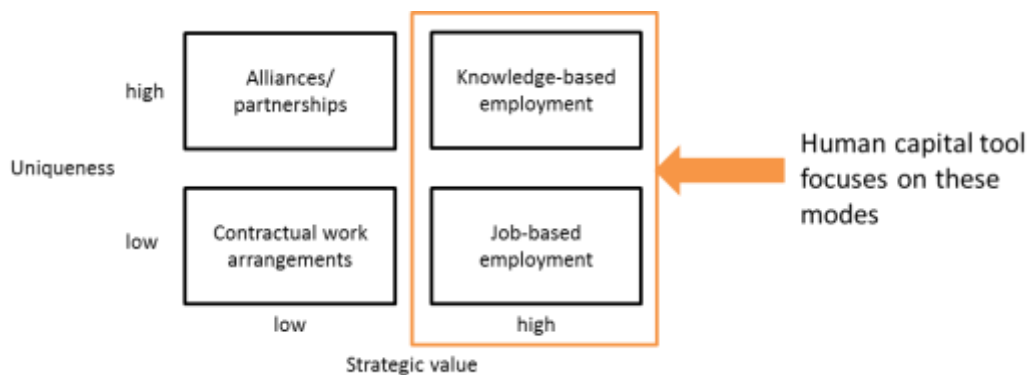
In this master thesis, it has already been discussed that human capital is acknowledged as an important resource in the RBV of the firm (see Barney, 1991). In paragraph 2.1.4 of this master thesis that explained human capital, the definition of intangibles of Kristandl and Bontis (2007) was mentioned. They defined intangibles as strategic firm resources that enable organisations to create sustainable value. These resources must be valuable, rare, appropriable, non-imitable, non-substitutable and immobile.

Based on the value aspect and the uniqueness aspect (combination of rarity, non-imitability, non-substitutability and immobility attributes, see questionnaire for the uniqueness of human capital in Table 8 of paragraph 4.2) of the RBV, Lepak and Snell (1999) developed their human resource architecture. It is especially relevant for the development of the human capital scan that they identified four employment modes, based on the uniqueness and strategic value of human capital.

Lepak and Snell (2002) named the first employment mode the knowledge-based employment mode. In

this mode, the value and uniqueness of human capital are high and can be considered the core of the company. Companies try to keep these employees in the organisation by way of, for example, internal development and stock ownership, because the employees in this mode are valuable and unique. The second employment mode is the job-based employment mode. In this mode, the skills of the employees are not unique to the firm, but these employees are of high strategic value for the company. The human capital in this mode is not developed internally, but is bought. Lepak and Snell (2002) state that the HR systems of the first two modes differ in whether the company “makes or buys” the human capital. In the third mode, named the contractual work arrangements mode, human capital is of low strategic value and is not unique for the firm. The employees in this mode are candidates for outsourcing or short-term contractual arrangements, because of their low value and generic skills. In this employment mode, the employer will reduce the investment in human capital to a minimum. The last and fourth employment mode is named the alliances/partnerships mode. In this mode, the strategic value of the human capital is low, but the uniqueness is high. Firms form alliances or partnerships with this kind of human capital. Examples are accountant, legal consultants, research and development labs etc. Figure 6 is a graphical depiction of how these four modes are related to each other.

Figure 6. Employment modes, adopted from Lepak and Snell (1999, 2002).



The strategic part of the human capital scan will focus on the knowledge-based and job-based employment modes, because the human capital in these modes is of high strategic importance. This existence of these two modes in practice has also been supported by the empirical data collected in the study by Lepak and Snell (2002).

3.4 Pre-test of the human capital scan

Until now, this master thesis developed the human capital scan based on scientific literature. It is important to know if the respondents will comprehend the questions and if they interpret the questions as they were intended. Bowden et al. (2008) noticed that the validity and reliability of a questionnaire cannot only be based on quantitative approaches, because these approaches do not identify whether the respondents interpreted the questions as they were intended.

Besides, it is important to know whether the questionnaire covers all relevant aspects of human capital. It is expected that most aspects are already covered, because all the questions are based on the

literature study described in the theoretical chapter of this master thesis. However, it could be that some aspects of human capital that are relevant in practice, are not identified with the literature study conducted in this master thesis.

Interviews will be used to determine whether the respondents interpreted the questions as they were intended, which will be complemented with a couple of debriefing questions to identify possibly important aspects that are overlooked in the human capital scan. The respondents for the interviews and the debriefing questions will be described first.

3.4.1 Respondents

The respondents of this master thesis are senior HR managers or CEOs. The respondents are contacted through email by the VNO-NCW Midden. The content of this email can be found in Appendix 2 (in Dutch).

3.4.2 The cognitive interview and debriefing questions

Fowler (1995) lists some common elements of interviews that aim at testing a questionnaire. The most important priority of the interviews is to discover how the respondents understand the questions. These interviews are often recorded and observed; in general, they are not conducted by regular survey interviewers but by people who know the objectives of the study and the questions. (The interviews of this master thesis are conducted by the author himself.) In the interviews, the questions are read to the respondents, and the respondents answer the questions. Through supplementary questions the interviewer tries to find out what is going on in the respondent's mind while he/she answers the questions.

In this master thesis, the respondents were asked to complete the questionnaires before the interview. The questionnaires were sent by email one to three weeks in advance. This approach was chosen because it was expected that the respondents were not able to answer all questions without looking up information. With this approach, the respondents could answer the questions in peace and quiet, and were not forced into giving a quick answer. An important aspect of the cognitive interview is to find out what is going on in the respondent's mind when he or she answers the questions. However, the respondents for this master thesis will probably not exactly remember how they formed the answers they gave.

Nevertheless, it is expected that the respondents will memorise their uncertainties, confusions and will memorise how they came to their answers. Therefore, after each group of questions complementary questions will be asked to identify whether the respondents had uncertainties or were confused when answering the questions. For each group of questions, it will also be asked how confident the respondent is about the accuracy of his/her answer. Another supplementary question that will be asked with respect to numerical information concerns how the respondents arrived at the number. For the subjective questions, the interviewer will ask the respondents about the process he/she went through when answering the question.

When the cognitive interview is introduced to the respondents it will be emphasised that they are free to make comments or ask for clarification, should the instructions or questions be unclear. The respondents will be provided with a printed version of the instructions and (debriefing) questions during the interview.

The interview will contain three debriefing questions. For the first two questions it will be explained that

the questionnaire asks for the content and the flow of human capital (see theoretical chapter). The four categories of the content of human capital (education, training, experience and innovation) will be presented to the respondents. The question will ask whether the respondent is able to name other relevant categories. The same will be asked for the five flow categories. The third debriefing question will ask for the respondent's opinion about the identification of the strategically most important employees.

At the end of the interview, the respondents get the opportunity to make remarks or ask questions. The interview protocol can be found in Appendix 3 (in Dutch).

Chapter 4 Results

In this chapter the results of the cognitive interviews will be discussed. The employers' organisation VNO-NCW Midden approached the convenience sample of 55 organisations in the (manufacturing) industry with the question whether a senior HR manager or the CEO of the company is willing to complete the human capital scan and to participate in the subsequent interview. It has already been highlighted in the introduction of this master thesis that labour market research prospects major bottlenecks in the staffing of workforce with the right educational background for technical and industrial companies. That is why these companies were chosen to participate.

Ten companies were willing to complete the questionnaire and participate in the interviews. A total of ten interviews were conducted with twelve participants in ten different companies (in one company three participants were interviewed simultaneously). The size of the companies ranged from 12 to 330 employees, with a mean of 164.3 employees. During the interviews, seven HR managers, four CEOs and one personnel planner were interviewed. In the company with three respondents, the CEO, the HR manager and the company planner were interviewed. Four of the participating companies are specialised/innovative in manufacturing, two are in construction, two in machine building, and the remaining two are a printing company and a waste management company.

The next paragraph will discuss to what extent these interviews contributed to the development and refinement of the human capital scan.

4.1 Human capital scan

The human capital scan consists of three categories of questions. The first category consists of questions that ask for objective information about subjects related to human capital; these subjects were obtained from the literature review in this master thesis. All these questions (except for the question that asked for the kind of industry the company is in) asked for a number or percentage. The second category consists of subjective questions. These questions are statements about the human capital subjects which had to be answered on a Likert-scale. The third category were subjective questions that asked the respondents to make predictions about the future on different human capital subjects (future questions). The cognitive interview also asked about the clarity of the instructions. The next paragraph will first discuss the clarity of the instruction, followed by a description of the clarity and comprehensibility of the objective, subjective and future questions. Before that, some general remarks about the interviews are made.

4.1.1 General remarks

Most respondents followed the instructions and completed the questionnaire before the interview, except for two cases. In one case, the respondent answered the questions during the interview. In the other case, the respondent was prevented from attending the interview, so a colleague had taken her place. This stand-in was instructed by her colleague about the answers, just shortly before the interview. In one interview, three respondents from one company (HR Manager, planner and CEO) were interviewed in one interview, as already described in the introduction part of this chapter. In the remaining part of this chapter, these three respondents will be described as one respondent. In some cases, the respondents did not complete all the questions, because some of the questions were

unclear, or because the respondents had taken too little time to complete the scan. Some thought this was no problem because it was only a pilot. In general, it could be noticed that that respondents made use of estimations instead of information by the company administration for the objective questions; these required more research for most respondents.

Some respondents stated that they could not deduce the relevant information from the systems at once. To obtain, for example, information on the educational level of employees, some companies were limited by their information system because with these systems it was only possible to look at the educational level of one employee at one go. Only one respondent was able to abstract relatively easily all the information from the administration system of his company. He described that the most difficult case was that he had to make two simple steps with Excel to retrieve the requested information. This means that the results of the interviews should be approached with caution because most respondents made use of estimations when they answered the questions.

An additional comment that needs to be made is that there are respondents who had a desire for a more detailed and specific scan with respect to the objective questions. In paragraph 4.1.3 about the objective questions, it will be described that for some aspects the scan will be more specific, but the options are limited because the interviews showed that the more specific questions took a lot more effort from the respondents to answer and, in most cases, were answered through guessing.

4.1.2 Instructions

All the respondents knew how they had to complete the questionnaire. Three respondents had a remark about the instructions. The first was about the term human capital. According to one respondent, some older respondents from small companies will not comprehend the term human capital because of their lack of knowledge of the English language. He thought this will be a barrier for these people to complete the questionnaire.

The second comment was about the introduction of the scan. According to another respondent, the introduction should make clear what the interview will yield for the company. Do they, for example, get a mark on how they perform? The respondent advised to make clear in bullet points what the research will yield for his company. He also advised to briefly describe preceding each group of questions what kinds of questions can be expected. The third comment from again another respondent was also about the introduction part. The respondent said that the part should focus more on the importance of the research for him.

4.1.3 Objective questions

In this part, the objective questions will be discussed. All the changes can be found in Table 5 at the end of this paragraph, followed by a description of the changes in the next part. Most of the changes are based on the difficulties and confusions respondents had with the questions. It is expected that the proposed new questions are easier to answer. For some other questions, changes were made based on usable remarks of the respondents that make the human capital scan better. It was unfortunately impossible to incorporate all remarks and ideas into the human capital scan. For this reason, we used the most usable remarks and suggestions to improve the human capital scan.

The first general change was that questions asking for information about last year need to be answered for the period from 1 January to 31 December of last year. This information was added because to some respondents it was not clear which period the questions referred to.

For the first two questions, it appeared that some employers also added the employees from temporary employment agencies or had at least the tendency to do so. Therefore, “on payroll” was added to overcome this confusion.

There were no comments on the third question. The fourth question was about the educational level of the employee. One of the respondents reported that he interpreted this question as objective educational level or obtained through experience. To make it more clear that this question is about objective education level and not about subjective educational level, the word “accomplishment” has been changed to “diploma”. It would be relevant to add a question asking for the educational level of the employees through experience. However, it is expected that this will not lead to very different information because most of the respondents already made use of estimation and base their answers for this question on the number of employees operating in the different functional levels in the company. (See Appendix 4 for the relevant fragments of the interviews.)

For question 5 and 6, all the respondents except for one estimated their answers, because it was hard for them to give an objective answer to this question. Therefore, in question 5 the word “estimation” will be used. For one respondent it was not clear if courses also fell under training. For the clarity of this concept, the following definition of training will be added to the question: “The process of bringing a person to an agreed standard of proficiency by practice and instruction” (*Collins English Dictionary, n.d.*). Two questions have been added in the human capital scan with respect to training, i.e., questions 22 and 23 (see Table 5). Question 22 asks to which extent the employers train their employees on soft skills. Some respondents mentioned that trainings can roughly be divided into hard skills and soft skills. The hard skills concern the skills that can be objectively defined and measured like welding, programming, controlling a machine, typewriting, reading etc. Soft skills are more related to personal, emotional and intellectual skills. The following definition of soft skills has been adopted for the scan: “Desirable qualities for certain forms of employment that do not depend on acquired knowledge: they include common sense, the ability to deal with people, and a positive flexible attitude” (*Collins English Dictionary, n.d.*). The scan will only add a question for the time spent on soft skills; it is assumed that remaining training time is spent on hard skills. Question 23 asks for the percentage of people receiving training. Some respondents reported that not every employee receives training in their organisation and they thought it is also relevant to make a division in educational levels when asking for this information. For the question dealing with training costs (question 7), it was not clear for all respondents if total payroll included the premiums and taxes. Therefore, the addition was made that total payroll includes payroll tax and premiums. Next to this, respondents reported that they received subsidies for the trainings; this element is also incorporated in the question.

There were no serious comments to questions 8 and 9, although one respondent persuaded the author of this report that the 20-year period was a little bit too long; therefore, this has been changed to 10 years. A couple of employers noted that they missed the question that asked for the employees’ average length of employment. Therefore, this question was added to the scan (question 24).

Question 10 was in general relatively easy to answer; in most cases question 11 was estimated. As most companies participating in the scan are relatively small (with a maximum of hundred employees), the number of people leaving the organisation is relatively small. Most respondents exactly knew who left the organisation. Therefore, this question will be changed into a question that asks for how many people left the organisation. Some respondents reported that they found it relevant to make a division between

forced and unforced leave; therefore, a question about this information was added (question 25). The questions 12-15 dealing with the vacancies were easy to answer for most of the respondents. As some respondents only focused on vacancies available for people outside the organisation, the following description of vacancy was added to the scan: “An unoccupied position that is available for people from within and/or outside the organisation.”

No distinctions were made in vacancies available for people within or outside the organisation, due to the fact that it appeared that this distinction is difficult to make for organisations. Vacancies often start within a company; when a vacancy cannot be filled it becomes available for people outside the organisation. However, question 16 will be changed in a question that asks for how many of the filled vacancies were filled by people from outside the organisation.

Questions 17 and 18 dealt with how many people got another function and how many people were promoted. The concept of promotion was not very clear for every respondent; one respondent thought this concept was less relevant nowadays due to the decrease in hierarchy in the organisations of today. Some respondents advised to link these two questions, which is the reason for the changes made in Table 5.

Questions 19 handled the flexible part of the workforce. Most employees reported they thought that the distinction between permanent workers, temporary workers and temporary agency workers and a remaining category was the most relevant for them. Therefore, this questions was changed to the question which can be found in Table 5.

Questions 20 and 21 were clear, so no changes were necessary.

Table 5. Objective questions of the human capital scan

Old questions	New questions
<ol style="list-style-type: none"> 1. What is the total size of the workforce in number of employees? 2. What is the size of the workforce expressed in number of FTEs? 3. In which industry does your organisation operate? <ol style="list-style-type: none"> a. Industry and energy b. Commercial services c. Non-commercial services d. Agriculture and fishery 	<ul style="list-style-type: none"> - What is the size of the workforce in number of employees on the payroll? - What is the size of the workforce expressed in number of FTEs on the payroll? - No change
Education	
<ol style="list-style-type: none"> 4. For each educational level, please estimate the percentage of employees whose highest completed educational accomplishment is: <ul style="list-style-type: none"> - No start qualification (lower than mbo 2/havo/vwo) - Vocational (mbo 2/havo/vwo) - Bachelor or higher (hbo or higher) 	<ul style="list-style-type: none"> - For each educational level, please estimate the percentage of employees whose highest educational diploma obtained is: <ul style="list-style-type: none"> - No start qualification (lower than mbo 2/havo/vwo) - Vocational (mbo 2/havo/vwo) - Bachelor or higher (hbo or higher)

Table 5. Continued

Training	
5. How many days on average do employees of your organisation receive training?	Please estimate how many days on average have employees of your organisation been in training* last year (from 1 January to 31 December)? * The process of bringing a person to an agreed standard of proficiency by practice and instruction.
6. Please estimate the average days in training for each educational level: <ul style="list-style-type: none"> - No start qualification (lower than mbo 2/havo/vwo) - Vocational education (mbo 2/havo/vwo) - Bachelor or higher (hbo or higher) 	- Please estimate the average days in training for each educational level last year (from 1 January to 31 December): <ul style="list-style-type: none"> - No start qualification (lower than mbo 2/havo/vwo) - Vocational (mbo 2/havo/vwo) - Bachelor or higher (hbo or higher)
7. What are the total costs of training as a percentage of the total payroll?	- What were the total costs of training (minus subsidies) as a percentage of the total payroll (including taxes and premiums) last year (from 1 January to 31 December) ?
Experience	
8. What is the percentage of employees with less than two years of experience in their jobs?	- No change
9. What is the percentage of employees with more than twenty years of experience in their jobs?	- What is the percentage of employees with more than ten years of experience in their jobs?
10. What was the turnover rate in your organisation last year ?	- How many employees left the organisation last year (from 1 January to 31 December)?
Turnover/retention	
11. Please estimate the annual turnover rate of employees with the following educational levels: <ul style="list-style-type: none"> - No start qualification (lower than mbo 2/havo/vwo) - Vocational education (mbo 2/havo/vwo) - Bachelor or higher (hbo or higher) 	- Please give the number of employees who left the organisation last year (from 1 January to 31 December), with the following educational levels: <ul style="list-style-type: none"> - No start qualification (lower than mbo 2/havo/vwo) - Vocational (mbo 2/havo/vwo) - Bachelor or higher (hbo or higher)

Table 5. Continued

Recruiting	
12. How many vacancies did your company have last year?	- How many vacancies* did your company have last year (from 1 January to 31 December)? *An unoccupied position that is available for people from within and/or outside the organisation.
13. How many of these vacancies were filled last year?	- How many of these vacancies were filled last year (from 1 January to 31 December)?
14. How many vacancies did your company have last year, for the following educational levels?	- How many vacancies did your company have, for the following education levels, last year (from 1 January to 31 December)?
- No start qualification (lower than mbo 2/havo/vwo)	- No start qualification (lower than mbo 2/havo/vwo)
- Vocational education (mbo 2/havo/vwo)	- Vocational education (mbo 2/havo/vwo)
- Bachelor or higher (hbo or higher)	- Bachelor or higher (hbo or higher)
15. Please indicate for each educational level how many vacancies were filled last year.	- Please indicate for each educational level how many vacancies were filled last year (from 1 January to 31 December).
- No start qualification (lower than mbo 2/havo/vwo)	- No start qualification (lower than mbo 2/havo/vwo)
- Vocational education (mbo 2/havo/vwo)	- Vocational education (mbo 2/havo/vwo)
- Bachelor or higher (hbo or higher)	- Bachelor or higher (hbo or higher)
16. How many people were hired last year?	- How many people were hired from outside the organisation to fill the vacancies mentioned in question 12?
Internal flow	
17. How many employees did get another function last year?	- How many employees did get another function last year (from 1 January to 31 December)?
18. How many employees were promoted last year?	- How many of the employees in question 17 got a more responsible/difficult function?

Table 5. Continued

Flexible workforce size	-
19. <ul style="list-style-type: none"> - What was the percentage of personnel on temporary contracts at the end of last year? - What is the percentage of the firm's total working hours carried out by people from private employment agencies? <i>(adopted from Kleinknecht et al., 2006)</i> - What was the percentage of employees with part-time contracts at the end of last year? - How much is spent on freelancers, expressed as a percentage of the total payroll? 	- For every group, please estimate in percentages how much they contributed to the organisation's total working hours last year (from 1 January to 31 December). <ul style="list-style-type: none"> - Employees with a permanent contract - Employees with a temporary contract - Employees from temporary employment agencies / secondment agencies - Remaining
Age of employees	-
20. What is the average age of your employees?	- No change
21. Please indicate the average age for each education level. <ul style="list-style-type: none"> - No start qualification (lower than mbo 2/havo/vwo) - Vocational education (mbo 2/havo/vwo) - Bachelor or higher (hbo or higher) 	- No change

Table 5. Continued

Added questions

Training

22. For the following education levels, please estimate which percentage of the employees received training last year (from 1 January to 31 December).

- No start qualification (lower than mbo 2/havo/vwo)
- Vocational education (mbo 2/havo/vwo)
- Bachelor or higher (hbo or higher)

Follow-up question to question 6:

23. For the training days reported in question 6, please estimate which percentage of the training time was spent on soft skills*.

- No start qualification (lower than mbo 2/havo/vwo)
- Vocational education (mbo 2/havo/vwo)
- Bachelor or higher (hbo or higher)

* Desirable qualities for certain forms of employment that do not depend on acquired knowledge: they include common sense, the ability to deal with people, and a positive flexible attitude.

Internal flow

24. How long is the average tenure in years for employees in your organisation?

Turnover/retention

Follow-up question to question 11:

25. For the following education levels, please give the number of people mentioned under question 11 who were forced to leave the organisation.

- No start qualification (lower than mbo 2/havo/vwo)
- Vocational education (mbo 2/havo/vwo)
- Bachelor or higher (hbo or higher)

4.1.4 Subjective questions

All the changes made to the subjective questions can be found in Table 6. The first two subjective questions were clear to the respondents, thus they remain unchanged. For question 28, one respondent stated that he found the question too general. This comment was considered to be reasonable; therefore, “in the industry” was added to make it more specific.

