



The ageing workforce:

Practices and their effect on the financial performance of
companies in the metal industry.

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Abstract

The low birth rate, the increasing number of people older than 65 years and the low participation rate of older employees will cause problems on the labour market and within company. Companies will face problems to attract and retain employees and will face problems when the government decides to increase the retirement age of the employees. Employers then have to deal with employees that were planning to retire before their 67th year. If these employees cannot proceed to retire earlier because of financial reasons, this can demotivate and can increase their rate of absenteeism or decrease their productivity. HRM practices can help companies to fight these problems. These problems will have an effect on the financial performances of companies in the SME metal industry.

The aim of this master thesis is to develop a (financial) forecast model that describes these effects of different HR practices on the financial performance of companies in the metal industry. We only investigate the effects on the productivity and the financial statement of those companies.

In this study we identified practices on three different levels. On macroeconomic level we identified WIA and VPL. On mesoeconomic level the employer organisations and unions implement practices to face the ageing workforce problems. Within CAO agreement they recorded that employers have to offer employees a minimum of one day training, that older employees receive additional leave days, that older employees are not obliged to work shifts