When the turnover was taken into consideration, almost every company looked at the unforced turnover of employees. Therefore, the word “unforced” is added to question 29 to make it more clear.

Almost every organisation reported they were able to attract the people with the right education, skills, and abilities although various organisations reported it took more time and effort to find these people; therefore, the new version of question 30 will focus on the time issue.

Some respondents noted that question 31 was also a little too general and stated that this question should focus on the people on the shop floor. Therefore, the words “on the shop floor” were added to this question.

Question 31 deals with internal flexibility; the aim was to focus more on external flexibility with question 32. Most companies did this, although at question 32 some also focussed on internal flexibility. Therefore, the question was changed to the question that can be found in Table 6.

Question 33 remains unchanged in the questionnaire, although some respondents found it difficult to judge whether the employees in their company are of an advanced age. This question will be very

relevant in the near future when a large part of the Dutch workforce retires.

The last four questions (questions 34-37) required much thinking by the respondents before they could think up an answer. However, no remarks were made about the clarity of these questions. Therefore, these questions will remain in the human capital scan

Table 6. Subjective questions of the human capital scan

Old question	New question
Education	
26. The current educational level of the employees is too low to attain the organisation's goals.	- No change.
Training	
27. This organisation provides employees with a variety of training and development opportunities.	- No change
Experience	
28. Our employees have a lot of relevant work experience, compared to other organisations.	- Our employees have a lot of relevant work experience, compared to other organisations in the industry.
Turnover/retention	
29. The turnover in our organisation is very low.	- The unforced turnover in our organisation is very low.
Recruiting	
30. Our organisation attracts sufficient people with the right education, skills and abilities.	- At this moment it takes little time to find people with the right education, skills and abilities to fill our vacancies.
Internal flow	
31. Our employees can be deployed in different functions in the organisation.	- Our employees on the shop floor can be deployed in different functions in the organisation.
Size flexible workforce	
32. The size of our flexible workforce is very high.	- Our workforce is very adaptable to changes in the work demand.
Age of employees	
33. The age of our employees is relatively old.	- No change
Innovativeness	
34. My company's employees are highly skilled.	- No change
35. My company's employees are widely considered competent in the industry.	- No change
36. My company's employees are creative and bright.	- No change
37. My company's employees are experts in their particular jobs and functions.	- No change

4.1.5 Future questions

The last questions of the scan were questions about the future. These questions (see Table 7) were relatively easy to answer for the respondents. Only for the question that asks for the “size of the flexible workforce” was the word capacity added to make clear that this question deals with external flexibility of the workforce.

Table 7. Questions about the future

- | |
|--|
| <p>38. Please estimate whether the educational level of your workforce will be lower, the same or higher in ten years' time.</p> <p>39. Please estimate whether the training and development opportunities of your workforce will be lower, the same or higher in ten years' time.</p> <p>40. Please estimate whether the relevant work experience of your workforce will be lower, the same or higher in ten years' time.</p> <p>41. Please estimate whether the turnover of your workforce will be lower, the same or higher in ten years' time.</p> <p>42. Please estimate whether the ability of your organisation to attract the right people will be lower, the same or higher in ten years' time. (recruiting)</p> <p>43. Please estimate whether the number of people who are promoted or get other functions will be lower, the same or higher in ten years' time. (internal flow)</p> <p>44. Please estimate whether the size of your flexible workforce (capacity) will be lower, the same or higher in ten years' time.</p> <p>45. Please estimate whether the average age of the employees in your organisation will be lower, the same or higher in ten years' time.</p> |
|--|

4.2 Strategic part of the human capital scan

The items of the strategic part of the human capital scan can be found in Table 8. The only change is that three questions were added to this part of the scan, as well as to the human capital scan.

For all except one respondent, the instructions were clear. All respondents were able to identify their most important employees. It was the printing company in the declining industry of newspapers that remarked that it was more logical for them to focus on the replaceability of people. There is very little change in this industry. Therefore, it was unnatural for them to focus on the company strategy because they have been doing the same thing for many years. According to them, it is not likely that this will change in the near future. In order to survive in their industry, they depend on employees with very specific knowledge. However, for the other companies existing in more volatile industries, it was logical to look at the strategy to identify their most important employees. For this reason, this approach will be preserved.

All the questions in step 2 were clear, except for the question: “Have skills that are difficult for our competitors to imitate or duplicate.” The Dutch translations of the words ‘imitate’ and ‘duplicate’ were not clear to one respondent; here, a clearer translation of this question will be used.

The last questions of this part of the scan are the same questions as in the scan. Therefore, the same changes will be made for these specific questions as were made for the questions in the scan.

Table 8. Items for the strategic part of the human capital scan

<p>Step 1 – Identify the strategically most valuable human capital</p> <ol style="list-style-type: none"> 1. Please state the most important strategies of the organisation. 2. Please indicate which tactics the organisation will use to pursue these strategies. 3. Which employee group is most essential in performing the tactics and attaining the strategies in your organisation?
<p>Step 2 – Determine how unique this strategically most valuable human capital is</p> <ol style="list-style-type: none"> 4. Individual of [fill out the specific group of employees] have skills that <ul style="list-style-type: none"> ... are not widely available in the labour market. ... would be very difficult to replace. ... are not available to our competitors. ... are widely considered the best in our industry. ... are developed through on-the-job experiences. ... are difficult for our competitors to buy from us. ... are unique to our organisation. ... are difficult for our competitors to imitate or duplicate. ... are customised to our particular needs. ... distinguish us from our competition. <p>→ Each item has to be answered with Likert scale ranging from 1-5 (from strongly disagree to strongly agree)</p> <p><i>Note: items adopted from Lepak and Snell (2002)</i></p>
<p>Step 3 – Determine the content and flow of this strategically most valuable human capital</p> <p>The respondent has to complete the relevant questions of the human capital scan (questions 4, 5, 8, 9, 10, 12, 13, 17, 18,19, 20, 22-24)</p>

4.3 Feedback

The employers will get benchmarked feedback from the human capital scan. This means they will be compared with other organisations. Figures 6 and 7 are examples of how this could be configured.

Figure 7. Feedback example of indicators related to the content of human capital

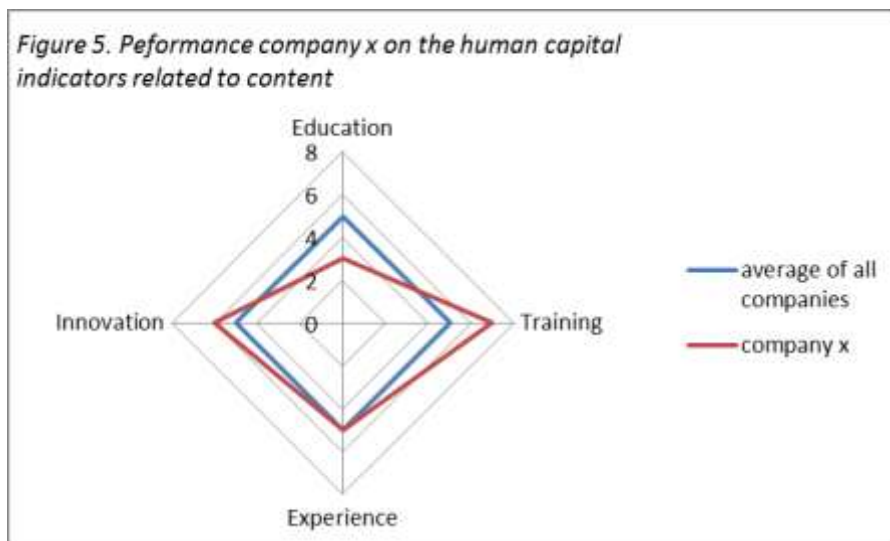
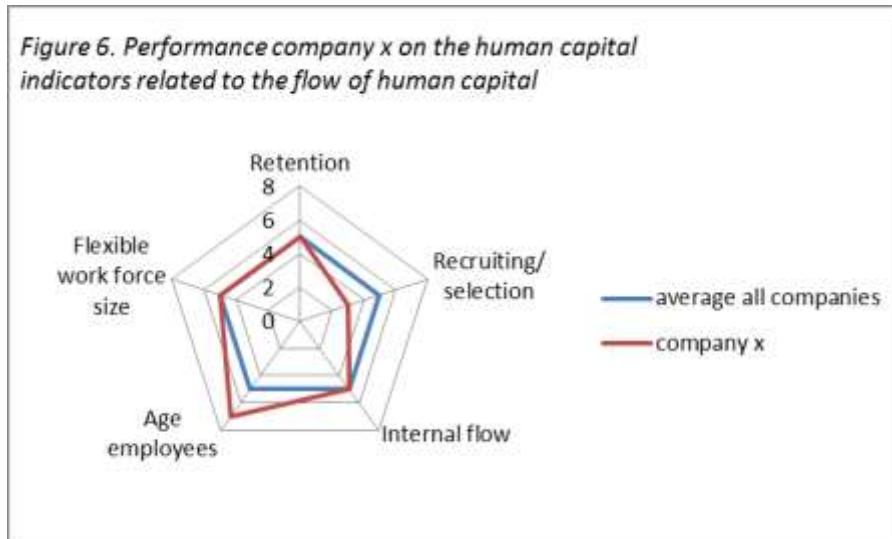


Figure 8. Feedback example of indicators related to the flow of human capital



Together with these figures, the companies will receive a short explanation of why the distinction was made between the content and the flow of human capital. Besides, they will get feedback on how they scored on the different indicators. In the above example, the feedback will for example say something about the relatively low educational level of the employees, the difficulty in attracting new employees and the old age of the employees. All these factors combined could lead to serious problems for the company in the upcoming years. It is also possible to draw the objective, subjective and future expectation scores of the indicators in the same figure and benchmark companies on these measures. It is very likely that more companies have to deal with the same sort of problems, which could mean that companies think they are good performers, because they score better than other companies. Therefore, the benchmarked feedback will be accompanied with feedback on the actual figures.

4.3 Conclusions of the results and corresponding recommendations

In this master thesis, interviews were conducted to pre-test the developed scan of this master thesis. From a convenience sample of 55 companies in the (manufacturing) industry, ten companies were willing to participate in the interviews. Due to this low response rate (18%), some of the changes and additions to the human capital scan were based on only two or three interviews. Consequently, it is not completely certain whether these changes are the right ones. However, most changes are minor. It is not expected that these changes will lead to other problems with respect to the answering of the questions.

As well as changes, four questions were also added to the human capital scan, two of which dealt with training. From Figure 4 in paragraph 2.5 it becomes clear that this variable plays a very important role in the human capital scan, because it can reveal some information about the extent that general human capital is transformed into specific human capital. It is expected that the two added questions (question 22 and 23, see table 5) will give better insight into this variable.

It is advised to test the changes and additions to a larger sample of companies, because the changes and additions are based on just ten interviews. This larger sample will give more insight in possible new problems in the changed and new questions. It is also advised to obtain the information from more

respondents of the company. It would be interesting to investigate whether there will be great differences in the answers of the objective questions; it turned out during the interview that most companies estimated these questions. For the subjective questions, it would be interesting to see the extent to which opinions differ.

The first chapter of this master thesis mentioned two goals for this research. The first goal was to make employers aware of possible bottlenecks in staffing a workforce with the right education and capabilities. The second goal was to use the retrieved data to map the development on the labour market.

The first goal will be obtained with the human capital scan because the human capital stimulated most respondents to think about their human capital and the human capital they need in the future. Especially the strategic part of the human capital scan was important because it made the employees think about the employees who are most important to them, as well as about how they treat their important employees.

The second goal will be obtained partly because the objective questions that are relevant for labour market research were estimated by most employers. Thus, it is possible to map the labour market in general, but not very precise because most respondents will use estimations to answer these questions. It is recommended to have companies complete the scan multiple times (once or twice a year) in order to map development on the labour market. In the next chapter, the results will be discussed in more detail.

Chapter 5 Discussion

In this part, the methods and the most striking outcomes of the literature review will be discussed. During this discussion, the strengths and limitations of the methods will also emerge. Recommendations will also be made as to how the human capital scan can be improved.

5.1 Discussion of the methods/interview outcomes and corresponding recommendations

With respect to the methods, two parts of this master thesis can be discussed. The first part relates to the method used to construct the human capital scan based on the literature. In this master thesis, a literature review was used to identify the relevant human capital indicators. The choice was made to search for studies that investigated the influence of human capital on performance. A huge advantage of this approach was that only those indicators were identified that were directly related to the performance of companies. Another advantage was that through these studies an insight was gained into how human capital influenced the performance of companies, due to diversity in research designs and hypotheses of the studies of the literature review.

However, there were also some limitations to this approach. A major limitation was that important indicators, not directly related to the performance of companies, were not identified. During the literature review, this shortcoming was acknowledged. For this reason, the article by Lim, Chan and Dallimore (2010) – presenting a list of human capital indicators proposed by different authors – was used to identify other possible relevant indicators. Examination of this list revealed that indicators related to the flow of human capital were lacking in the literature review.

Another limitation was that only one search engine was used to find the studies. It is very likely that with other search engines other relevant studies could have been identified. Another possibility, which was not pursued in this master thesis, is to look at the references of the identified studies to obtain other relevant studies. However, it is not expected that the limitation of the literature review harmed the development of the human capital scan: the main categories that were related to the content of human capital (education, training, experience, and innovativeness) identified in the literature study were found in different studies. It is very unlikely that other studies will reveal new relevant categories for the human capital scan.

Even the list of proposed indicators of different authors, presented by Lim, Chan and Dallimore (2010), did not reveal new relevant categories of indicators that are directly related to the performance of companies. During the interviews, the respondents were asked to name other relevant categories, but this question did not lead to new, useful suggestions. Therefore, it is almost certain that the most important categories of indicators related to the content of human capital are included in the human capital scan.

The second part of the methods used in this master thesis are the interviews. The main aim of these interviews was to verify if the respondents could answer the questions and if they interpreted the questions correctly. The most obvious method to answer these questions was by way of interviews. These interviews revealed some major problems with regard to the answering and understanding of the questions.

The fact that interviews were conducted to develop the human capital scan is by itself a major strength

of this master thesis, as some of the problems identified with the interviews would not have been identified with statistical pre-tests. It is unlikely that statistical analyses would have revealed that respondents would interpret some of the questions differently or would have revealed the fact that the answers to most of the objective questions were estimated.

A limitation was that only ten people were interviewed. Fortunately, the last interviews did not reveal very many new insights, but there is the possibility that a few weak aspects of the human capital scan were overlooked. A recommendation, therefore, is to test the human capital scan on a larger sample. Another strength of the interview procedure was that the respondents had to complete the questionnaire before the interview. The advantage of this approach was that the respondents had the opportunity to look up the required information, if they did not have all the information at their immediate disposal. The interviews showed that most of the respondents had to search in their systems or had to ask the company administration for the required information.

A limitation of the interview procedure was that it was very likely that the respondents did not remember what was going on in their minds the first time when they made sense of the questions. It is possible that other information was obtained when the respondents had to answer the questions during the interview. One respondent did not complete the questions before the interview. This specific interview did not reveal more problems for the subjective questions and fewer problems for the objective questions, contrary to the expectations. The identification of fewer problems for the objective questions was probably due to the fact that the respondent did not have all the information at his immediate disposal.

The statement, however, that it was not detrimental to the outcomes of the interviews to ask the respondents to complete the questionnaires beforehand, should be approached with caution because there was only one respondent who did not complete any question before the interview. Nevertheless, there were no clues that this approach had a detrimental effect.

Another point for discussion is the possibility that some respondents gave socially desirable answers to the subjective questions. From the ten interviews conducted in this master thesis, it is not possible to conclude if this will lead to problems. With a larger sample of respondents it can, for example, be investigated if the variance between companies is high enough to make any sense. Besides, it is recommended to approach more respondents of one company. In that case, it would be possible to investigate if the variance in companies is lower than the variance between companies.

The last point to be discussed in this paragraph concerns the point that the interviews were conducted with respondents having different positions in the companies. In the smaller companies (up to 150 employees), the interviews were conducted with the company CEO; in the larger companies (more than 150 employees), the interviews were conducted with HR managers. The interviews revealed that the HR managers had more knowledge about human capital and were more critical of the human capital scan. It is possible that this difference in position led to different answers. Therefore, it is recommended to make the following division: 1) companies with up to 150 employees/companies without a fulltime HR manager; 2) companies above 150 employees/companies with a fulltime HR manager.

5.2 Discussion of the outcomes of the literature review and corresponding recommendations

In this part, the most striking outcomes of the literature review will be discussed and accompanied with recommendations. The literature review revealed some shortcomings and gaps in the literature investigating the influence of human capital on performance. An important shortcoming of this literature was that there was not a uniform theoretical unpinning of this research area. From the 56 studies, 24 studies mentioned a theory/view in their abstract. These 24 studies mentioned 15 different theories/views. Only the resource-based view (RBV) was mentioned more than twice. However, it is important to stress that the RBV is view, not a theory. Due to fact that in most studies researchers only used a view or did not use a view or theory at all, most research was not theory-driven. A good exception was the meta-analysis by Crook et al. (2011) on human capital; it specifically tested three moderators of the resource-based theory (RBT).

The results of the literature review revealed that researchers used either objective measures of human capital or subjective measures of human capital; they did not use both in the same study. It can be said that it is unclear how these measures are related to one another. A major strength of the human capital scan developed in this master thesis is the use of both measures. Therefore, if the scan is used in practice and the outcomes are collected and aggregated, it is possible to gain more insight into this gap in the literature. In the literature on human capital, several authors made the distinction between specific human capital (e.g., specific knowledge or experience of employees) and general human capital (e.g., education or managerial experience of employees).

The article by Crook et al. (2011) found stronger effects of specific human capital on firm performance. They used the argument of the RBT that there is an imperfect strategic factor market for human capital, and that this is especially the case for specific human capital; for this reason, the value of specific capital was predicted to be higher. The higher value of specific human capital can also be explained by the simple fact that this human capital is used more effectively (Molly et al., 2011). This argument seems logical. However, according to Molloy et al. (2011), it is often assumed that resources are inherently valuable. This was also the case in most of the studies of the literature review (see Appendix 1) which often looked at experience and the education of the human capital, but did not look at how the resources were actually used.

Some of the studies of the literature review asked questions about training. The extent to which people are trained and developed by companies can give an indication of the effective use of human capital. The human capital scan already included questions about training; thus, some information about the effective use of human capital was captured in the human capital scan. However, it does not reveal whether the companies have their positions filled with people with the right competences and educational background. An recommendation, therefore, is to extent the human capital scan with questions that can identify whether the positions have been taken by the right people.

With respect to the use of human capital, Molloy et al. (2011) also noted that companies with the same resources can bundle their resources in different configurations, leading to different results. Different researchers have already conducted studies of the configuration of the different resources (including human capital). A very good example is the study by Youndt, Subramaniam and Snell (2004). They constructed different intellectual capital profiles consisting of human, social and organisational capital, and investigated among other things how these different profiles were related to firm performance.

Another good example is the study by Cabello-Medina, Lopez-Cabrales and Valle-Cabrera (2011), one of the studies of the literature review in this master thesis. It showed that social capital had a positive influence on performance, through human capital. Therefore, it is recommended to do more research, and maybe a literature review, on how human capital relates to other resources (if there is enough research) in order to advance the understanding of questions of how and in which setting high values of the human capital resource can be beneficial to organisations.

The last major outcome of the literature review discussed in this master thesis is the point revealed by some of the studies, i.e., that the influence of human capital on performance depends on the strategy of the company. The study by Shrader and Siegel (2007) even showed that the combination of different kind of experiences and strategies led to different outcomes in firm performance (for more details of this study see Appendix 1). Therefore, it is recommended to extent the human capital scan with questions that map the strategies of companies to examine how the strategies of the companies are related to the different human capital indicators.

Chapter 6 Recommendations for the digitalisation of the human capital scan

This part describes recommendations (see Table 9) for the digitalisation of the human capital scan. The recommendations will be explained in this chapter and are based on the interviews conducted for this master thesis.

Table 9. Recommendations

Recommendation 1: For the benchmarked feedback, it is advised to classify companies based on their educational level (technical and non-technical).
Recommendation 2: Give more detailed information about the kind of questions the respondents can expect in the questionnaire.
Recommendation 3: Give potential respondents clear information (in the letter approaching them) about the benefits and returns of participation.
Recommendation 4: While the respondents complete the digital version of the questionnaire, give regular feedback to the respondents on how they proceed with completing the questionnaire.
Recommendation 5: Start with the questions that require the least effort from the respondents, and end with the most difficult questions. For the scan, it is recommended to end with the objective questions.
Recommendation 6: Build in an option in the digital version of the questionnaire to quit and continue later.

Some of the respondents clearly expressed that companies have different views as to which aspects are most important for their particular company. While some companies in very volatile markets stated that the age of their workforce was a major issue to them (because the employees needed to know the state of the art), other companies in more stable markets considered this to be of less importance and focussed more on the competences of their workforce. These different competitive environments made it difficult to benchmark these companies with each other. Two possible solutions to this problem will be discussed.

The first and most obvious solution is to benchmark companies with similar companies as to their economic output. Companies reported that they preferred being compared to companies that were most similar to them. This is logical because it is expected that the more similar companies are, the more they will have the same priorities. In the scan, a very broad categorisation of the companies was made which classifies companies in four different industries. Most of the companies participating in the interviews belonged to the same industry, but had different priorities with respect to their human capital.

A solution to this problem is to make the classification of companies more specific. The Dutch Central Statistical Office (CSO) divides the Dutch companies in 19 different branches. This categorisation may still be too broad, because for example the category “industry” consists of companies making food, clothes, paper; of companies making computers, electronics and machines; of companies dealing with the repair and installation of machines and devices. Most of the respondents of the interviews conducted for this master thesis were in this specific branch classified by the Dutch CSO. Two machine-building companies reported that it was important to have a relatively high educated and young workforce because of the high rate of technological changes in this specific area of expertise. Another company which also belong to the branch “industry” manufactured specific metal products. The

technologic changes in this area of expertise were lower and most of the employees did not need to have such a high educational level as the employees in the machine building company. This is not the only branch which consists of companies with very different priorities as to their human capital. In the construction business, for example, there are companies specialising in building pipelines and cables; and companies specialising in setting up all kinds of installations. It is unlikely that these companies need the same constellation of their human capital and have the same priorities with respect to their human capital. So even in the same branches – as set out by the Dutch CSO – companies have very different priorities as to their human capital.

One way to overcome this problem is to categorise companies more specifically. Unfortunately, this will not be a good solution because first of all this is impractical. Respondents from companies will have to choose from a very long list to find out into which category their company fits, or more questions need to be answered in order to classify the company in the right category. Secondly, it is questionable if all companies do neatly fall into a category because some companies are unique in what they do. Some companies reported that competitors or similar companies can only be found outside the Netherlands. Even if a good categorisation can be made, too many categories are needed, and from these categories too many participating companies to give any useful feedback.

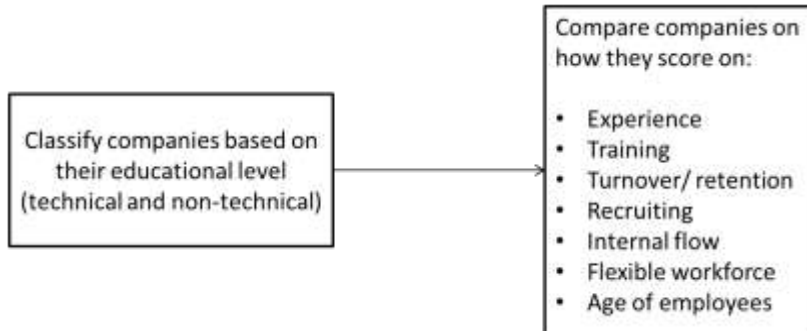
The second possible solution to give companies benchmarked feedback will not focus on the categorisation of companies with respect to their products. In this solution, companies will be compared with what they actually have in house. In this approach, the company is seen from the resource side instead of from the product side. This approach from the resource side is taken by the company's resource-based view (RBV) (see Barney, 1991) described in the theoretical chapter of this master thesis. This view has already been incorporated in the strategic part of the human capital scan. The RBV can also be used as a starting point for the construction of the feedback for the human capital scan. This will be accomplished by judging the human capital foundation of a company. Human capital is seen as essential resource in the RBV (see Barney, 1991).

The human capital foundation of a company can be estimated by the technical/non-technical educational level of its employees. The fourth question of the human capital scan asked for the educational level of the workforce. The employers were asked to estimate which percentage of the workforce consisted of low-, middle- and high-educated employees. Most of the companies participating in the interviews had most of their employees in one of these three categories. The machine-building companies had, for example, most of their employees in the category high-educated, the manufacturing companies in the category low-educated, while the construction companies had most of their employees in the category middle-educated. If the scan will also be applied to non-technical companies, it is advisable to add a question of which percentage of the employees of each educational level has a technical-related degree. In that case, it would be possible to distinguish between companies with mainly employees with a technical education, and companies with mainly employees with a non-technical education.

A division based on educational level of the employees and technical versus non-technical education is recommended because in this way it is possible to compare companies with the same human capital foundation. A company with mostly highly technical educated employees can, for example, be compared with other companies with mostly highly educated employees. It is very likely that on the labour market these companies are competing for the same employees. Viewed from that perspective,

it is very relevant to compare companies on how they score on developing, maintaining and attracting their employees. Figure 9 shows how the feedback based on education levels will be constructed.

Figure 9. Proposed feedback of the human capital scan



During the interviews, some respondents commented on the instructions of the scan. In the scan and the strategic part of the human capital scan developed in this master thesis, there was a short introduction, with very brief, general descriptions of the subject of the questions, and the mention that the companies will receive feedback. The commenting respondents found the instructions too general and wanted to have more specific information about the questions and feedback. They especially liked to have clear information about what participation would bring in.

It is recommended that information on benefit for the respondents be presented in the letter in which the potential respondents are approached. What the research will bring in, can be made most clear in bullet points. In this way, it will be clear for the respondents at first sight if it is worthwhile to sacrifice their time to completing the questionnaires. As to the questions, they liked to have more specific information on what they could expect. Some respondents thought the questionnaire ended after the first 24 objective questions. Therefore, it is recommended to mention in the instructions of the scan that the respondent will receive objective questions, questions asking the respondent for his/her opinion, and questions asking the respondent to make an estimation of the future.

In case of a digitalised questionnaire, it is also recommended to give feedback to the respondents on how they proceed with their questionnaire – for example, after a set of questions, information about which percentage has been completed so far. The interviews also revealed that it took great effort from the respondents to answer the objective questions. The other questions were less challenging. It is therefore recommended to start with the subjective questions and the questions about the future, because otherwise some respondents will be discouraged and will not complete the whole questionnaire, considering that the first question already took so much effort.

Next to the recommendation to change the sequence of the questions, it is also advised to build in an option for the respondents to pause the questionnaire and continue the questionnaire at a later time. This is especially recommended for the objective questions because sometimes respondents have to look up the required information or ask a colleague for it.

Chapter 7 Conclusion

This master thesis develops a strategic and general human capital scan. This scan is based on a literature review of 56 studies investigating the influence of human capital on performance. The literature review conducted in this master thesis produced a large amount of indicators, and revealed that there are objective and subjective indicators to measure human capital. Both kinds of questions were incorporated in the human capital scan, because both were deemed to be important. The interviews conducted in this master thesis – to test the completeness and understanding of the questions – revealed that the respondents found the objective questions difficult to answer. For their answers, most of the respondents made use of estimations. Therefore, it is recommended to treat this information with caution if it is used for labour market research, one of the two goals of this study.

The distinction made between indicators measuring general human capital and those measuring specific human capital was another major distinction in the indicators obtained from the literature review in this master thesis. It was argued that the indicators on training give information about the extent to which general human capital is transformed into specific human capital. Specific human capital was considered to be very unique and strategically valuable human capital. The strategic part of the human capital scan focusing on the strategically most important human capital scan gave more information about how specific human capital in companies is. It also identified how rare, non-imitable, non-substitutable and immobile this human capital is, with a questionnaire on uniqueness adopted from Lepak and Snell (2002). It is expected that this specific human capital will yield higher returns than the company's more general human capital.

The users of the scan should be aware that it is not identified with the human capital scan if the organisation or the employees appropriate the higher returns. However, the aim of the strategic part of the human capital scan is not to identify how profitable this human capital is, but to make companies aware of how they handle their strategic valuable human capital. The interviews showed that companies found it very relevant to think about how they handle their strategically most important employees.

The other goals of this master thesis were to make employees more aware of their human capital and possible bottlenecks, and the staffing of workforce with the right education and abilities, next to the goal of using the retrieved data for labour market research. Especially the strategic part of the human capital scan made the employees more aware of this problem because for most employers their strategically most important employees were also very difficult to acquire at the labour market.

One of the strengths of this master thesis is that the human capital scan was tested by means of interviews. These revealed that the respondents did not always interpret the questions as they were intended. This difference in interpretation would never have been acknowledged by statistical analysis of the data obtained from the human capital scan.

Another strength of this master thesis is that the indicators were obtained from an extensive literature review of studies investigating the influence of human capital on firm performance. With this approach it is almost certain that relevant human capital indicators will be identified.

A limitation of this master thesis is that the human capital scan was tested with only ten interviews. As a consequence, some changes and additions were based on only one, two or three interviews. Therefore, it is advised to test the human capital scan on larger scale.

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* *These studies were part of the literature review*

Appendix 1 Indicators and outcomes of the studies of the literature review

Indicators of human capital and outcomes of the sample of 45 studies investigating the influence of human capital on firm performance

Authors	Indicators	Outcomes
Guo, Shiah-Hou and Chien (2012)	<ul style="list-style-type: none"> Salary and bonus for Corporate Executive Officer (CEO) 	Positive effect on cash flow (CF) ($p < 0.01$) and return on assets (ROA) ($p < 0.10$), further analysis showed that this effect mainly applies to companies with a low number of patents.
	<ul style="list-style-type: none"> Bonus divided by salary and bonus for CEO 	Positive effect on 1-year stock return ($p < 0.05$)
	<ul style="list-style-type: none"> Share of stock options for CEO and Vice President (VP) 	No influence on companies with a high number of patents and negative influence on CF ($p < 0.01$) and ROA ($p < 0.05$) for companies with low number of patents.
	<ul style="list-style-type: none"> PH degree of CEO 	Positive effect on CF ($p < 0.01$) and ROA ($p < 0.01$), further analysis showed that that effect mainly applies to companies with low number of patents.
	<ul style="list-style-type: none"> PH degree percentage of VPs 	Positive effect on CF ($p < 0.01$), one year stock return ($p < 0.10$) and ROA ($p < 0.01$).
	<ul style="list-style-type: none"> Shareholding of board of directors 	Negative influence on CF ($p < 0.05$) and ROA ($p < 0.10$), further analysis showed that the effect mainly applies to companies with a high number of patents.
	<ul style="list-style-type: none"> Dummy of change CEO in fiscal year 	Negative influence on CF ($p < 0.01$) and ROA ($p < 0.01$), further analysis showed that that effect mainly applies to companies with low number of patents.
Kwon and Rupp (2012), adopted from (Shaw et al., 2009)	<ul style="list-style-type: none"> High performer turnover rate (turnover rate among the top 20 percent of the highest performers) 	Direct negative effect on ROA ($p < 0.001$) and Return On Equity (ROE) ($p < 0.001$), indirect negative effect on ROA and ROE through an interaction with firm reputation: negative effect was stronger for the firms with higher reputation.
	<ul style="list-style-type: none"> Low performer turnover rate (turnover rate among the performers who are not among the top 20 percent of lowest performers) 	No effect on ROA and ROE.
	<ul style="list-style-type: none"> Human Capital Investment questionnaire, consist of 10 items (see Table 10) which can be classified in training and development, selection and incentive-based pay 	No relation with ROA and Return On Equity (ROE), moderates the effect between high-performer turnover and ROE: effect of high-performer turnover on ROE is more negative when HCI is low ($p < 0.05$).

Authors	Indicators	Outcomes
Huang, Lai and Lo (2012)	Founder's human capital (4 items) <ul style="list-style-type: none"> • Education level • Professional background • Previous work experience • Successful experience 	Structural equation modelling revealed that the model where business network mediated relationship between founder's human capital and organisational performance/innovation, had the best fit with the data.
Bradley et al. (2012)	Founder's human capital <ul style="list-style-type: none"> • Family business experience • Business expertise 	Family business experience had positive relation with differentiation-related innovation and a negative relationship with novelty-related innovation and positive relationship with performance. Business expertise had a positive relationship, but weak ($p < 0.10$), with differentiation-related innovation and positive relationship with novelty-related innovation. Innovation mediated the influence of business expertise on performance.
Hsu and Wang (2012)	Human capital <ul style="list-style-type: none"> • Educational level (measure: average education level) • Work ability (measure: employee productivity) • Value and uniqueness of the workforce (measure: ratio of employee added value) 	Human capital had positive influence on performance and was partly mediated by dynamic capability.
Sahin, Nijkamp and Stough (2010)	Founder's human capital <ul style="list-style-type: none"> • Need for achievement • Locus of control • Risk-taking propensity • Number of employees • Ethnic origin • Age • Gender • Education level • Marital status • Family status 	No direct tests of the influence of human capital. The study mainly consists of descriptive statistics.

Authors	Indicators	Outcomes
Santarelli and Tran (2012)	Human capital entrepreneurs/managers (8 items) <ul style="list-style-type: none"> • Age • Education • Experience (self-employment, industry and employee experience) • Learning (new product introduction, product innovation and process innovation) 	Positive effect of education and learning on performance. Entrepreneurial experience had negative effect on performance, and industry experience a positive effect. Interaction effect: network participation * high educational level had positive influence on performance. Interaction effect: industry experience * network participation had a positive influence on performance.
Georgiadis and Pitelis (2011)	Human capital entrepreneur <ul style="list-style-type: none"> • Education • Experience • Training Human capital employees <ul style="list-style-type: none"> • Proportion of skilled/trained employees (PSE) (calculation: sum of managerial employees with professional qualifications and number of non-managerial employees trained as percentage of all employees) 	Only direct influence of experience on performance. Some interesting interaction effects: <ul style="list-style-type: none"> - PSE * impregnable base (differentiation strategy based bundles of knowledge and know-how which are difficult to imitate) → stronger performance - Fair pay * impregnable base → weaker performance - Employee well-being * impregnable base → weaker performance - Differentiation strategy on quality and personal attention * staff development → higher performance
Hsu and Sabherwal (2011)	Human capital (4 items) <ul style="list-style-type: none"> • My company's employees are highly skilled • My company's employees are widely considered competent in the industry • My company's employees are creative and bright • My company's employees are expert in their particular jobs and functions 	Direct influence on innovation
Mashud, Yuki and Prussia (2011)	Human capital <ul style="list-style-type: none"> • Rating of executives of peer companies • Rating financial experts about: talent of employees with respect to skills, ability, experience and education 	Direct influence human capital on long-term performance (10 year) and indirect influence (mediated) through an efficiency measure and innovative adoption

Authors	Indicators	Outcomes
Cabello-Medina, Lopez-Cabrales and Valle-Cabrera (2011), based on Lepak and Snell (2002)	<ul style="list-style-type: none"> • Uniqueness of human capital (See Table 11) • Strategic value of human capital (See Table 11) 	<p>Uniqueness of human capital had a direct positive effect on firm innovativeness, this was not the case for the strategic value of human capital.</p> <p>Social capital had a positive influence through human capital on performance. Empowerment had a positive influence on the uniqueness of human capital and social capital.</p>
Ganotakis (2010)	<p>General human capital of entrepreneur:</p> <ul style="list-style-type: none"> • Average years of general education • General experience <p>Specific human capital:</p> <ul style="list-style-type: none"> • Technical and business education • Specific experience (technical, managerial and commercial) 	<p>General education had no effect on performance.</p> <p>General experience had an inverted u-shape effect on performance (employment size).</p> <p>Commercial and managerial experience had positive effect on performance, whereas different sector experience had negative effect, while technical experience had no effect.</p> <p>Business education had positive effect on performance while technical education had negative effect on performance</p>
Tian, Gao and Zhao (2010) (Measure adopted from an article written in Chinese)	<ul style="list-style-type: none"> • Human capital for top managers and employees: measured by formulae combining years of education and educational level for top managers and employees 	<p>Direct positive influence of top managers' human capital and employees' human capital on corporate performance (labour productivity).</p> <p>When both kinds of capital were examined simultaneously, there was a significant effect only for employees' human capital. Employee capital mediated the relationship between top management human capital and corporate performance. Interaction between innovative strategy and top management human capital had positive influence on corporate performance.</p>

Authors	Indicators	Outcomes
Kong and Zhang (2010)	<ul style="list-style-type: none"> Education level of managers: Calculated with the following formulae: $Edu_{index} = \sum_{i=1}^n \frac{E_i}{n}$ n= number of senior managers of firm i at the end of each year. E_i= the education level of managers at firms (range 0 to 5). Thus for each company a value between 0 and 5 is calculated. Study showed that a group of Chinese companies were almost normally distributed on this scale. 	Human capital had positive effect on performance (market and operating performance).
Winne and Sels (2010)	<p>Human capital of manager/owner:</p> <ul style="list-style-type: none"> Education (share of managers/owners having at least a bachelor degree) Industry experience: years of experience of the owner/manager in the industry in which the firm is active. <p>Employees' human capital:</p> <ul style="list-style-type: none"> Percentage of highly educated (at least bachelor level) employees 	<p>Employees' human capital had a positive influence on innovative output. Number of HR practices interacted with employees' human capital which had positive effect on performance. The situation where human capital and number of HR practices were high, led to the highest innovative output. Education level of managers/owners had positive effect on number of HR practices; experience of managers/owners had a negative on number of HR practices.</p>
Liu et al. (2010)	<p>Human capital (scale)</p> <ul style="list-style-type: none"> Employee size (number of employees) Technical talent size (number of technical talent) Education level of employees (ratio of employees with a bachelor degree) <p>The two below were deleted after confirmatory factor analysis:</p> <ul style="list-style-type: none"> Ratio of employee salary (ratio of employee salary to total sales) Ratio of top three managers' salary (salary of top three managers compared to total salaries) 	<p>Human capital had a positive influence on firm performance. Human capital interacted with differentiation strategy (p<0.1) and had positive effect on performance. Unfortunately, the study did not provide more specific information of this interaction effect.</p>

Authors	Indicators	Outcomes
Griffith, Yalcinkaya and Calantone (2010)	Human capital (3 items) <ul style="list-style-type: none"> • The employees of our firm have many business abilities • The employees of our firm have great deal of business education and training • The employees of our firm have a great deal of business expertise 	Human capital had positive effect on (perceived) firm performance through marketing capability.
Liu (2009)	Human capital (5 items) <ul style="list-style-type: none"> • Our employees are highly skilled • Our employees are widely considered the best in our industry • Our employees are creative and bright • Our employees are experts in their particular job and function • Our employees develop new ideas and knowledge 	According to the authors, the effect of human capital on performance is fully mediated by structural capital and relational capital (the results can also be interpreted as partial mediation).
Lahiri and Kedia (2008), scale adapted from Subramaniam and Youndt, 2005)	Human capital (measure customised to measure the human capital of business process outsourcing (BPO) providers) <ul style="list-style-type: none"> • Our employees have bachelor degrees • Our employees have relevant BPO experience • Our project personnel are certified on BPO-related processes • Our project personnel have sound domain knowledge • Our personnel undergo requisite training 	This study was conducted for BPO providers. Direct effect of human capital on performance. Partnership quality moderated the relationship between human capital and performance. A high quality of the partnership diminished the relationship between human capital and performance, and low quality of the relationship strengthened the relationship.
Tool and Czarnitzki (2009)	Scientific human capital <ul style="list-style-type: none"> • Scientific human capital (research productivity - success in obtaining funding) • Commercial capital (patent productivity) 	Scientific human capital had a positive influence on the firm's performance of research-oriented tasks, and commercial capital improved the firm's performance of invention-oriented tasks. Patent productivity was decreasing with higher levels of scientific capital, controlling for commercial capital.

Authors	Indicators	Outcomes
Xiaoping (2008)	Human capital (questionnaire, four dimensions, based on other studies – no mention as to which studies and items were used) <ul style="list-style-type: none"> • Quantity of HC (sufficient people with the right education) • Specificity of human capital • Complementary of human capital (extent to which organisations have broad spectrum of employees with complementary skills) • Human capital organisational fit 	No direct test were reported, only correlations. Human capital dimensions strongly correlated with firm performance, except for quantity of human capital. HR investment (development portfolio and acquisition portfolio) measure correlated with the aggregated four dimensions construct of human capital and their corresponding individual measures of human capital, except for quantity of human capital with an acquisition portfolio.
Harris and McMahan (2008)	Human capital of basketball players: <ul style="list-style-type: none"> • Identified by sports-recruiting service Human capital coach: <ul style="list-style-type: none"> • Percentage won and number of games as head coach 	Higher human capital of players and coach lead to better performance. Longer overlapping tenure players leads to better performance. Longer overlapping tenure coach and players leads to better performance. Overlapping tenure players interacted with human capital players which led to better performance.
Hong, Wu and Peng (2008)	<ul style="list-style-type: none"> • Human capital was measured as employee competence with five items (no information about the content) 	Employee competence positively influenced a perceptual measure of performance, which was measured as profitability and growth potential.
Batjargal (2007)	Human capital of entrepreneurs in China <ul style="list-style-type: none"> • Start-up experience (yes or no) • Western experience (in years) • Internet industry experience (in years) 	Interaction Western experience with social capital (structural holes) had a positive influence on firm survival. Interaction start-up experience with social capital had a negative influence on firm survival ($p < 0.1$). Main effects of Western and start-up experience on performance ($p < 0.1$).
Coleman (2007)	Human capital of firm owners <ul style="list-style-type: none"> • Education • Age • Experience (with owning a business) • Presence of partners • Experience with business ownership in family history • Sole proprietorship: yes or no • Inherited: yes or no 	Prior business experience led to better profitability for both male and female owners, but to lower business growth for male firm owners. Education had an effect on performance for woman-owned businesses; almost no effect was found for male owners.

Authors	Indicators	Outcomes
Shrader and Siegel (2007)	<p>Human capital was measured as team-experience obtained before initial public offering (IPO). Data were obtained from IPOs of ventures less than six year old in high-technology sectors.</p> <ul style="list-style-type: none"> • Industry experience • Technical experience • Marketing experience • Finance experience • International experience • Start-up experience 	<p>Team experience had not a direct relationship with performance. Previous experience was negatively related to performance (see also Santarelli and Tran (2012)).</p> <p>Interaction effects of strategy and experience:</p> <ul style="list-style-type: none"> - Start-up experience combined with broad strategies led to better performance - International experience improved performance of firms with high percentage of international sales - Industry experience combined with low cost strategy led to better performance - Technical experience combined with strategic aggressiveness led to worse performance - Technical experience with innovation differentiation strategy led to better performance - Marketing experience combined with marketing-based differentiation strategy led to better performance
Hsu et al. (2007)	<p>Organisational human capital (see for items Table 12)</p> <p>Was based on various studies</p> <ul style="list-style-type: none"> - $\alpha = 0.93$ for the HR managers - $\alpha = 0.89$ for the engineers 	<p>Positive relationship between high performance work systems (HPWS) and human capital.</p> <p>HPWS influence on firm performance is mediated by human capital.</p>
Yao, Han and Feng (2007)	<ul style="list-style-type: none"> • Proportion of employees of the total workforce with higher education 	<p>Human capital had positive effect on performance (efficiency measure).</p>
Lin, Wei and Chen (2006)	<p>Board human capital</p> <ul style="list-style-type: none"> • General: reward board, board size, and external board size • Commitment: ratio of board ownership <p>Board chair's human capital</p> <ul style="list-style-type: none"> • Capability: reward, age and educational background • Commitment: extent of ownership 	<p>Board commitment had a positive influence on performance.</p> <p>Other capital measures had not a direct influence on performance.</p> <p>Board chair's capability moderated the relationship between board capability and performance.</p> <p>Board chair's commitment moderated the relationship between board commitment and performance.</p>

Authors	Indicators	Outcomes
Hitt et al. (2006), measures partially adopted from Hitt et al. (2001)	Human capital of law firms <ul style="list-style-type: none"> • Quality law school attended by partners • Average experience of partner in focal firm • Average total partner experience in the legal field 	Human capital had marginally significantly positive relationship with internationalisation ($p < 0.58$), and internationalisation had positive effect on firm performance. Human capital positively moderated the relationship between internationalisation and firm performance. High human capital with high corporate client relational capital or with high foreign government relational capital led to the highest internationalisation.
Kor and Leblebici (2005)	Human capital law firms <ul style="list-style-type: none"> • partner human capital leveraging: associates per partner 	Partner human capital leveraging is positively related to firm performance. High human capital leveraging and high service differentiation strategy interaction effect had a negative influence on performance. High human capital leveraging and high geographical diversification strategy interaction effect had a negative influence on performance.
Dimov and Shepherd (2005)	Human capital of venture capital firms (VCFs) General human capital: <ul style="list-style-type: none"> • Science education • Human education • Entrepreneurial experience Specific human capital: <ul style="list-style-type: none"> • MBA education • Law education • Law experience • Finance experience • Consulting experience 	Specific human capital (law and MBA education and consulting experience) was negatively related to prevalence of bankruptcy in the portfolio of the VCFs. General human capital (Science and Human education) was positively related to the proportion of companies that went public, no effect for specific human capital.
Li and Wu (2004)	Human capital (2 items) <ul style="list-style-type: none"> • Number of employees • Education level 	Human capital had a positive influence on firm performance.
Bröcheler, Maijor and Van Witteloostuijn (2004)	Human capital of audit firms <ul style="list-style-type: none"> • Education at founding • Change in education (during firm lifetime) • Experience at founding • Experience during lifetime 	Higher education during lifetime of firm and at founding leads to better performance. Higher experience at the start of audit firm had positive effect on performance whereas higher experience during the lifetime of an audit firm had a negative influence on performance.

Authors	Indicators	Outcomes
Hatch and Dyer (2004)	<p>Specific human capital in manufacturing firms:</p> <ul style="list-style-type: none"> • Human resource selection (screening test, education level employees, skills required for the job) • Human resource development (3 items with respect to the extent of training) • Human resource deployment (proportion of operators participating in problem-solving teams, and proportion and time they spent on troubleshooting process control) 	<p>Specific human capital had positive effect on learning (defect density) and firm performance.</p> <p>Human capital selection and development were positively related to learning. Learning had positive effect on performance.</p> <p>Acquiring human capital with prior industry experience reduces learning. Firm with higher turnover had worse performance than its rivals.</p>
Baily and Helfat (2003)	<p>Human capital external CEO successor:</p> <ul style="list-style-type: none"> • Generic skills (no specific experience) • Related industry skills (experience gained in the last five years in related industry) • Industry specific skills (industry experience obtained in the last five years) 	<p>External successors with more transferable skills had greater variance in their performance than successors with less transferable skills.</p> <p>No effects found of different kinds of experience of successor on firm performance</p>
Carpenter, Sanders and Gregerson (2001)	<p>Human capital CEO/top management teams</p> <ul style="list-style-type: none"> • Years of experience in international assignments of CEO/top management teams 	<p>International assignment experience of the CEO predicted performance.</p> <p>Interaction effect: Higher international experience of CEOs combined with higher experience of top management teams and combined with a more global strategic posture led to better performance.</p> <p>Interaction effect: Higher international experience combined with a more global strategic posture led to higher CEO pay.</p> <p>No direct effects of international experience on CEO pay.</p>
Hitt et al. (2001)	<p>Human capital law firms</p> <ul style="list-style-type: none"> • Quality law school attended by partners • Total experience partners in the focal firm 	<p>Positive curvilinear effect of human capital (squared) on performance.</p> <p>Interaction effects:</p> <ul style="list-style-type: none"> - human capital * service differentiation had positive effect on performance (p<0.1) - human capital * geographic diversification had positive effect on performance - human capital * service diversification * geographic diversification had a negative influence on performance (p<0.1)

Authors	Indicators	Outcomes
Richard and Johnson (2001)	Human capital was measured by how well the HRM function was performing according to managers: <ul style="list-style-type: none"> • Employee participation and empowerment • Teamwork • Workforce planning • Advanced issue identification-strategic studies • Management and executive development • Succession and development planning (managers) • Workforce productivity and quality of output • Employee and manager communications 	The good functioning of the HRM function had positive effect on organisational performance. Interaction effect: Capital intensity strategy combined with good functioning of the HRM function had positive effect on performance.
Boom and Van Witteloostuijn (1996)	2 studies <ol style="list-style-type: none"> 1. subjective human capital <ul style="list-style-type: none"> • CEO's locus-of-control personality (37 items) 2. objective human capital <ul style="list-style-type: none"> • Personnel education and business experience 	CEOs internal locus-of-control had positive influence on firm performance. High educated personnel at founding leads to higher mortality rate through mergers and acquisitions. High experienced teams at founding increase the likelihood of diaspora (personnel moving into various directions).
Nafziger and Terrel (1996)	Human capital of founders of Indian firms: <ul style="list-style-type: none"> - Age - Experience - Education (years of formal schooling) - Birthplace - Caste 	Firms of higher-caste and older-age entrepreneurs are more likely to survive. Higher education of entrepreneurs leads to lower survival of firms.

Table 10. Items used for the Human Capital questionnaire developed by Kwon and Rupp (2012)

<p>Intensive employee training and development</p> <ol style="list-style-type: none"> 1. This organisation provides employees with a variety of training and development opportunities. 2. This organisation spends much money on employee training and development. 3. This organisation provides employees with structured formal training and development programmes.
<p>Extensive selection</p> <ol style="list-style-type: none"> 4. This organisation selects people according to highly refined selection criteria and procedures. 5. This organisation hires people by utilising different kinds of selection tools (interviews, aptitude test, written examination etc.). 6. This organisation spends much money to select the right people.

Table 10. continued

Incentive-based pay

7. This organisation bases pay raise decisions on employee performance.
8. This organisation has a wide range in pay within a same job grade.
9. This organisation extensively utilises a company-wide profit-sharing and/or a gain-sharing programme.
10. This organisation utilises seniority-based reward practices.

Table 11. Human capital questionnaire developed by Cabello-Medina, Lopez-Cabrales and Valle-Cabrera (2011), based on Lepak and Snell (2002)

- Employees have skills that contribute to developing new markets/products/services/opportunities.
- Employees have skills that create customer value.
- Employees have skills that are instrumental in creating innovations.
- Employees have skills that are needed to maintain high-quality products/services.
- Employees have skills that enable our firm to provide exceptional customer service.
- Employees have skills that are not available to our competitors.*

*Three items were dropped after confirmatory factor analysis.

Table 12. Items used for the organisational human capital construct developed by Hsu et al. (2007) – ($\alpha = 0.93$)

1. Our employees identify themselves with company values and vision.
2. Our employees make every effort to achieve organisational goals and objectives.
3. Our employees are better at innovation and R & D than employees working with our competitors.
4. Our employees are better than those of competitors in interpreting the environmental trends to sustain the company's competitive advantage.
5. Our employees are better than those of competitors in responding to customer demands to sustain the company's competitive advantage.
6. Overall speaking, our company's employees outperform competitors'.

Appendix 2 Letter used to approach companies

Geachte heer, mevrouw,

Graag vragen wij uw aandacht voor het volgende. Een van de belangrijke thema's voor de leden van VNO-NCW Midden is het dossier "arbeidsmarkt". Enerzijds moeten veel bedrijven op dit moment vanwege de economische situatie personeel laten gaan, anderzijds worden over enkele jaren grote tekorten op de arbeidsmarkt verwacht, met name binnen de sectoren zorg en techniek. Zo heeft FME berekend dat er over enkele jaren 170.000 werknemers tekort zullen zijn in de techniek. Een vertaling van deze macro-cijfers naar individuele bedrijven is soms moeilijk te maken.

Om onze leden te ondersteunen in het verkrijgen van meer inzicht in hun huidige personeelsbestand en een inschatting te maken van de gevolgen van toekomstige (bedrijfs)ontwikkelingen en strategieën, heeft VNO-NCW Midden samen met de Universiteit Twente een zgn. Human Capital Scan in ontwikkeling. De scan bestaat uit een vragenlijst. Door het invullen van deze scan krijgt u een beeld van - bijvoorbeeld - de huidige personeelsbezetting, flexibele schil en opleidingsniveau van uw werknemers; we vatten dit samen onder de termen "waarde" en "ontwikkeling" van uw personeelsbestand. Ook krijgt u na het invullen feedback over de stand van zaken binnen uw organisatie ten opzichte van branchegenoten en over eventuele knelpunten omtrent de waarde en ontwikkeling van uw personeelsbestand. De scan richt zich in eerste instantie op bedrijven uit de maakindustrie.

Binnenkort zullen VNO-NCW Midden en de Universiteit Twente deze Human Capital Scan op de markt brengen. Graag zouden we de scan voor die tijd met een aantal leden willen doornemen en waar nodig verbeteringen aanbrengen. Hiervoor zoeken wij een aantal bedrijven die in deze pilotfase deel willen nemen aan de Human Capital Scan en aansluitend een gesprek willen hebben over de invulling van de scan. Omdat de scan in deze fase van ontwikkeling met name bedoeld is voor bedrijven uit de maakindustrie, leggen wij u graag het verzoek voor of u (of de HR-verantwoordelijke binnen uw onderneming) deel zou willen nemen aan de Human Capital Scan en het aansluitende gesprek. Uw totale tijdsinvestering schatten wij op 2 uur. Voor de verdere ontwikkeling van de Human Capital Scan is uw input belangrijk; wij hopen dan ook dat u deze tijd voor ons vrij wil maken.

Graag vernemen wij per mail of u bereid bent mee te werken. U kunt uw reactie sturen naar Anouska Hofman, via *emailadres*. Na uw eventuele toezegging zullen wij u de scan toesturen en zal met u een afspraak worden gemaakt voor het gesprek over de scan. U zult hierover dan benaderd worden door Paul Franken van de Universiteit Twente. Wij hopen van harte op uw medewerking en vernemen dan ook graag uw reactie.

Appendix 3 Interview protocol

Voorstellen (nog niet inhoudelijk ingaan op het doel van het onderzoek en het interview)

Uitleg doel van het onderzoek

Het doel van het onderzoek is om een instrument te ontwikkelen waarmee bedrijven hun menselijk kapitaal in kaart kunnen brengen. Hierbij is het met name van belang om werkgevers bewust te maken van het feit dat arbeidsmarktonderzoek grote knelpunten voorspelt in het aantrekken van personeel met de juiste opleidingsachtergrond. Elk deelnemend bedrijf zal feedback krijgen over hun menselijk kapitaal en de eventuele toekomstige knelpunten.

Uitleg doel van het interview

Er zijn twee gedeeltes in de human capital scan om het menselijk kapitaal van een bedrijf in kaart te brengen. Het eerste gedeelte is de algemene human capital scan. In deze scan zitten een aantal algemene vragen die betrekking hebben op het menselijk kapitaal van uw bedrijf. Het tweede gedeelte gaat dieper in op de strategisch meest waardevolle werknemers in uw bedrijf. Dit instrument helpt u om uw belangrijkste werknemers te identificeren. Hierover heeft u een paar specifieke vragen gekregen maar er zijn ook een aantal vragen over gesteld in de human capital scan. Het doel van het interview is om na te gaan of de instructies en vragen duidelijk waren, maar ook om te kijken of u de vragen goed kon beantwoorden. Tijdens dit interview bent u vrij om vragen te stellen of opmerkingen te maken wanneer bepaalde dingen niet duidelijk zijn.

- Heeft op dit moment nog vragen of opmerkingen?

Human capital scan

Vragen of de instructies van de human capital scan duidelijk waren

Voorlezen vragen human capital scan

Na elke vraag van de scan worden de volgende vragen gesteld:

- Was er bij u sprake van enige onzekerheid of verwarring toe u de vraag moest beantwoorden?
- Hoe zeker bent u ervan dat uw antwoord juist is?

Voor de vragen waar naar numerieke informatie wordt gevraagd wordt de volgende extra vraag gesteld:

- Hoe bent u precies aan het nummer gekomen?

Voor de vragen waarbij naar een subjectief oordeel wordt gevraagd wordt de volgende extra vraag gesteld:

- Kunt u voor mij het denkproces beschrijven waar u doorheen ging toen u de vraag beantwoordde?

Strategisch gedeelte van de human capital scan

Vragen of the instructies van het strategische gedeelte van de human capital scan duidelijk waren

Wat vond u van de manier om de belangrijkste werknemer te identificeren?

Voorlezen vragen strategisch gedeelte van de human capital scan

Na elke vraag van de scan worden de volgende vragen gesteld:

- Was er bij u sprake van enige onzekerheid of verwarring toe u de vraag moest beantwoorden?
- Hoe zeker bent u ervan dat uw antwoord juist is?

Voor de vragen waar naar numerieke informatie wordt gevraagd wordt de volgende extra vraag gesteld:

- Hoe bent u precies aan het nummer gekomen?

Voor de vragen waarbij naar een subjectief oordeel wordt gevraagd wordt de volgende extra vraag gesteld:

- Kunt u voor mij het denkproces beschrijven waar u doorheen ging toen u de vraag beantwoordde?

Nabesprekingsvragen (worden op papier aan de respondent gegeven):

De vragen in de human capital scan hadden allemaal betrekking op het menselijk kapitaal in uw bedrijf. De vragen van deze scan kunnen worden onderverdeeld in 2 hoofdcategorieën. De eerste categorie heeft vooral betrekking op de inhoudelijke kant van uw menselijke kapitaal. De volgende 4 subcategorieën worden in de human capital scan gebruikt om de inhoudelijke kant van het menselijke kapitaal te meten:

- Opleidingsniveau werknemers
- De mate waarin werknemers worden getraind
- De hoeveelheid ervaring die werknemers hebben
- Innovatief vermogen van werknemers

Welke relevante subcategorieën zouden aan deze lijst toegevoegd kunnen worden?

De tweede hoofdcategorie heeft betrekking op vragen die de “beweging” van het menselijk kapitaal in kaart brengen. De volgende 5 subcategorieën brengen de beweging van het menselijk kapitaal in kaart:

- Personeelsverloop
- Aantrekken van personeel
- Interne flexibiliteit van werknemers
- Grote flexibele schil
- Leeftijd van werknemers

Welke relevante subcategorieën zouden aan deze lijst toegevoegd kunnen worden?

Heeft u nog vragen of opmerkingen?

Einde interview

Appendix 4 hoofdpunten uit de interviews

In dit gedeelte zullen de delen van de interviews worden geciteerd die hebben bijgedragen aan de aanpassingen en/ of toevoegingen van de instructies en vragen in de scan. De vragen die betrekking hadden op de toekomst (scan) en de vragen die naar de uniekheid van de werknemers vragen worden hier niet behandeld, omdat deze geen noemenswaardige problemen opleverden.

Algemene opmerkingen human capital scan

Er waren drie bedrijven die een algemene opmerking hadden over de human capital scan. De fragmenten waarin deze opmerkingen worden gemaakt kunnen hieronder worden teruggevonden.

Opmerking over de tijdsbesteding

R (Respondent): Ik heb door gelezen en vervolgens zijn we met de vragenlijst bezig gegaan. Ik heb de vragenlijst ook niet alleen ingevuld, omdat voor een aantal vragen ook afhankelijk was van de input van collega's.

I (Interviewer): Dus zelf had u niet alle vragen?

R: Niet alle vragen.

I: Ok dat is ook belangrijke om te weten. Hoe lang bent u ongeveer bezig geweest met het invullen?

R: Met zijn drieën, denk ik dat we daar toch ruim een uur mee bezig zijn geweest,

I: Dat is ook handig om te weten.

R: u gaf al dat je er in een half uurtje mee klaar bent, maar dat verondersteld dat je op voorhand de gegevens hebt.

Opmerking over de term human capital

I (Interviewer): Heeft u vooraf nog vragen of opmerkingen?

R (Respondent): Ik kan wel Engels, maar stel dat mijn compagnon dat zou moeten invullen. Die kan geen Engels. Er zijn heel veel bedrijven die 45 plussers hebben. Ik heb gisteren nog gezien dat heel veel bedrijven die gestart zijn, die zijn nu 45 plus, dus de babyboomgeneratie. Als je zo meteen, dit is de pilot. Als je hem breed uit gaat leggen dan kom je ook bij wat kleinere bedrijven terecht. In dit geval. Ik ben dan hier. Stel dat hij dat zou krijgen. Hij zal lezen human capital scan. Wat ligt daar? Die gaat gelijk wat moet ik daarmee, wat is dat. Daar mis je gelijk.

I: Dan zou je alleen een bepaalde selectie krijgen.

R: Ik zou dit Nederlands maken. Human capital scan cq, grote bedrijven snappen dat wel, maar ik zou juist.

I: Dat zou je het beter een personeelsscan of iets moet noemen.

R: Wat is de vertaling ervan. Wat wil je doen.

I: De letterlijke vertaling is menselijk kapitaal.

R: Ja precies, snapje wat ik bedoel. Als je al geen Engels kan. Je hebt nu al moeite om het te vertalen naar Nederlandse begrippen. Het gaat uiteindelijk op kennis en kunde van je werknemers en daarvan een beeld te krijgen binnen het bedrijf.

Opmerking over dat niet alle vragen over dezelfde tijdsperiode gaan (Hellebrekers techniek)

R: Ja wat ik gaandeweg ontdekte, op een gegeven moment ga je vragen in het afgelopen jaar dat ik in

het begin van het interview heel veel de actuele situatie heb weergegeven, de cijfers van vandaag, terwijl ik later terugblik naar cijfer van vorig jaar ik weet niet of dat erg is voor het onderzoek dat je dan periodes.

Opmerking over de feedback

I: En wat voor organisatie zou u het liefst worden vergeleken.

R: Het liefst van de concurrent.

I: Als gewoon algemeen.

R: In principe wel.

I: Hoe specifiek hoe relevanter begrijp ik.

R: Maar ook algemeen. Hoeveel wordt er in de machinebouw aan opleidingen uitgegeven. Om te zien of we een beetje in lijn liggen met andere bedrijven.

I: Als alleen naar de maakindustrie kijkt dan zou u het minder relevant vinden.

R: Bij de maakindustrie denk ik aan productiebedrijven. Dat zijn wij niet.

I: Dan begrijp ik dat u het echt interessant vindt in de machinebouw.

R: Ja.

Instructies van de scan

Voor alle bedrijven was het duidelijk hoe alle vragen ingevuld moesten worden. Twee bedrijven hadden nog wel een opmerking over dat het niet duidelijk was wat ze konden verwachten en wat het onderzoek hen zou opleveren.

Fragment 1

R1: Als je hier ook zit voor de vragenlijsten en dergelijke en hoe ze er uit zien dan denk ik dat je de tekst waarin je mensen uitnodigt, dat je die anders moet formuleren. Dat je duidelijk moet maken wat het doel van het onderzoek is, wat kunnen de opbrengsten zijn. Bedrijven willen best energie steken in informatieverstrekking, maar dan willen ze wel heel concreet weten, wat heb ik daar aan. Kan ik me dan vergelijken kan ik mezelf een rapportcijfer geven, zegt dat iets over mijn vermogen om mensen aan te trekken, heb ik het goed voor elkaar. Hoef ik mij minder zorgen te maken dat als de arbeidsmarkt krap wordt dat ik dan toch nog wel, we doen het goed met opleiding en training. Dat zou je heel duidelijk in die tekst moeten maken anders gaat niemand die enquête invullen.

I: U zou willen dat het meer duidelijk wordt welke resultaten het zou opleveren?

R1: Ja ik doe mee aan die scan, ik geef je informatie over mijn bedrijf, wat levert het mij op. Bedrijven krijgen natuurlijk ontzettend veel enquêtes, je moet al voor het CBS allerlei dingen invullen en dan komt die en hebben we mensen die willen afstuderen. Dan moet je het ook een beetje verkopen, anders zeggen bedrijven daar heb ik echt geen tijd voor, ik ben juist bezig om mensen aan te trekken, dat kost me meer energie (daarna niet te verstaan). Doe dat niet met volle teksten maar met bullet points.

I: Dus gewoon een paar punten met wat het zou kunnen opleveren. Dan kan kunnen jullie zie dat is handig om in te vullen of niet?

R1: Ja

R3: Ja precies wat Richard zegt, als ik dit invul dan kan ik mijn concurrentiepositie op de markt, of al invullend dan krijg ik feedback ik doe alles wel maar op het punt van opleiding veel te weinig. Op het gebied van vitaliteit veel te weinig of verzin maar iets. Het moet iets. Degene die mee doet moet het

gevoel hebben als ik dit invul dan krijg ik daar iets voor. Zelfinzicht of whatever, dat moet je volgens mij heel strak neerzetten. We hebben nu tien minuten besteed met wat wou je ook al weer bereiken met den enquête dan was ik, gemiddeld ben ik 9,5 minuut al afgeschakeld. Dan ben ik wel erg overdreven, dat geef ik toe. Andre is veel geduldiger

Fragment 2

I: Dan zal ik willen beginnen met het voorblad. Ik weet niet of je daar nog vragen of opmerkingen over had?

R: Het eerste gedeelte.

I: Dan eerst het voorblad.

R: Wat ik zelf. Ik kreeg nog niet duidelijk uit het eerste gedeelte waar ik allemaal vragen over kreeg. Daar zou, percentage en getallen komt er heel duidelijk uit dan zou ik eigenlijk het idee kunnen hebben dat het na vraag 24 stopt. Ik denk dat dat nog iets meer naar voren mag komen. Dus verder wat ik ervan terugkrijg zou je nog iets meer het belang voor mij kunnen benadrukken. Hoe belangrijk het is.

Objectieve vragen

Deze vragen werden soms verschillend door bedrijven geïnterpreteerd of werden onnauwkeurig beantwoord. De opmerkingen die tot verschillende interpretaties van de vragen kunnen leiden en de voorbeelden van onnauwkeurig antwoorden worden hieronder vermeld.

Hoeveel werknemers heeft uw organisatie in dienst?/ Hoe groot is uw personeelsomvang? (uitgedrukt in fte's)

I: Dan zou ik de vragen gewoon willen doorlopen. De eerste zullen waarschijnlijk wel makkelijk zijn. Het aantal werknemers, dat was voor u in te vullen?

R: Ja behalve dan dat je daar discussies kan hebben over inclusief of exclusief uitzendkrachten, maar inclusief uitzendkrachten zijn het 140 werknemers.

I: Dat is dus alles wat hier op de werkvloer rondloopt?

R: Ja 140 mensen en 129,35 fte.

Geef voor elk van de onderstaande opleidingsgroepen aan welk percentage van de werknemers dit als hoogst afgeronde opleidingsniveau heeft (Lager dan MBO 2/ HAVO/ VWO, MBO 2-4/ HAVO/ VWO, HBO/ WO).

Fragment 1

I: Dan gaan we meteen op de opleidingsniveaus in. De vraag was: Geef voor elke onderstaande groepen aan welke percentage van de werknemers dit als hoogst genoten opleidingsniveau heeft afgerond. Was er sprake van enige onzekerheid of verwarring toen u de vraag moest beantwoorden?

R: Nee hierover niet. Het is moeilijk om die cijfers op te hoesten. Wij definiëren niet altijd naar die groepen.

I: Hoe definiëren die groepen dan?

R: Nou, de gegevens zetten we niet zo voor ons zelf op een rij.

I: Zetten jullie wel op een andere manier de gegevens op en rij?

R: Van opleidingen?

I: Ja

R: We weten wel wie welke opleidingen hebben en welk niveau die heeft. Niet direct in percentages.

I: Zijn dus allemaal losstaande gegevens?

R: Ja

I: Even kijken. Hoe bent u dan precies aan die nummers gekomen?

R: Ja weet het aantal werknemers en je weet de hoogst genoten opleiding, dan ga je tellen.

I: Ja ok, u heeft het dus allemaal nagezocht?

R: Ja

Fragment 2

I: Bij welke vragen moest u dan inschattingen maken?

R: (nadenken)

I: Bij de opleidingsniveaus?

R: Ik ben dan de enige die 10 procent. Er zijn 12 mensen. Ze hebben dan niet allemaal MBO maar ik heb dan wel MBO opgeschreven. Ik heb hier als hoogst afgeronde opleidingsniveau heeft cq. door ervaring gekregen zeg ik dan.

I: Dat zou u vollediger vinden, als dat er zo stond?

R: Ja daar kan je natuurlijk onderscheid in maken. De één heeft natuurlijk echt een MBO-opleiding en de ander. Ik heb wel een aantal vakspecialisten die op MBO-niveau opereren, laat ik het dan maar zo zeggen.

I: Precies, die hebben dan niet de opleiding, maar die doen dan wel het werk van een MBOer.

R: Ja

Fragment 3

I: Dan heb ik meteen een vraag over vraag 4. Was het voor u mogelijk om het onderscheid te maken.

R: We hebben een systeem wat gebruiken om de competentiegesprekken met de medewerkers in te voeren. Daar staat dat wel in. Van iedereen zijn diploma staat er bijvoorbeeld in. We weten wel van iedereen welk opleidingsniveau hij of zij heeft. Een deel is ook wel. Een vrij groot deel van ons bedrijf zijn de mensen in de productie. Ook wat mensen met eenvoudigere administratieve taken en er is een kleinere top die echt een HBO/ WO achtergrond heeft, maar dat is niet het groot gros.

I: Hoe bent u aan die cijfers die u daar heeft ingevuld gekomen?

R: In dit geval denk ik dat Renate dat eigen inzicht heeft gedaan.

I: Gewoon beredeneert, van ongeveer.

R: Ja.

I: Als u zelf zo'n inschatting moest maken, zou u dan ook op dezelfde verdeling uitkomen?

R: Ik zou me kunnen voorstellen dat misschien het HBO/ WO gedeelte iets meer is.

I: Grofweg gezien

R: Ja

Fragment 4

I: kijken jullie specifiek naar opleidingsniveau of brengen jullie het in kaart?

R1: We hebben het wel.

R2: Het gaat om afgeronde opleidingen, dat is heel wat anders dan hoe wij onze functies karakteriseren.

(...)

R1: Wat wil je weten, wil je het niveau weten uitgedrukt in opleiding of wil je weten wat mens qua opleidingen hebben afgerond.

I: Zouden jullie dat relevant vinden als er wordt gevraagd naar welk werkniveau mensen hebben?

R2: Ik denk dat als het over een scan gaat en oordeel over je bedrijf moet geven, dan wil je graag ook zicht hebben op het niveau van de functies die je in het bedrijf hebt.

I: Zouden jullie dan ook een onderverdeling kunnen maken als dat gevraagd wordt.

R1: Ja hoor, dat zit niet direct in het systeem maar dat is wel te doen.

(...) Als we daar wat energie in steken dan komt dat boven.

R2: In ieder geval schattender wijzen

Fragment 5

I: Dan werd meteen naar de opleidingsniveaus gevraagd, hoe zeker kon u daar uw antwoord geven.

R: Dat ging goed.

I: Hoe bent u dan aan die percentages gekomen?

R: Dat is wel natte vinger werk geweest. Wij zijn een organisatie waar we altijd opleiden tot minimaal niveau drie, maar we hebben altijd een groep jonge jongens hebben die in opleiding zijn om daar te gaan komen die dan vallen op lager dan MBO2, HAVO, VWO dat zijn vooral lager dan MBO 2 jongens die bij ons werken daar heb ik van 190 man een man 15 tot 20 die daar onder valt, dan kom ik op 10% en dan weet ik dat wij algemeen genomen een redelijk volwaardig MBO niveau hebben in de organisatie hebben met nog een clubje van een man of 30 of 40 die erg nog boven zit met HBO papieren met name en af en toe een WOer maat dat is heel beperkt, zo kom ik tot de indeling, dat ging aardig goed. Hier betrap ik mezelf dat ik niet een document induik, maar dat ik gewoon op basis.

Hoeveel dagen zijn de werknemers gemiddeld in training?/ Geef het gemiddelde aantal trainingsdagen aan voor de werknemers met de volgende opleidingsniveaus (Lager dan MBO 2/ HAVO/ VWO, MBO 2/ HAVO/ VWO, HBO/ WO).

Fragment 1

I: De volgende vraag, hoeveel dagen zijn uw werknemers gemiddeld in training?

R: Dat is een lastige, met name gemiddeld. Wij hebben geen exacte vastlegging. We weten wat er aan opleidingen plaatsvindt, we weten niet hoeveel dagen daar meer gemoeid zijn. Of iemand nu 1 keer in de week naar een technische bedrijfskunde opleiding gaat, of dat hij dat één keer in de 14 dagen doet. We weten dat hij een opleiding technische bedrijfskunde volgt. We registreren dat niet. We weten van een deel van ons personeel, met name de operators in de verbrandingsinstallaties, daar hebben we een vast programma voor jaarlijks. Dat we gewoon 6 dagen voor ze inplannen. Dat zijn verplichte opleidingen en herhalende opleidingen. We weten gemiddeld genomen hoe die groep is. Alle andere opleidingen die gevolgd worden, daarvan weten niet exact wat de tijdsbesteding is. Dan kunnen we ook niet over het grote geheel heen deze vraag beantwoorden. Dat is geen sturingsgetal.

I: De volgende vraag zal dan waarschijnlijk ook niet beantwoord kunnen worden. (vraag over het aantal trainingsdagen uitgesplitst naar opleidingsniveau)

R: Nee

Fragment 2

R: Trainingen heb ik ook gelijk cq cursus, wordt daar bedoeld of niet?

Fragment 3

I: De volgende vraag, het aantal dagen trainingen was lastig begreep ik.

R1: Dan moet je er per jaar achter zetten.

R1: Maar dat is ook te doen.

R2: Schattenderwijs.

I: Als jullie aan een getal komen dan begrijp ik dat dat door schatting gebeurd, het is niet iets wat feitelijk uit een systeem gegenereerd kan worden.

R3: Wim weet dat volgens mij.

R1: Wat ik eigenlijk wil zeggen. We kunnen het ook gewoon tellen. Dan moeten we een lijst gaan maken (...)

I: Het staat niet in het systeem wat werknemers precies doen en dergelijke.

R2: Nee

I: Dan werd een onderverdeling gemaakt in trainingsdagen.

R2: Ook schattender wijs.

R1: Ja

I: Er zit dan denk ik wel een verschil in.

R2: De eerste twee categorie kan ik wel een verschil maken. Ik kan wel tussen de tweede en HBO/WO. Dat komt omdat een veel kleinere categorie, dan heb je daar wat meer zicht op. Dat is wat makkelijker schatten.

I: Wat voor verschil zit er dan voor verschil tussen het lage en hoge niveau.

R1: Ik denk wat Andre bedoelt trainingen voor operator die het doen, terwijl de trainingen voor hoger opgeleiden daar zit hij zelf bij, dat is een kwestie van hoeveel trainingsdagen heb ik gehad maal het aantal mensen die ik daar heb gezien, zoveel dagen. Die kan het uit zijn inner circle halen. Voor die andere 150 die hier rondlopen dan moet hij een beetje gokken wat het was.

I: U was van de P&O ik weet niet of u daar beter inzicht in hebt.

R1: Dan zou ik echt moeten gaan tellen. Dan zou ik een lijst moeten pakken, de opleidingsplannen en elk jaar bij de budgettrondes en dan zou ik met de P&Oers die op de locaties werken moeten zeggen, van nou vul maar even in wat ieder aan hoeveel dagen heeft getraind. Dat is wel op te halen, het is niet zo dat we het bijhouden.

Fragment 4

R: Voor mij was dat prima, aantal fte ook. De bedrijfstak ook dat kon bij vraag 4, percentage vraag je daar, dus dat gaat goed. Hoeveel dagen goed. Ik vond deze wel geef het gemiddelde aan met betrekking tot trainingsdagen met de volgende opleidingsniveaus. Dat was voor mij moeilijker te krijgen dus daar heb ik een schatting gezegd.

I: Hoe heb je dat precies gedaan?

R: Dat is mijn gevoel, maar ik dacht dat is allemaal precies gelijk. Ik heb een paar voorbeelden proberen te nemen van functies, van mensen. Ik denk van ja dat is toch weer gelijk, het aantal dagen vond ik wel moeilijk maar ik weet hoeveel interne dagen. Interne uren er worden geboekt en ik kan dat delen door aantal medewerkers en dat week ik hoeveel uren dat zijn, dan komen we op zo'n 30 uur uit en dat is vier

dagen.

(...)

I: Als ik dan door ga op die trainingen. Er zit natuurlijk wel een verschil in het soort trainingen die mensen krijgen. Als je dan een onderverdeling van training soort zou moeten maken wat vind je dan hier relevant?

R: Dan zou ik relevant vinden in een stukje softskills en een stukje harde skills. Met softskills meer de persoonlijke vaardigheden, de persoonlijkheidskenmerken daar op trainen, dat gaat over communicatietraining, time management, dat gaat over samenwerken, dat gaat over leiderschap en je hebt harde skills, dat gaat over onze kennis, vakkundig gerelateerde trainingen, laserlassen, weerstandlassen, booglassen, robottechniek.

Fragment 5

I: Ok dat is duidelijk. De volgende vraag, hoeveel dagen zijn de werknemers gemiddeld in training?

R: Vijf dagen en dat is geschat.

I: Kunt u daar uitleg over geven?

R: Ja het is niet zo alle werknemers vijf dagen, het is echt een gemiddelde. We hebben bijvoorbeeld 7 mensen in de productie die een vapro a opleiding doen. Die zijn 4 uur hier en 4 uur thuis, 8 uur per week bezig met hun studie. Andere productiemedewerkers doen niks op dit moment. Dat is heel verschillend. We hebben ook een aantal mbo'ers die een stevige opleiding doen, dat geldt voor de hbo'ers ook. Omdat we het hier over een heel klein getal hebben kan het soms heel hard doorwerken. Ik denk dat gemiddeld vijf dagen training voor medewerkers bij Veco dat dat zo beetje wel klopt. Ik Twijfel tussen de vier en vijf.

(...)

I: Bij de volgende vraag werd er opgesplitst naar opleidingsniveau, kon u dat voor uzelf beantwoorden?

R: Dat is een inschatting, dat houden we niet bij. Ik zou het willen indelen op MBO, HAVO, VWO of lager dan dat, dat er twee trainingsdagen in het jaar zijn waarbij ik me dan realiseer dat deze door 7 man genoten worden die zijn de Vapro-opleidingen aan het doen en de rest wordt niet opgeleid en op MBO, HAVO/ VWO niveau zie je al behoorlijk, bij die technische dienst bijvoorbeeld, projectmanagementopleidingen, dan zie je al heel wat meer opleidingen tevoorschijn komen. En HBO en WO zitten er een aantal mensen die vrij stevige opleidingen doen.

Fragment 6

I: Dan de de vijfde vraag, hoeveel dagen zijn de werknemers gemiddeld in training, daar moest eigenlijk nog per jaar achter staan.

R: Dat snap ik, nou niet zo veel, (nadenken), 0,2. Dan zit ik op 27 dagen op jaarbasis, totaal. We hebben 135 werknemers.

I: Kunt u dat toelichten? Gebeurd er ook iets qua training en ontwikkeling op een andere manier?

R: Nee meeste trainingen, functioneringsgesprekken is 1, leidinggeven is twee, bij engineers op besturingsgebied, dat is eigenlijk 3 en dan hebben we het gros wel gehad. Dan moet ik even een jaar terugkijken. Dan zijn het die drie.

I: Bij de volgende vraag wordt er een onderscheid gemaakt voor de verschillende opleidingsniveaus, zou u dat kunnen maken?

R: Ik denk dat de eerste is nul en die andere, als ik dan 0,2 invul dan kom ik tekort op de 0,2 die ik eerder

heb ingevuld. Dat moet iest meer zijn. Ik denk beide, die andere zijn 10% van het personeel, laat ik beide 0,2 invullen. De eerste categorie is maar 10%.

I: Dat is dan alleen voor de functioneringsgesprekken en dat gebeurt niet voor de laagste niveaus.

R: Nee alleen puur voor wie de functioneringsgesprekken afnemen, de leidinggevendenden, functioneringsgesprekken dan. Een aantal mensen hebben een cursus leidinggeven gedaan en aantal mensen van R&D hebben een cursus besturingstechniek gedaan van Bekko.

I: IK begrijp dat mensen niet veel intern getraind hoeven te worden om bepaalde taken uit te voeren.

R: Daar wordt ook intern bedoeld. Hier had ik alleen extern genomen.

I: Als u dan een vraag over zou krijgen dan zou u intern en extern apart nemen. Nu heeft u het echt over extern.

R: Extern ja.

I: Misschien is het handig als u iets over uw bedrijf vertelt wat jullie doen.

R: Wat we vaak doen. Dit is dan over interne trainingen. Dat mensen meelopen, vaak gekoppeld aan monteurs, twee monteurs die samenwerken, als de mensen van de ene afdeling richting de andere afdeling moeten dan moeten we dat stel uit elkaar halen en dat de onervaren man erbij wordt gezet en meeloopt en op die manier de machine en montage.

I: Er worden geen specifieke cursussen of dergelijk gegeven.

R: Nee over het algemeen niet. Wat wel het afgelopen jaar hebben gedaan, we zijn met lean begonnen in ons bedrijf. Daar hebben we een extern bedrijf in Rome voor gehad. Die hebben mensen getraind en vervolgens gaan die mensen als het ware weer collega's opleiden. Dan hebben ze een halve dag training en dan worden ze echt apart gezet. Dan wordt er een halve dag vertelt over lean.

Fragment 7

I: De volgende daar moest inderdaad per jaar achter. Hoeveel dagen zijn de werknemers gemiddeld in training?

R: Wij registreren dat eigenlijk niet het aantal dagen dat we in zijn totaliteit kwijt zijn aan gevolgde opleiding, want dan was het sommetje heel makkelijk geweest. Dit is een beetje een inschatting. Kijk bij de volgende vraag, vraag 6, de jongen die op lager dan MBO2 zitten dat zijn allemaal jongens die een dag in de week naar school gaan, daar zijn, de scholingsdagen daar liggen heel erg hoog, als je kijkt naar de HBOers bij ons dan ligt het al stukje lager.

I: U kon het wel voor de verschillende groepen aangeven?

R: Ja.

I: Maar dan blijft het een inschatting.

R: Het blijft een inschatting als ik kijk bij de beantwoording, dan schrijf ik iets op wat nooit waar kan zijn, want ik schrijf bij vraag 5 gemiddeld 3 dagen per jaar dat we de mensen in de opleiding hebben zitten en vervolgens bij de uitsplitsing geef ik 50, 15 en 5 op. Alle drie groter dan 3, dat gaat niet werken.

(...)

R: Wat ik hier misschien een beetje, wellicht ook interessant is om te weten, hoeveel van die 190 man doet jaarlijks mee aan opleidingen. Van de 190 man bij ons is 130 man wel met opleiding bezig en een groep niet die zijn redelijk uitgeleerd of in dat jaar niet met een opleiding bezig, ik weet niet of het een cijfer oplevert. Nu heb je drie per jaar en dat klinkt als heel veel maar als je het uitsplitst met name bepaalde groep die nog volop met opleiding bezig is maar ook een hele groep die niks doet.

Wat zijn de kosten voor trainingen uitgedrukt als percentage van de totale loonkosten?

Fragment 1

I: Dan was er nog de vraag over wat de kosten zijn uitgedrukt als percentage van de loonkosten.

R: Dat weten we wel, dat is 2 tot 4%.

I: Is dat dan mogelijk om voor de verschillende opleidingsniveau's te schatten, of ook niet?

R: Nee er is gewoon één pot, dat is 4% van de loonsom, dat is ons opleidingsbudget. Er gaat niet 20% naar de LBO groep en 40 tot 60% naar de MBO groep en nog eens keer 20% naar de HBO/ WO groep. Er is een bepaald budget. Iemand die verplicht een opleiding moet volgen of zich verder wil ontwikkelen die kan het verzoek doen tot het volgen van een opleiding. Pas het binnen het budget, dan is het geen enkel probleem.

I: u zegt 2 tot 4%

R: 4% van het netto loon en 2% van het brutoloon.

Fragment 2

I: De volgende vraag gaat dan om het budget. Daar is wel gewoon een vast budget voor.

R1/ R2/ R3: Ja.

R3: Ook gewoon de werkelijke kosten die boeken we gewoon in, dus dat is lekker makkelijk. Wat bedoel je hier precies met kosten. Gebudgetteerd of out of pocket kosten. Wat ik daarmee bedoel is er zit nogal een verschil tussen voor een opleidingen en wat wij uiteindelijk betalen voor een opleiding gezien subsidies.

I: U bedoelt daarmee met wat het direct kost en wat het uiteindelijk gaat kosten.

R2: Maar ook interne trainingen.

I: Dat zal dus ook een verschil kunnen maken.

R1: Je zou bijvoorbeeld senior drukkers kunnen hebben die jongere drukker trainen en dat gebeurt bij ons ook wel. Dan doe je dat gewoon intern en dat kost eigenlijk niks. Je zou een bedrijf kunnen hebben die heel veel interne trainingen geeft, maar dat kost niks omdat je er geen out of pocket kosten voor hebt. Je zou daar als je iets wil weten. Daar gaat deze vraag denk ik om hoeveel geld energie steek je in opleiding. Dan moet je dan wel splitsen in wat koop je in wat doe je zelf, want anders kan iemand daar nul invoeren en hij doet het misschien veel beter dan iemand die er een miljoen per jaar voor uitgeeft aan externe bedrijven.

I: Er zit dus wel een verschil tussen het budget en wat er daadwerkelijk aan training wordt gegeven.

R1: Ja dat zal heel goed kunnen.

I: Wat voor vraag zou dan meenemen. U had het er al over dat mensen op de werkvloer worden getraind.

R1: Je zou een voorvraag kunnen stellen. Organiseert u trainingen zelf, heeft u dat zelf georganiseerd. Er zijn ook bedrijven die hun eigen opleiders in dienst hebben of koopt u het in. Vandaar uit verder denken.

R2: Subsidie vragen.

R3: Kosten inclusief de loonsom die er bij zit. Dan heb je de interne opleiding erbij. Je zou inderdaad de ingekochte opleidingen. Je zou iets moeten roepen, wat voor tegemoetkomingen wat betreft subsidies krijg je daarover. Dan kom je een keer op een netto/ netto of een bruto/netto of een bruto/ bruto.

I: Hebben jullie daar verder iets over toe te voegen.

R1/2/3: Nee.

Fragment 3

I: Nou de volgende vraag, vraag 7, wat zijn de kosten van trainingen uitgedrukt als percentage van de totale loonkosten?

R: Dat heb ik kunnen uitrekenen met wat ik je net heb uitgelegd, ik weet de out of pocket kosten. Out of pocket plus interne kosten.

I: Dan zou het misschien wel interessant zijn om een onderscheid te maken tussen out of the pocket kosten en interne kosten.

R: Ja dat zal ik wel.

I: Zijn er dan misschien nog andere dingen bij de kosten van trainingen?

(...)

R: Wat nog een interessante zou zijn, er zit hier ook een behoorlijk subsidie op, dus subsidies. Gemaakte subsidies, wij hebben de afgelopen jaar richting de 40000 euro aan subsidie gekregen voor opleiding.

Fragment 4

I: Dan werd nog een vraag over de kosten van trainingen gesteld, ik weet niet of dat duidelijk was?

R: Ja.

I: Hoe bent u dan aan het getal gekomen?

R: Behalve dan dat je totale loonkosten, daar zit ook weer een definitie achter, is dat inclusief de sociale lasten enzovoorts, dat heb ik wel gedaan, dat zou ik hier ook bijschrijven. Dan kom ik voor het afgelopen jaar op 1,1%.

Fragment 5

I: Dan wordt er ook vrij vaak aangegeven dat er een onderscheid wordt gemaakt tussen interne en externe trainingskosten, is dat ook hier relevant in dit bedrijf? Dat heb ik dan niet in de vragenlijst staan.

R: Al je naar interne kosten kijkt dan zijn dan heel vaak uren die er in zitten van mens, soms eigen trainers als wij eigen jongens voor de klas zetten om ook een stukje producttraining te geven. Ik denk dat als we in onze administratie kijken, dat we die filter niet maken. Gewoon kosten en opleidingen, dan hebben we het niet opgesplitst in instituut kosten en urenkosten denk ik.

I: Het is niet zo dat alle uren opgeschreven die mensen intern.

R: Wel op de urenlijst maar ik denk dat ze uiteindelijk in de administratie, als je kijkt naar toewijzen van kosten, dat geen registratie is van wat nou uren zijn en wat nou cursuskosten zijn. Dat weet ik niet een zeker trouwens.

I: Dat wordt al een stuk lastiger als dat in zo'n vragenlijst gevraagd wordt.

R: Dat denk ik wel.

Welk percentage van de werknemers heeft in zijn huidige functie minder dan 2 jaar relevante werkervaring?/ Welk percentage van de werknemers heeft in zijn huidige functie meer dan 20 jaar ervaring?

Fragment 1

I: Ok dat is duidelijk. De volgende vraag. Welk percentage van de werknemers heeft minder dan 2 jaar relevante werkervaring.

R: Dat is 2%. Die vraag hebben we kunnen beantwoorden.

I: Jullie houden wel bij hoeveel ervaring mensen hebben?

R: Wij weten als iemand hier komt of hij voldoet aan de opleidingseis en of die bijgeschoold moet worden. Dus als je vraagt, wat is de relevantwerkervaring dan weten we wie binnenkomt en relevante ervaring heeft en of niet. Dan kunnen we zien wie is er minder dan twee jaar geleden bezig geweest met een relevant opleiding, die net binnen is.

Fragment 2

I: De volgende vragen, daar ging het over de ervaring, in eerste instantie ben ik benieuwd wat je voor dit bedrijf hebt ingevuld.

R: 25, 10 en 2,5. We hebben veel mensen aangenomen de laatste twee jaar, dat is wel zo'n 25% groei. Die mensen, daar heb ik dus 25% neergezet. Ik heb even gewoon bedacht, hoeveel mensen hebben we aangenomen en wat is ongeveer verschoven en ik denk dat 10% hier langer dan 20 jaar werkt. Welke percentage heeft afgelopen jaar de organisatie verlaten, 2,5%, die kun je aardig snel boven water krijgen.

I: Als je naar deze vragen kijkt. De eerste vraag heb je gekeken naar de mensen die je de afgelopen jaren hebt aangenomen en de tweede vraag hoe ben je dan aan het getal gekomen van percentage mensen die meer dan 20 jaar werkervaring hebben?

R: Daar heb ik niet mijn salarissysteem geopend en een rapport gedraaid, dat had ik kunnen doen maar daar had ik geen tijd voor, dus ik heb het op mijn gevoel gedaan. Ik had dat een onderzoek kunnen doen, dan had ik dat wel in beeld kunnen krijgen.

Fragment 3

I: Ja precies. In die andere vraag komt u dus op een lager percentage.

R: Ja dat zijn mensen die vast zitten, al heel lang dezelfde functie hebben, omdat ik 1 of 2 mensen kon bedenken die dat betrof.

I: Ja, maar ik begrijp dat mensen hier altijd wel door groeien.

R: Nou ja een zeer groot gedeelte, er zijn best wel een groep jongen die meer dan 10 jaar hoofdmonteur zijn, maar meer dan 20 ja dat is echt een gigantische periodes.

Welk percentage van de werknemers heeft het afgelopen jaar de organisatie verlaten?/ Geef voor de volgende drie opleidingsgroepen aan welk percentage het afgelopen jaar de organisatie heeft verlaten (Lager dan MBO 2/ HAVO/ VWO, MBO 2-4/ HAVO/ VWO, HBO/ WO).

Fragment 1

I: Welk percentages heeft van de verschillende opleidingsgroepen heeft de organisatie verlaten?

R: We hebben daar een schatting van gemaakt.

I: Hoe zeker bent u daarvan?

R: Dat is nauwkeurig aan te geven. Nu hebben we daar iets globaler naar gekeken.

Fragment 2

R: Toevallig hebben we dit jaar een reorganisatie gehad dus er was dit jaar een groot percentage wat de organisatie heeft verlaten. Dat is niet heel representatief.

Fragment 3

I: Dan het verloop.

R2: Dat is ook een makkelijke.

R1: Dan moet je verschil maken tussen gedwongen verloop en vrijwillig verloop. Wij hebben te maken met reorganisaties en dan vallen arbeidsplaatsen weg, dat is ook een soort verloop, maar niet omdat mensen graag ergens anders gaan werken. Je hebt ook verloop van ik vind het hier niet leuk meer, ik kan me niet verder ontwikkelen .

I: Ik begrijp dat u een verschil tussen gedwongen en ongedwongen verloop zou willen maken.

R1: Ja we hebben bijna niemand die vrijwillig weggaat. Vorig jaar hadden we er één of dit jaar. We zijn weer zoveel fte's gedaald vanaf 1 januari.

I: Hier werd nog qua opleidingsniveau een onderscheid gemaakt. Ik weet niet of dat relevant was.

R1: Dat denk ik wel. Want dat zou ik interessante informatie vinden. Kan het wel een beetje uittekenen, dan krijg je het weer een beetje bevestigd van is het verloop nu groter voor mensen met een hogere opleiding dan mensen met een lage opleiding. Dat is wel interessante informatie.

R3: Dat is een risico, als je het gaat hebben over knelpunten kwalitatief, kwantitatief. Het verloop onder hoogopgeleiden is hoger, terwijl het aanbod onder hogeropgeleiden drastisch terugloopt, dan hebben we het over een kneiter van een probleem.

Fragment 4

I: Als kijkt naar het percentage wat de organisatie verlaat, zou u het dan relevant vinden als er een onderscheid tussen gedwongen en ongedwongen vertrek wordt gemaakt. Ik weet niet of dan überhaupt gemaakt kan worden.

R: Nee, dat zou ik niet echt relevant vinden.

I: Nee ok, dan wordt er ook een onderscheid gemaakt voor de verschillende opleidingsgroepen. Kunt u dat ook maken?

R: Het merendeel zit in de tweede categorie.

I: Ok daar zitten de meesten, dat hoeft niet perse uitgerekend worden. Om op die vraag terug te komen. U heeft u zelf wel een beeld In welke categorie welke mensen zitten?

R: Ja.

Fragment 5

I: Zou het dan nog relevant zijn om een onderscheid te maken tussen gedwongen en ongedwongen verloop.

R: In zijn algemeenheid vind ik dat als P&O-er wel interessant, gewenste uitstroom, al dan niet gewenste uitstroom, dat maakt bij ons nog wel uit als ik de uitstapcijfers uitleg, we hebben een aantal jongens die een tijdelijk contract hebben die je niet wil verleggen, omdat ze niet goed genoeg bevallen dat is eigenlijk wat je eigenlijk beoogt door middel van dat tijdelijke contract en er zijn jongens die uitstromen waar je flink spijt van hebt, dat is een ander gevoel.

I: Dan werd er nog een onderscheid in opleidingsgroepen, ik weet niet of u dat kon doen?

R: Dat vond ik, ik heb drie keer 5 neer gezet, dat kon ik niet zo eenvoudig doen, ik heb de lijst bekeken. We hebben klein clubje vertrekkende, we hebben van alles wat.

I: Het is niet zo dat één groep eruit springt.

Vragen over vacatures

Fragment 1

I: Dan werden er nog een aantal vragen over de vacatures gesteld.

R: Ik moet wel zeggen dat we daar niet. Je denkt daar al gauw aan de vacatures die je extern openzet. Later gingen we tellen. Hé hoeveel mensen hebben er eigenlijk een andere functie gekregen of een promotie dat is eigenlijk ook vaak omdat er een interne vacature is. Als ik dit optel kom ik op een hoger aantal uit dan wat we hier aan aantal vacatures hebben gemeld.

I: Misschien is het dus nog had om een onderscheid tussen intern en extern te maken?

R: Ja. Want toen we hier kwamen bij de vragen verderop. Eigenlijk zijn het natuurlijk ook gewoon vacatures.

I: Dus bij deze vraag heeft u meer naar extern gekeken in plaats van naar beide.

R: Ja

Fragment 2

I: En vervuld. Zou het ook interessant zijn als er een onderscheid tussen interne en externe vacatures wordt gemaakt?

R: Bij ons begint iedere vacature intern, dus die komt intern aan de borden en als we daar niet kunnen voorzien dan gaat die naar extern. Ja, dus uiteindelijk heb je een aantal interne invullingen en een aantal externe invullingen. Daar komt het eigenlijk op neer.

Fragment 3

I: Ik weet niet hoe je jullie vacatures proberen in te vullen.

R: We proberen eerst intern de vacatures in te vullen. De vacature staat gewoon open, je probeert hem eerst intern in te vullen, lukt dat niet dan ga je extern werven.

I: Dan is misschien een relevante vraag, hoeveel vacatures stonden er open en hoeveel waren daarvan extern.

R: Ik zal dan eerder de vraag stellen hoeveel vacatures zijn er intern en extern ingevuld.

Fragment 4

I: Dan twaalf het aantal vacatures, hoeveel openstaande vacatures waren er afgelopen jaar.

R: Dat vind ik een lastige, ik koppel dat aan de instroom die we hebben, dat is niet terecht, daarom heb ik hem plus 1 gedaan. Ik heb niet altijd zicht, op onze website staan onze vacatures op, maar op sommige vacatures nemen wij wel drie of vier man aan, dus rond hem nu naar boven af, misschien had ik hem wel naar beneden kunnen afronden. Eén vacature worden soms wel vijf mensen op aangenomen. De functie leerling monteur bij ons, daar stromen er elk jaar wel een hand vol jongens van in die op die functie binnenkomen. Eigenlijk is het een vacature en dan 5 keer. Eigenlijk heb je 5 keer een vacature voor een leerling monteur, zo werven wij niet, wij werven gewoon met een blijvende vacature voor een leerling monteur.

(...)

I: Dat is duidelijk, even kijken, je hebt hier dan openstaande vacatures, ik weet niet of u een andere relevant onderscheid maakt, bijvoorbeeld, soms zie je intern extern, ik weet niet of dit van toepassing is voor dit bedrijf.

R: Wat bedoel je met intern extern?

I: Dat ze bijvoorbeeld, dat is dan vooral voor de hogere functies, dat is dat intern iemand de functie over neemt.

R: O zo.

I: Ik weet niet of dat hier ook relevant is, of jullie daar ook naar kijken.

R: Wij hebben wel doorstroom in de organisatie, maar die vallen bij ons nooit onder de groep vacatures.

I: Nee ok zo kijkt u er hier niet tegen aan.

R: Vacature is bij ons wat we binnen niet geregeld kijken en wat we dus extern gaan zoeken. Dat is misschien niet helemaal terecht eigenlijk, want je hebt af en toe vacatures die nooit extern hoeven, omdat je intern als tot je kandidaat komt, heel formeel is er wel een vacature geweest.

I: Maar dat wordt niet echt bijgehouden.

R: Nee.

Hoeveel werknemers hebben het afgelopen jaar een andere functie gekregen?/ Hoeveel werknemers zijn het afgelopen jaar gepromoveerd naar een andere functie?

Fragment 1

R: Wat is eigenlijk het verschil tussen gepromoveerd naar een andere functie en hebben een andere functie gekregen?

Fragment 2

R: Ja want hier komt. Hoeveel mensen hebben we eigenlijk aangenomen, toen kwamen we op acht, maar er zijn ook wel mensen die binnen het bedrijf een andere functie hebben gehad. Bij een deel was het ook echt een promotie. Mensen die van bijvoorbeeld voorbereider, afdelingshoofd werkvoorbereiding zijn geworden.

I: Het was wel duidelijk onderscheid tussen promotie en andere functie?

R: Hierbij hebben wij dus gezegd, vier mensen hebben een andere functie gekregen en twee zijn gepromoveerd, maar dat zijn wel twee van die vier. Ik weet niet of dat de bedoeling was?

Fragment 3

R3: Bij 17, 18 wat is daar het kenmerkende verschil tussen de vragen?

I: Daar heb ik wel eerder een vraag over gekregen. Dat gaat dan mensen die naar andere functie op hetzelfde niveau gaan of een stapje omhoog gaan. Misschien dat ik die vragen meer aan elkaar moet koppelen. Hoeveel van die werknemers die een andere functie hebben gekregen zijn gepromoveerd.

R2 Promoveren in huidige organisatie is een lastig woord, aangezien organisatie steeds platter worden en kruis en dwarsverbanden zijn ook in functies, dan vind ik het moeilijk om aan dat woord een invulling te geven.

I: Want zou u dan aangeven.

R3: Als je toch een combinatie van 17 en 18 zou willen. Welke werknemers hebben een vergelijkbare functie, bredere functie of een hogere/ zwaardere functie. Dan denk ik dat je redelijk wat inzicht krijgt. Is het horizontaal verplaatsen, consolideren en verbreden van de functie, want het zegt nogal wat ook skills die mensen nodig hebben. Of is het echt hij was leider en hij wordt nu manager. Dat kan nog

steeds, hè.

R2: Dat kan.

Fragment 4

I: Dan werd er nog niets over. Dan kom je op 17, 18. Daar werd nog gevraagd hoeveel mensen een andere functie hadden gekregen en hoeveel er waren gepromoveerd, ik weet niet of daarvan duidelijk was dat de bedoeling was.

R: Of je een stap omhoog hebt gezet, zo heb ik hem gelezen.

I: Want vooral. Is het deze organisatie mogelijk om te promoveren of gaat het meer om verbreding van functies.

R: Ja hoor mensen hebben. 15 mensen zijn doorgestroomd en 5 mensen een niveau hoger.

I: Dus er wordt wel duidelijk een verschil tussen niveaus gemaakt.

R: Ja en ik denk, maar er zit wel duidelijk hiërarchie in organisatie.

Fragment 5

I: Dat zit er dan wel in ja, hoeveel werknemers zijn er van buiten de organisatie aangenomen? Even kijken dan heb je 17 en 18. Daar zal ik nog wel wat over willen vragen. Hoe bent u daar aan de getallen gekomen?

R: Dat zit in mijn kop. Ik ga gewoon na wat er bewogen heeft, dat zit niet in een systeem. Ik zou niet zo snel weten hoe ik dat uit het systeem moet halen.

I: Was het verschil tussen vraag 17 en 18 duidelijk?

R: Ja, ja horizontale overplaatsing is wat anders dan een promotie.

Fragment 6

I: En dan hoeveel werknemers hebben een andere functie gekregen, ik weet niet of u dat heb kunnen invullen?

R: Die heb ik kunnen invullen ja. Het is een aanname geweest, ik vond 17 en 18 en die komen later nog een keer terug, zijn voor mij dezelfde vragen. Ik snap wel wat je daar mee bedoelt, het verschil is waarschijnlijk mensen die demotie hebben gehad.

I: Of iemand die gewoon op hetzelfde niveau is gebleven maar een andere functie heeft gekregen. Bij andere organisatie, misschien dat het bij deze organisatie niet voortkomt.

R: Bij ons heb je heel specifiek dat je een bepaald vakgebied leert en daar groei je in door, bij ons is het redelijk onduidelijk om horizontaal over te stappen.

Vragen over de flexibele schil

Fragment 1

I: Welk percentage van het totale aantal werkuren is ingevuld door mensen van uitzendbureaus?

R: Die is voor ons heel lastig. Wij worstelen zelf om in kaart te krijgen wat er aan flexibele schil is. Praat je dan alleen over uitzendbureaus. We hebben verschillende manieren inhuur. Contractors, ZZP-ers.

Vandaag hebben we ze nodig en morgen niet meer. We hebben een loonwerkersbedrijf die vast werk heeft en mensen voor aanvullende werkzaamheden levert. Dat is ook inhuur en geen uitzendbureau.

Voor ons is het een lastige. Het is een inschatting.

Ik zit ook met het totale aantal werkuren. Dat is ook iets wat we niet standaard in beeld hebben.

(...)

R: Het begrip freelancers was niet duidelijk wat daar meer bedoeld wordt.

Fragment 2

I: Dan waren er nog een aantal vragen dat ging over tijdelijke contracten, freelancers, parttimers en als laatste gemiddelde leeftijd. Dan zou ik met de eerste vraag daarvan willen beginnen. Vraag 19 was dat in te vullen.

R: Ja hoor.

I: Dat is gewoon uit het systeem gehaald.

R: Ja dat is gewoon uit het systeem op te halen. Welk percentage van het totaal aantal uren is ingevuld door mensen van uitzendbureaus? Die vond ik even iets lastiger, want wij werken ook met inleenorganisatie en ik zag laatst, de vraag van freelancer langskomen, freelancers is ook een lastig begrip. Wij hebben afspraken met organisatie, dat zijn geen uitzendbureaus, dat zijn detacheerders dat zijn mensen ze in dienst hebben en die dan hier tijdelijk werk hebben. Als wij een piek hebben, wij willen ook niet iedereen in dienst nemen, voor die piek huren we een aantal mensen extra in. Ik heb inclusief vaste inleen gedaan, dan kom ik op 30000 uur.

I: Dan is het misschien een interessant onderscheid tussen uitzendbureaus en detacheringbureaus.

R: Ja en dan moet je heel goed definiëren. (...) Of je moet op één hoop gooien of je moet het.

(...)

R: Een freelancer is dat een ZZP-er want bedrijven denken hoeveel ZZP-ers huren we in, zelfstandigen die voor zich zelf als het ware aannemer zijn en die de pui komen vervangen, bedoel je dat, of bedoel je een ZZP-er die robotprogrammeur is voor zichzelf en die hier vier dagen in de week robots komt programmeren. (...) Je moet goed kijken naar die begrippen. Daar vond ik het lastiger, dus ik heb die freelancers ook niet de loonkosten kunnen invullen.

I: Maar jij denkt dat als je een onderscheid zou maken dat je dan zeg maar van die groepen mensen die worden ingehuurd dat het interessant is om te kijken naar mensen die hier voor het primaire proces worden ingehuurd of die voor randtaken, of inderdaad misschien de pui of andere losse werkzaamheden worden ingehuurd.

R: Ja dat de flexibiliteit, waar je dus naar op zoek bent. Hoe flexibel is je organisatie, wij sturen op 20%. Dit jaar komen we al op 30% uit. Dat zal bij andere organisatie verschillende zijn. Wat is flexibiliteit. Dus flexibiliteit in de capaciteitsvraag. Je krijgt u zoveel orders, stel dat er 10% bij komt kun je dat nog opvangen of 20%. Wat is jou flexibiliteit, daar zal je het op moeten vragen. Ik denk dat je ook niet specifiek op die loonkosten voor freelancers moet inzoomen. Ik denk dat het slimmer is om in te zoomen op totale outsourced work, uitbesteed werk aan personen, derden. Werk wat je zelf had kunnen doen maar wat je door anderen hebt laten doen.

I: Dan kom je op het aantal werkuren uit.

R: Ja dat heb ik hier.

I: Daar is op zich wel inschatting van te maken? Hoeveel van het aantal werkuren is door die freelancers.

R: Ja een inschatting valt te maken, ik zelf heb daar geen moeite mee als dat ook even ongeveer is.

Fragment 3

R: Freelancers is ook zo'n term. Daar zou je even heel goed moet nadenken, je bedoelt eigenlijk iedereen die niet op de loonlijst staat of via een uitzendbureau of via een detacheringcontract, dat is

eigenlijk, dat kunnen ook freelancers zijn, dat kunnen ook ZZP-ers zijn. Dat zijn verschillende. Je moet je realiseren dat freelance een deel van die groep is, voor mensen die diep in deze materie zitten dan kun je wellicht een definitie of een woord waarbij je zegt, mensen die onder een andere vorm werkzaam zijn geweest, bijvoorbeeld freelancers.

I: Dat ik bijvoorbeeld eerst de eerste vraag stel, wat is dan nog het percentage wat onder die.

R: Ja want bedoel je hieronder ook, stel je voor ik huur iemand in van Touw, ik heb bepaald stukje te doen van een R&D project met een stukje kennis over milieu en ik huur ingenieur in van Touw, die doet dat, dan is die wel bezig met ons bedrijfsproces, hij voegt daar echt uren en kennis aan toe, maar is geen freelancers want hij werkt bij Touw. Dan moet je afvragen of je die wel of niet wil meenemen.

I: Dan zou een soort overige categorie misschien handiger zijn.

R: Ja mensen die meewerken aan bedrijfsresultaat op een andere manier dan in loondienst, zoals consultants, freelancers, nou noem maar op.

Wat is de gemiddelde leeftijd van de werknemers?/ Geef de gemiddelde leeftijd aan voor de volgende opleidingsniveaus (Lager dan MBO 2/ HAVO/ VWO, MBO 2-4/ HAVO/ VWO, HBO/ WO).

Fragment 1

I: Gemiddelde leeftijd van de werknemer?

R: Dat is een standaard gegeven. Dat hebben we wel.

I: gemiddelde leeftijd van de opleidingsniveaus.

R: Is wel te doen, maar dat kregen we binnen korte tijd niet voor elkaar.

I: Is dus een lastige vraag om te beantwoorden.

R: Ja.

I: Verwacht u dat er veel verschil is tussen groepen.

R: Nee

Fragment 2

I: Dan was er nog de leeftijd van de werknemers.

R: Dat was makkelijk te genereren, maar omdat dan te verdelen over opleidingsniveaus, dat kunnen we niet.

I: Dat was te lastig?

R: Dat kunnen we niet uit cijfers halen. Dan wordt dat ook, ik denk ongeveer zoveel.

I: Daar is geen duidelijk beeld over of dat verschilt.

Fragment 3

I: Ok en had je verder nog iets toe te voegen over deze.

R: Vraag 22 (vraag over freelancers) en 24 (vraag over leeftijd) heb ik dus niet kunnen invullen. Ik dacht gemiddelde leeftijd per opleidingsniveau, dat kan ik niet zomaar uit het systeem halen. Dat komt omdat we in ons salarisadministratie hebben we leeftijd etc. staan en waar ik wel heel veel heb staan, maar daar hebben geen opleidingsniveau aan gekoppeld.

Fragment 4

I: Dan werd er nog iets over leeftijd gevraagd.

R: Dat kan ik met een lijstje en met Excel, dat heb ik in 2 stapje zo uitgerekend. Geen moeite.

Fragment 5

R: Misschien zou je het wat meer moeten uitbreiden, dat je de leeftijdsopbouw in kaart hebt, dat je een aantal categorieën hebt, dat het in categorieën in deelt, tot 40 bijvoorbeeld, tussen 40 en 45 of ouder. Of 35, 45 en 55. Het wel interessant om te weten wat voor leeftijdsopbouw je hebt. Dat geeft wel vaak aan waar je qua ontwikkeling staat als organisatie.

(...)

I: Er is hier nog een onderscheid gemaakt in opleidingsniveaus. Ik weet niet of u het relevant vindt om daar een onderscheid in te maken.

R: Misschien wel, stel dat ik HBO/ WO-ers met een gemiddelde leeftijd van 50 heb. Dan weet je dat je daar achterloopt. Ik denk dat als je leeftijdsopbouw van een bedrijf hebt dat het belangrijk is dat het bij alle drie gemiddeld is. Hoe ouder je wordt hoe meer je achter loopt met vernieuwingen. Dat is op zich wel.

Fragment 6

I: Dan waren er nog twee vragen over de werknemers.

R: Ja 23 is heel goed te doen, 24 is wel weer even een aanname.

I: Daar heeft u dus een schatting moeten maken, hoe heeft u dan die schatting gemaakt?

R: Dat niveau lager dan MBO2 zijn altijd die jonge jongens, tussen de 16 en 25 die binnen een traject bezig zijn. Daar ligt die lager dan de gemiddelde leeftijd en bij die andere ligt die dan automatisch hoger. Dat heb ik een beetje ingeschat.

Subjectieve vragen

De subjectieve vragen konden door de meeste respondenten ingevuld worden. Voor sommige vragen waren er nog wat onduidelijkheden die konden leiden tot verschillende interpretaties bij bedrijven en sommige vragen waren lastig om te beantwoorden voor bedrijven. De fragmenten die hier worden vermeld hebben betrekking op deze punten.

De werknemers in deze organisatie hebben veel relevante werkervaring in vergelijking met andere organisaties.

Fragment 1

I: Er was nog een stelling, de werknemers hebben veel relevant werkervaring in vergelijking met andere organisaties. Daar hebben we het al beetje over gehad.

R2: Wat bedoel je precies met relevante werkervaring?

R1: Voor het werk wat ze moeten doen. Ik heb vijf ingevuld en jij?

R2: Ik ben enorm heen en weer gegaan maar uiteindelijk zit ik nu op vier.

R1: Mensen bij ons hebben giga veel werkervaring. Als je 30 jaar in dienst bent en 30 jaar kranten hebt moeten drukken.

R2: Dan strand ik in vergelijking met andere organisaties. Want ja in andere organisatie doen mensen

ook hun werk.

R1: Ja dat denk ik wel. Daar heb je gelijk in. Er zullen organisatie vergelijkbaar zijn, maar wij hebben denk ik wel extreem veel ervaring, omdat al die mensen allemaal blijven hangen. Met een anciënteit van 25 tot 30 jaar dat zegt ook wel iets over werkervaring.

R3: Als we nu de vraag hadden gesteld met vergelijkbare organisatie uit de branche?

R1: Dan weer niet.

R3: Dan hadden we een drietje of een tweetje. Waar ben je naar op zoek.

Fragment 2

I: Vraag 27

R: Neutraal had ik die of eens, nou ja.

I: Kunt u dat toelichten

R: Dat heeft met name met de vergelijking met andere organisaties, dat vind ik lastig. Ik vind wel dat ze veel relevante werkervaring hebben, dan kan voor de buurman misschien nog wel beter zijn, dat weet ik eigenlijk niet, ik kan geen inschatting maken over die verhouding, terwijl ik wel veel verschillende bedrijven heb gezien in mijn leven, daar zie ik geen groot verschil, dat is toch gewoon de ervaringsleer en dat zie ik hier en dat zie ik in heel veel andere bedrijven eigenlijk ook. Dat mensen die hier tien jaar werken een bepaalde.

I: Als er nou stond in vergelijking met vergelijkbare organisatie of in dezelfde branche?

R: Dat is voor mij lastig, dat is omdat we redelijke uniek zijn in wat we aan het doen zijn.

I: Dus dat zou ook niet zo opschieten.

R: Voor ons niet in ieder geval. Ik heb papierindustrie gewerkt hier in Eerbeek en daar zou ik absoluut wel een mening hebben. Dan heb je gewoon peers in de buurt, waarbij je dan ook wel iets van weet.

I: Voor zo'n bedrijf als dit is het lastig om te beantwoorden.

R: Voor ons toevallig wel.

Het verloop van het personeel in onze organisatie is heel laag.

Fragment 1

R: Dat wij daarop selecteren of veel aandacht voor hebben, nee. Los van, de volgende vraag het verloop is laag, los van de reorganisatie. Dat is een ander verhaal, dat is gedwongen verloop, dat is dan dit jaar toevallig geweest, maar als je verder kijkt naar ons personeelsbestand, dan zitten mensen hier wel lang.

Fragment 2

I: Het verloop van personeel.

R1: Daar had ik een vier ingevuld.

R2: Dat is de eerste waar we het over eens zijn.

R1: Dan ook weer verloop, dan bedoelen wij vrijwillig verloop. Want gedwongen verloop hebben we behoorlijk fors gehad het afgelopen jaar.

I: Dan zou je dus eigenlijk moeten zeggen het vrijwillig verloop.

R1: We zijn in 10 jaar tijd van 1000 medewerkers naar 30 medewerkers gegaan.

R2: Dan wordt die net wat specifiekere ja.

Fragment 3

I: Het verloop in onze organisatie is heel laag.

R: Normaal gesproken wel alleen wij zitten al een tijdje in een dip dan zie je meer verloop maar ook gedwongen dat je afscheid moet nemen van mensen, als wij in goede conditie zijn een aantal jaren terug, dan is het verloop heel laag.

Onze organisatie trekt voldoende mensen aan met de juiste opleiding, vaardigheden en mogelijkheden.

I: Dan de volgende vraag. Onze organisatie trekt voldoende mensen aan met de juiste opleiding, vaardigheden en mogelijkheden.

R: Ja maar is dat altijd makkelijk, nee. We trekken wel voldoende mensen aan, eens.

I: Je zegt wel het is niet altijd makkelijk, kun je dat toelichten?

R: Ja je hebt gewoon functies waar je zulke specifieke vaardigheden zoekt. Ik zoek hier een lasdeskundige. Die hebben wel lang gezocht. Een lasdeskundige is heel specifieke functie, waar je iemand zoekt die ervaring heeft die ervaring heeft met het lassen die daar een hoger opleiding in heeft gevolgd en die hands-on de praktijk aan de slag kan gaan, want gebeurd er, als er een materiaal of verschillende soorten materiaal aan elkaar moeten worden verbonden in een automatische omgeving, dan gaat er daar wat gebeuren dan ontstaat er proces wat niet voorspelbaar is van de tevoren, dan moet je terplekke parameters gaan bijstellen, er moet iemand bijzijn die hoger denkniveau heeft, die ervaring heeft. Die mensen haal je niet zomaar uit de markt. Dus die moet je voor een deel zelf opleiden. Want ook misschien een interessante vraag is die daaronder valt, in hoeverre moet je mensen die je aanneemt nog zelf opleiden. Voor hoeveel procent van de functies moet je mensen nog zelf gaan opleiden. Je neemt ze wel aan maar je moet ze toch nog opleiden voordat ze het vak kunnen. Daar zou ik wel interesse in hebben.

I: Dan ook om te kijken hoeveel tijd daar inzit.

R: Aan de andere kant vind ik kunnen wij als werkgever in de techniek zeggen. In de techniek zijn er hard mensen nodig, ik kan de juiste persoon niet vinden kan ik aan de ene kant zeggen, aan de andere kant moet ik ook zeggen als iemand gewoon de basisattitude heeft en aan een aantal voorwaarden voldoet dan kunnen we het wel met elkaar gaan proberen, dan gaan wij het opleidingstraject bieden zodat iemand het kan.

Onze werknemers kunnen voor verschillende functies in de organisatie worden ingezet.

Fragment 1

Vraag 30, onze werknemers kunnen voor verschillende functies in de organisatie worden ingezet.

R: Vind ik moeilijk te beantwoorden. Dan moet je goed definiëren maar het zou interessant zijn om daar een richtgetal neer te zetten. Zoveel procent van de medewerkers in de uitvoering, dat maakt het iets specifieker kunnen ook flexibel worden ingezet. Deze vind ik te grof, de directeur kan misschien ook wel mijn werk doen maar of dat wenselijk is, dat is niet wat je zoekt. Ik zou de vraag beperken tot de uitvoering. Ik zeg nu op dit moment prima maar in de uitvoering zie daar wel een uitdaging voor ons naar de toekomst. De organisatie groeit, dan gaan mensen steeds meer specialistischere functie krijgen. Iemand doet een stukje daarvan en iemand daar, allemaal kleine puzzelstukjes en dan kun je het bij

elkaar, maar je kunt mensen ook gewoon meer leren. Dat ze beide kennen.

I: Je zegt in de uitvoering dan bedoel je.

R: In de praktijk. Je hebt zeg maar niet de leidinggevende functies maar de uitvoerende functies.

I: je bedoelt als iemand iets bij een machine doet dat hij ook andere taken van zijn collega kan overnemen.

R: Ja daar wil het van zien, daar wil ik een beeld van hebben hoe dat in de praktijk waar mensen werken aan onze projecten, waar een projectleider is, monteur, ingenieur, programmeur in hoeverre zijn ze in staat om verschillende werkzaamheden van elkaar over te nemen. Dat maakt ook als je een dip krijgt dat je ook kan schuiven. Dat betekent ook dat iemand het vak van de ander ook beter kent als die het ook kan en kan die daar ook beter mee samenwerken.

I: Dan zou het misschien ook interessant zijn om te kijken om hoe makkelijke, als iemand uitvalt, hoe makkelijk dat door iemand overgenomen kan worden.

R: Ja

I: Als je dan toch naar flexibiliteit kijkt. Ik weet niet of daarvan sprake is. Het kan natuurlijk zijn als je een ander soort klant krijgt dat je andere mensen veel meer nodig hebt en dat je daar een soort flexibiliteit voor nodig hebt.

R: Wat je ook wellicht, je kunt zeggen. Er zijn bijvoorbeeld regels in organisatie dat je voor elk persoon. Elke persoon moet minstens drie taken kunnen, maar elke taak moet door twee personen worden gedaan. Dat je dat soort afspraken hebt, de dekkingsgraad over, hoeveel taken zijn dubbel afgedekt als het ware. Dat is ook een of misschien moet je zeggen hoeveel kritische functies heeft u in uw organisatie. Dan moet je even definitie van kritische functies helder maken. Ik denk dat veel organisatie daar wel een uitdaging in hebben met kritische functies er zijn een aantal mensen die altijd wel heel belangrijk zijn. Dus als er echt iets is bij de klant dan moeten die erbij. Hoeveel mensen dat, hoe kun je dat zo definiëren dat iedereen die vraag oppakt. Ik zou dat wel interessant vinden. Dan moet ik er zelf ook over nadenken, maar ik zou daar best een telling van kunnen maken. Je mag kritische functies hebben, dat is niet verkeerd. Maar je moet het wel in beeld hebben en dat moet je wel managen.

Fragment 2

I: Dat was die vraag. Dan, onze werknemers kunnen voor verschillende functie in de organisatie worden ingezet. Hoe kijkt u daar tegen aan.

R: Ja dat is wel aan de orde.

I: Doet u daar zelf ook iets aan om mensen flexibel in te zetten?

R: Niet eens als doel op zich, maar we hebben wel bijvoorbeeld als wij iets veranderen in de organisatie, dan moet het wel heel gek worden willen we de mensen niet mee nemen. Kortom, we verzinnen gewoon iets waardoor mensen binnen blijven, omdat we vinden dat de organisatie moet verbeteren en ontwikkelen, maar daar moet je de mensen niet het slachtoffer van laten worden. Dus in de praktijk werkt dat iedere keer weer, verzinnen we iets waardoor het en beter wordt en mensen gewoon meekunnen. Dat doen we goed.

I: U zorgt zoals ik begrijp, zegt u dat u zorgt dat mensen in de organisatie blijven.

R: Ja.

I: Dat er niet mensen wegmoeten en dan weer andere aangenomen moeten worden.

R: Dat kan een enkele keer het geval zijn. We hebben nu de organisatiewijziging, van de zes functie die

wijzigen, weten we vijf direct te herplaatsen op allemaal andere functies, dat is redelijk succesvol, eentje niet.

Onze flexibele schil is relatief groot in vergelijking met andere organisaties.

Fragment 1

I: De volgende vraag. Onze flexibele schil is relatief groot in vergelijking met andere organisaties.

R: Daar hadden we een discussie over met mijn collega. Ik hield het neutraal en zij was het er oneens mee. Zij vindt dus dat we een kleine flexibele schil hebben. Ik kan het niet voldoende vergelijken met andere organisaties.

I: Hoe zeker bent dan van uw antwoord en of dat van haar dan wel of niet juist is?

R: Dat hangt ervan af in welke hoek je de flexibele schil wil onderverdelen. Zijn het uitzendbureaus, dan zijn wel heel klein. In zijn totaliteit dan kan ik het niet voldoende vergelijken met andere organisaties.

Fragment 2

I: U had neutraal gezet bij de flexibele schil, kunt u dat beargumenteren.

R: Nee dat heb ik, de flexibele schil is relatief groot in vergelijking met andere organisaties, ja. Dat hebben wij dus niet.

I: Kunt u uitleggen hoe u de vraag heeft geïnterpreteerd?

R: Hij is niet, ten opzichte van een groot bedrijf. Als wij hier een. Als iemand plotseling weg zou gaan, dan. Als de zinkvonker weg zou gaan, dan heb ik wel een continuïteitsprobleem op dit moment.

I: Daarom heeft u oneens ingevuld.

R: Nou kan mijn collega wel zinkvonken. De standaard dingen, maar niet het specialisme waaraan geld verdiend wordt. In dat opzicht is, ten opzichte van andere organisaties denk ik dat die niet zo groot is. Daarom wil ik ook de vacature slijper ingevuld hebben, zodat we wat meer kunnen rouleren en ook elkaar kunnen leren.

Fragment 3

I: Waarom vindt u het dan wel een vier?

R: Ja misschien is het ook meer. Ik moet je eerlijk zeggen, ik heb de cijfers niet voor handen. We hebben hier een groot bedrijf Johma, ik heb geen flauw idee wat hun percentage uitzendkrachten is.

Gevoelsmatig vind ik op een bedrijf van 200 mensen. Nu zij het wat minder, maar we hebben tijden dat er 50 uitzendkrachten zijn. Dat vind ik wel heel veel.

Fragment 4

I: Onze flexibele schil is relatief groot in vergelijking met andere organisatie.

R: Ja

I: Kunt u dat toelichten.

R: We hebben continu en heel bewust een flexibele schil tussen de 10 en 15%. Er zijn organisatie die hebben een grotere flexibele schil, maar de meeste lukt dat niet omdat te houden, de meeste groeien zo zachtjes aan, heb je iemand drie jaar via het uitzendbureau en dan komt de vraag neem ik hem aan of niet, dan heb je daar drie jaar energie in gestoken, dat kan hij en of dan kan hij het niet, dan moet je een

beslissing nemen. Heel vaak slibben organisatie toch weer dicht naar volledige mensen op de payroll, wij houden dat gemiddeld drie jaar succesvol vast.

I: Hoe proberen jullie dat dan te doen?

R: Door echt heel kritisch te zijn voordat je iemand aanneemt, dus als iemand gewoon lekker mee produceert dan is dat niet voldoende, wij zoeken alleen nog maar mensen van waar wij nu weten dat die straks alle apparatuur succesvol kunnen draaien. We leggen de lat daar heel hoog.

Fragment 5

I: Onze flexibele schil is relatief groot in vergelijking met andere organisatie.

R: Ik denk dat die relatief groot is, omdat wel relatief veel mensen hebben met een tijdelijk dienstverband.

De leeftijd van onze werknemers is relatief hoog.

R: Ik vind hem goed in verhouding tot vraag die gesteld hebt, ik zeg oneens. Je begrijpt met 39,4.

I: In combinatie met die andere (objectieve vraag over leeftijd), zou dat een goede combinatie zijn om te kijken, om deze vraag er dan bij te stellen.

R: Ja, dat geeft dat ik er een oordeel aan geef. Voor jouw als onderzoeker is dat fijn denk ik.

I: Als iemand hier bijvoorbeeld zegt helemaal een oneens en hij geeft aan dat gemiddelde leeftijd is 50. Dat zou kunnen in bepaalde industrieën. Dat zou je wat minder zwaar moeten meenemen in een rapport.

R: Jo zoiets, aan de andere kant is het de mening van die persoon.

I: Ja.

R: Ik druk daar mee uit hoe relevant ik het vind. Ik zeg nu de leeftijd is relatief hoog, oneens, dan weet je.

I: Ja precies, of zou je zeggen is relatief hoog in vergelijking met andere bedrijven in onze branche.

R: Ja zoiets.

Vragen over de bekwaamheid, vaardigheid en creativiteit van de werknemers

Fragment 1

I: Dan de volgende vraag. De werknemers zijn zeer bekwaam in hun functie.

R: Dat kan een verschil van interpretatie van mij en mijn collega zijn. Zij is het er mee oneens en ik ben het ermee eens. Dat is lastige.

I: Als u zelf een afweging moet maken.

R: Ik was daar duidelijk in. Ze zijn zeer bekwaam.

I: Dat is uw mening?

R: Ja, mijn collega is hier nog niet zo lang. Die heeft daar een wat frissere kijk op. Een ander beeld blijktbaar.

I: Jullie hebben het erover gehad?

R: We hebben het erover gehad, maar daarover zijn we het niet direct eens met elkaar geworden.

I: Had u collega nog aangegeven waarom zij het er niet mee eens was?

R: Dat zit hem meer op competenties vast. Waarvan zij denkt, daar mis ik links en recht wat van. Ik

vertaal dat een andere manier. Zij vertaalt het was ruimer als ik. Ze is strikter naar de taken en verantwoordelijkheden. Dan benader ik het was anders dan zij het wat in een breder perspectief trekt.

I: De volgende vraag. De werknemers in deze organisatie worden in hun bedrijf als competent beschouwd.

R: Ook daar hebben we een klein meningsverschil. Dat komt voort uit de voorgaande vragen.

I: Daar geldt dus hetzelfde?

(...)

I: Dan de volgende vraag. De medewerkers zijn experts in hun functie.

R: Dat gaat weer terug op vraag 33 en 34, bekwaam en als competent beschouwd worden. Als je kijkt naar de specifieke kennis die we hebben, dan zijn we expert. Mijn collega zegt neutraal. Er zijn onlangs wat dingen gebeurd die niet hadden hoeven te gebeuren. Ze zijn toch gebeurd. Dan krijg je daar een beetje een discussie over. Overall, zal ik meer neigen naar ja.

Fragment 2

I: De werknemers in deze organisatie zijn creatief en slim.

R: Neutraal zeg ik, dat zijn ze wel. Dat vind ik heel moeilijk te meten. Dat is wel heel belangrijk, dat realiseer ik me, maar zijn ze meer of minder dan andere, dat weet ik niet zo goed.

I: Wordt dat hier ook op een bepaalde manier gestimuleerd?

R: Jazeker maar de praktijk leert dat degene die het verschil maken, dat zijn er een stuk of vijf of zes in de hele organisatie en die maken ook echt verschil. Die zitten ook op beeldbepalende plekken. Die woorden komen vaak in onze mond in de zin van, kom op dit is echt zo'n standaard oplossing heb je daar nou echt het onderste uit de kan te pakken, dus hup terug, ga daar maar nog eens goed over nadenken. We drukken mensen, als ze met een verhaal komen zal ik zo maar zeggen, maakt niet uit wat, iemand doet een voorstel dan wordt het op voorhand echt gechallenged, waarom kom je tot dit voorstel waar heb je allemaal naar gekeken, waarom heb je dit niet meegenomen, is het relevant of niet relevant voor jou, op het moment dat we de indruk krijgen van hé verrek hier is nog niet volledig over nagedacht nodigen we de persoon uit van joh dat daar toch nog maar eens een paar dagen op zitten broeden om te kijken of je echt the rock bottom aan mogelijkheden hebt onderzocht. Dat zit er wel in.

Fragment 3

I: De werknemers in deze organisatie worden in hun bedrijfstak als competent beschouwd. Ik weet niet of u daar mening over kan geven?

R: Waar kun je dat aan afspiegelen, waar kun je dat aan koppelen.

I: Hier staat de bedrijfstak, ik weet niet of u een beetje vergelijkbare bedrijven kent.

R: Ik ken wel vergelijkbare bedrijven, maar ik heb geen idee, stel er gaan vijf man van ons tijdelijk bij een concullega gaan werken. Dan weet ik niet hoe ze reageren van goh ze zijn dik tevreden. Dat weet ik niet.

I: U kunt niet inschatten of de werknemers hier beter ontwikkeld worden of hier betere werknemers worden aangenomen?

R: Nee, ik zou hier voor de drie gaan denk ik.

I: Dat kunt u voor uzelf niet beantwoorden?

R: Nee.

Strategic part of the human capital scan

Het identificeren van belangrijkste werknemers voor het strategische gedeelte van de human capital scan was op één na voor meeste bedrijven mogelijk. Het gespreksfragment dat hierover gaat is hieronder toegevoegd. Zij gaven aan dat zij zich meer op de vervangbaarheid van de medewerkers wilden richten. Het daaropvolgende fragment is een voorbeeld van een bedrijf wat het daar niet mee eens is.

Fragment 1

R3: Wat heb jij opgeschreven bij belangrijkste werknemers.

R2: Ik heb daar niks opgeschreven. Ik de neiging om mensen op de vloer neer te zetten.

I: Als jullie naar dit verhaal zouden kijken, wat vindt u daarvan?

R2: Ik vind dat wel een hele lastige. Dat kun je bijna niet.

R1: Iedereen is belangrijk.

R2: De één kan niet zonder de ander, ik heb daar niet zo heel veel. Ik vind het lastig om te rangschikken wat de waarde van Emiel is ten opzichte van de drukker. De één kan niet zonder de ander.

I: Voor jullie is het dus moeilijk om te zeggen, één groep is echt het belangrijkste waar wij ons het meeste op zouden willen richten.

R2: Overall bouw je een organisatie zo dat dat altijd met elkaar in verhouding komt.

R1: Je zou het meer moeten aanvliegen uit het oogpunt van vervangbaarheid. Je hebt functie die makkelijk te vervangen zijn en die moeilijk te vervangen zijn. Iemand bij ons in de nabewerking, die pakken moeten stapelen, dingen moet tellen of whatever ja als die uitvalt dan heb je dezelfde dag een uitzendkracht die na een korte opleiding hetzelfde werk kan doen. Als er morgen een TD-er vertrekt, dan hebben we wel een groot probleem. Dan hebben we een gat in de bezetting. Dan moet het onderhoud om laag van het storingsapparaat en dat hebben we overmorgen niet zomaar ingevuld. Zo zal je hem aan kunnen vliegen. Belangrijke werknemers zijn werknemers die moeilijk te vervangen zijn waarvoor je niet snel een ander hebt, welke functies zijn dat.

I: Zouden jullie het zo aanpakken naar welke, als er werknemers vertrekken welke voor de organisatie het moeilijkst weer zijn aan te trekken. Op die werknemers zou het dan interessant zijn om verder te gaan.

R2/ R1: Ja

R3: Daar ben ik het mee eens.

R1: Bij softwarebedrijven zullen dat echt de goede programmeurs zijn. Die al jaren mee werken aan de ontwikkeling van een product. Als die zeggen ik ga naar de concurrent, de groeten dan heb je een probleem en zo hebben wij TD-ers ook ervaren drukkers dan heb je ook een probleem als die vertrekken.

R3: Als je hem opbouwt vanuit de strategie daar doel je hier op. Wat is je core business en wat is dan je strategie omdat zo goed mogelijk te doen en wie heb je dan het hardst nodig. Daar is wel een antwoord op te geven als je een enkelvoudig proces hebt, zeg maar ingenieursbureau, die hebben ingenieurs nodig, dat is heel simpel, maar als jij een compleet bedrijf hebt dan wordt dat verrekke lastig daar heeft Andre gelijk in. Er zit een balans tussen alle functie en vanuit de strategie kun je niet zeggen, hé Emiel heb je meer nodig dan een paar goed drukker die het elke dag gewoon doen, geen idee. Vanuit de noodzaak van vervangbaarheid is volgens mij een betere invalshoek.

I: Dan zou je ook meteen de werknemers hebben waar eventuele knelpunten zouden ontstaan.

R3: Ja.

I: Dan wordt het ook meer gekoppeld aan het doel van het instrument?

R3: Ja.

Fragment 2

R: Ik kan wel invullen welke werknemers het meest belangrijk, welke werknemers zijn in uw organisatie de belangrijkste werknemers daar een rijtje neerzetten, waarvan ik zeg, die vind ik key. Technische verkopers, dat kan ik wel, dan vertaal ik het ook wel vanuit onze strategie, waar wil je heen. Dan heb ik ook wel. Commissioning engineers, die zijn belangrijk om machines in bedrijf te stellen. Die worden alleen nog maar belangrijker naar de toekomst. Programmeurs, Mechanical and electrical engineers, dan ook nog R&D engineers en ik zij ook welding engineers, dus heel specifiek, procestechnoloog. Daar heb ik wel over nagedacht. Daarom kan ik deze ook zo opschrijven, want ik weet naar de toekomst toe wat kritische functies zijn.

I: Ik zie dat het een lijstje is, vooral bij zo'n wat groter bedrijf.

R: Ja, ik zie wel, je vraagstelling het zijn allemaal ingenieurs maar ze hebben niet allemaal dezelfde opleiding, ze hebben ook niet allemaal dezelfde competentiepakketje bij zich. Ze zouden ook niet voor dezelfde functie in aanmerking kunnen komen. Sterker nog, de één kan alleen maar voor die functie in aanmerking komen, met dat pakket dat die bij zich heeft en de ander. Ik denk de vraagstelling, dat ben ik met je eens, dat vind ik lastig voor ons, maar ik weet wel als ik naar mijn strategie kijk wat ik nodig heb naar de toekomst.

I: Op zich is dit wel te beantwoorden.

R: Dan zou ik de vraagstelling iets anders doen. Meer, wat is strategisch voor u belangrijk? Welke, wat is dan belangrijk voor welke, wat zijn dan belangrijkste werknemers voor toekomst?

I: Een ander bedrijf gaf aan dat ze in plaats van de strategie liever naar de vervangbaarheid keken. Dat ze wilde kijken, als die persoon weggaat, die is zo moeilijk te vervangen.

R: Ik kijk wel naar mijn strategie. Wij hebben wel een strategisch plan, een beeld van waar het heen moet. Daarvanuit wordt het organisatie jaarplan elke keer weer gemaakt. Dan is dit ook heel belangrijk, volgend jaar ga ik opnieuw meer dan 20 mensen werven. Daar zitten deze mensen bij. Allemaal.

I: Dus je denkt als je daar naar kijkt, dan is de strategie toch relevanter dan de vervangbaarheid, als je er een mening over zou moeten geven.

R: Dat denk ik wel, als ik de vervangbaarheid ga beoordelen. Dan kan ik zeggen, dan is die man in het magazijn wel heel belangrijk, hij doet echt hele belangrijke dingen in deze organisatie, alle lijntjes, als er iets uit het magazijn nodig, loopt via hem. Hij weet alles, weet hoe de afvalstroom gaat, het is echt een servicegerichte man, moeilijk vervangbaar zo iemand, dat is echt een unieke man. Zo zal zijn leidinggevende het zeggen. Aan de andere kant er zijn heel veel mensen die dat werk kunnen. Maar niet hetzelfde zoals hij het doet. Daar heeft een persoon misschien wel tien jaar voor nodig omdat te kunnen en dan zullen ze misschien nog niet hetzelfde doen, maar ja weetje, maar iemand vinden. Ik zou minder zoeken op de vervangbaarheid. De hele wereldcontext veranderd, we zoeken nu andere technisch verkoper dan 2 jaar geleden.

I: Dat vroeg ik even omdat heel veel andere bedrijven aangaven, als die persoon weggaat.

R: Dat zijn dan zeker kleinere bedrijven.

I: Ja dat zijn dan kleinere bedrijven.

R: Ik vind ook nooit, dat heb ik hier geleerd van de directie, iedereen kan hier weggaan, dat klinkt een beetje, je bent organisatie met veel mensen, uiteindelijk kunnen we mensen ook missen, je moet er ook mee rekenen dat mensen zeggen, ik heb iets anders gevonden, of je moet ermee rekenen dat je een beslissing moet maken dat je niet verder gaat. De wereld verandert. Het zou niet goed zijn als je als organisatie daarvan afhankelijk bent.

Appendix 5 Human capital scan

General part of the human capital scan

1. Hoeveel werknemers heeft uw bedrijf op de loonlijst staan?

Antwoord:.....

2. Hoe groot is uw personeelsomvang (werknemers op de loonlijst) uitgedrukt in fte's?

Antwoord:.....

3. In welke bedrijfssector bevindt uw bedrijf zich?

- a. Industrie en energie
- b. Commerciële dienstverlening
- c. Niet-commerciële dienstverlening
- d. Landbouw en visserij

4. Geef voor elk van de onderstaande opleidingsgroepen aan welk percentage van de werknemers dit niveau als hoogst behaalde diploma heeft.

- Lager dan MBO 2/ HAVO/ VWO
- MBO 2-4/ HAVO/ VWO
- HBO/ WO

5. Hoeveel dagen waren de werknemers gemiddeld in training* het afgelopen jaar (1 januari t/m 31 december)?

Antwoord:.....

* Het proces dat een persoon op een vooraf afgesteld niveau brengt door middel van oefening en instructies

6. Geef het gemiddelde aantal trainingsdagen voor de werknemers met de volgende opleidingsniveaus aan?

Aantal dagen training:

- Lager dan MBO 2/ HAVO/ VWO
- MBO 2-4/ HAVO/ VWO
- HBO/ WO

7. Wat waren de kosten van trainingen (min subsidies) uitgedrukt als percentage van de totale loonkosten (inclusief loonheffingen) het afgelopen jaar (1 januari t/m 31 december)?

Antwoord:.....

8. Welke percentage van de werknemers heeft minder dan 2 jaar relevante werkervaring in zijn huidige functie.

Antwoord:.....

9. Welk percentage van de werknemers heeft meer dan 10 jaar ervaring in zijn huidige functie?

Antwoord:.....

10. Hoeveel werknemers verlieten afgelopen jaar de organisatie (1 januari t/m 31 december)?

Antwoord:.....

11. Geef voor de volgende drie opleidingsgroepen aan welke percentage jaarlijks de organisatie verlaat (1 januari t/m 31 december).

Percentage dat de organisatie
verlaat:

- Lager dan MBO 2/ HAVO/ VWO
- MBO 2-4/ HAVO/ VWO
- HBO/ WO

12. Hoeveel openstaande vacatures* waren er het afgelopen jaar (1 januari t/m 31 december)?

Antwoord:.....

* Een niet bezette positie in de organisatie die open staat voor mensen in en/ of buiten de organisatie

13. Hoeveel vacatures waren er het afgelopen jaar vervuld (1 januari t/m 31 december)?

Antwoord:.....

14. Geef van het afgelopen jaar het aantal openstaande vacatures voor de volgende opleidingsniveaus aan (1 januari t/m 31 december).

Aantal dagen training:

- Lager dan MBO 2/ HAVO/ VWO
- MBO 2-4/ HAVO/ VWO
- HBO/ WO

15. Geef van het afgelopen jaar het aantal vervulde vacatures voor de volgende opleidingsgroepen aan (1 januari t/m 31 december).

Aantal vervulde vacatures:

- Lager dan MBO 2/ HAVO/ VWO
- MBO 2-4/ HAVO/ VWO
- HBO/ WO

16. Hoeveel mensen van buiten de organisatie zijn het afgelopen aangenomen om de openstaande vacatures genoemd in vraag 12 in te vullen?

Antwoord:.....

17. Hoeveel mensen hebben het afgelopen jaar een andere functie gekregen (1 januari t/m 31 december)?

Antwoord:.....

18. Hoeveel van het aantal genoemde mensen in vraag 17 hebben een verantwoordelijkere/moeilijkere functie gekregen?

Antwoord:.....

19. Geef met een percentage voor de onderstaande groepen aan hoeveel deze bijdroegen aan het totale aantal werkuren van de organisatie het afgelopen jaar (1 januari t/m 31 december).

Percentage:

- Werknemers in vaste dienst
- Werknemers met een tijdelijk contract
- Werknemers van uitzendbureaus/
detacheringsbureaus
- Overig

20. Wat is de gemiddelde leeftijd van de werknemers?

Antwoord:.....

21. Geef voor de volgende opleidingsniveaus aan wat de gemiddelde leeftijd is.

- | | Gemiddelde leeftijd: |
|------------------------------|----------------------|
| • Lager dan MBO 2/ HAVO/ VWO | |
| • MBO 2-4/ HAVO/ VWO | |
| • HBO/ WO | |

22. Geef voor elk van de onderstaande groepen aan welk percentage van de werknemers het afgelopen jaar training heeft ontvangen (1 januari t/m 31 december).

- | | |
|------------------------------|-------|
| • Lager dan MBO 2/ HAVO/ VWO | |
| • MBO 2-4/ HAVO/ VWO | |
| • HBO/ WO | |

23. Geef voor het aantal trainingdagen genoemd in vraag 6 aan welk percentage van de trainingstijd besteed is aan soft skills*.

- | | |
|------------------------------|-------|
| • Lager dan MBO 2/ HAVO/ VWO | |
| • MBO 2-4/ HAVO/ VWO | |
| • HBO/ WO | |

*Gevraagde kwaliteiten voor bepaald werk die niet afhankelijk zijn van opgedane kennis: hierbij kan gedacht worden aan gezond verstand, vaardigheid om met mensen om te gaan en een positieve, flexibele houding.

24. Wat is de gemiddelde lengte van een dienstverband in uw organisatie?

Antwoord:.....

25. Geef voor de mensen genoemd in vraag 11 het aantal mensen aan die gedwongen waren om de organisatie te verlaten.

- | | |
|------------------------------|-------|
| • Lager dan MBO 2/ HAVO/ VWO | |
| • MBO 2-4/ HAVO/ VWO | |
| • HBO/ WO | |

De volgende vragen bestaan uit een aantal stelling. Geef voor elke stelling aan in welke mate u het ermee eens bent.

	Helemaal mee oneens	oneens	neutraal	eens	Helemaal mee eens
26. Het huidige opleidingsniveau is te laag om de toekomstige doelen van de organisatie te halen.	1	2	3	4	5
27. Deze organisatie biedt de werknemers een grote verscheidenheid aan trainings- en ontwikkelingsmogelijkheden.	1	2	3	4	5
28. De werknemers in dit bedrijf hebben veel relevante werkervaring in vergelijking met andere bedrijven in de industrie.	1	2	3	4	5
29. Het ongedwongen verloop van personeel in onze organisatie is heel laag.	1	2	3	4	5
30. Het kost op dit moment weinig tijd om vacatures te vullen met mensen die beschikken over de juiste opleiding, vaardigheden en mogelijkheden.	1	2	3	4	5
31. Onze werknemers op de werkvloer kunnen voor verschillende functies in de organisatie worden ingezet.	1	2	3	4	5
32. Onze personeelssterkte kan makkelijk aangepast worden aan de hand van het werkaanbod.	1	2	3	4	5
33. De leeftijd van onze werknemers is relatief hoog.	1	2	3	4	5
34. De werknemers in onze organisatie zijn zeer bekwaam.	1	2	3	4	5

35. De werknemers in onze organisatie worden in hun bedrijfstak als competent beschouwd.

1	2	3	4	5
---	---	---	---	---

36. De werknemers in dit bedrijf zijn creatief en slim.

1	2	3	4	5
---	---	---	---	---

37. De werknemers zijn experts in hun beroep of functie.

1	2	3	4	5
---	---	---	---	---

De volgende stellingen gaan over wat u in de toekomst verwacht.

Geef voor elke van de volgende personeel gerelateerde graadmeters aan of deze lager, gelijk of hoger zullen zijn over 10 jaar.

	lager	gelijk	hoger
38. Het opleidingsniveau			
39. Trainings- en ontwikkelingsmogelijkheden			
40. Relevante werkervaring van de werknemers			
41. Verloop van het personeel			
42. Het vermogen om de juiste mensen aan te trekken			
43. Promoties of het wisselen van functies			
44. Flexibele schil			
45. Leeftijd van de werknemers			

Strategic part of the human capital scan

Stap 1

De eerste stap helpt u om uw meest waardevolle werknemers te herkennen. Hierbij is het van belang om er bewust van te zijn dat één en dezelfde werknemer niet van gelijke waarde is voor verschillende organisaties. Daarom is het van belang om de werknemers te identificeren die voor uw specifieke organisatie het meest waardevol zijn. Om u te helpen deze werknemers te identificeren zijn hieronder een aantal vragen genoteerd die u voor uw organisatie zou kunnen beantwoorden.

Wat zijn de meest belangrijke strategieën van uw organisatie?

Hoe wilt uw organisatie de strategie behalen (tactieken)?

Welke werknemers zijn het meest belangrijk voor het uitvoeren van de tactieken en het behalen van de strategieën?

Een voorbeeld:

Strategie: Klanten voorzien van de beste producten.

Tactiek: Investeren in onderzoek en ontwikkeling

Meest belangrijke werknemers: Ingenieurs

Welke werknemers zijn in uw organisatie de belangrijkste werknemers:

Antwoord:

Stap 2

U bent nu aangekomen bij de tweede stap van het strategische gedeelte van de human capital scan. In de eerste stap heeft u uw belangrijkste human capital (werknemers) geïdentificeerd. De hierna volgende vragen dient u voor deze groep werknemers te beantwoorden. Deze vragen gaan over het afgelopen hele jaar, dus van 1 januari tot 31 december.

De volgende vragen bestaan uit een aantal stellingen. Geef voor elke stelling aan in welke mate u het ermee eens bent.

Individen van (vul in de groep werknemers) hebben vaardigheden die:

1.niet algemeen aanwezig zijn in de arbeidsmarkt.
2.zeer moeilijk te vervangen zijn.
3.niet beschikbaar zijn voor onze concurrenten.
4.in het algemeen als de beste worden beschouwd in onze bedrijfssector.
5.die worden ontwikkeld door ervaringen op de werkplek.
6.moeilijk door onze concurrenten kunnen worden weggekocht.
7.uniek zijn voor onze organisatie.
8.moeilijk zijn te imiteren of te vermenigvuldigen.
9.zijn aangepast aan onze specifieke behoeftes.
10.die ons onderscheiden van onze concurrenten.

	Helemaal mee oneens	oneens	neutraal	eens	Helemaal mee eens
1.niet algemeen aanwezig zijn in de arbeidsmarkt.	1	2	3	4	5
2.zeer moeilijk te vervangen zijn.	1	2	3	4	5
3.niet beschikbaar zijn voor onze concurrenten.	1	2	3	4	5
4.in het algemeen als de beste worden beschouwd in onze bedrijfssector.	1	2	3	4	5
5.die worden ontwikkeld door ervaringen op de werkplek.	1	2	3	4	5
6.moeilijk door onze concurrenten kunnen worden weggekocht.	1	2	3	4	5
7.uniek zijn voor onze organisatie.	1	2	3	4	5
8.moeilijk zijn te imiteren of te vermenigvuldigen.	1	2	3	4	5
9.zijn aangepast aan onze specifieke behoeftes.	1	2	3	4	5
10.die ons onderscheiden van onze concurrenten.	1	2	3	4	5

11. Geef voor elk van de onderstaande opleidingsgroepen aan welk percentage van deze werknemers dit als hoogst afgeronde opleidingsniveau heeft.

- Lager dan MBO 2/ HAVO/ VWO
- MBO 2-4/ HAVO/ VWO
- HBO/ WO

12. Hoeveel dagen waren deze mensen het afgelopen jaar in training?

Antwoord:.....

* Het proces dat een persoon op een vooraf afgesteld niveau brengt door middel van oefening en instructies

13. Welk percentage van deze werknemers heeft in zijn huidige functie minder dan 2 jaar relevante werkervaring.

Antwoord:.....

14. Welk percentage van deze werknemers heeft in zijn huidige functie meer dan 10 jaar ervaring?

Antwoord:.....

15. Welk percentage van deze werknemers heeft het afgelopen jaar de organisatie verlaten?

Antwoord:.....

16. Hoeveel openstaande vacatures* waren er het afgelopen jaar voor deze groep werknemers?

Antwoord:.....

* Een niet bezette positie in de organisatie die open staat voor mensen in en/ of buiten de organisatie

17. Hoeveel vacatures waren er het afgelopen jaar voor deze groep werknemers?

Antwoord:.....

18. Hoeveel van deze groep werknemers hebben het afgelopen jaar een andere functie gekregen?

Antwoord:.....

19. Hoeveel van de mensen genoemd in vraag 18 kregen een verantwoordelijkere/ moeilijkere functie?

Antwoord:.....

20. Wat is de gemiddelde leeftijd van deze werknemers?

Antwoord:.....

21. Geef aan welk percentage van deze groep werknemers het afgelopen jaar training heeft ontvangen.

Antwoord:.....

22. Welk percentage van de trainingstijd voor deze groep werknemers werd het afgelopen jaar besteed aan soft skills*.

Antwoord:.....

*Gevraagde kwaliteiten voor bepaald werk die niet afhankelijk zijn van opgedane kennis: hierbij kan gedacht worden aan gezond verstand, vaardigheid om met mensen om te gaan en een positieve, flexibele houding.

23. Wat was de gemiddelde lengte van het dienstverband afgelopen jaar voor deze groep werknemers?

Antwoord:.....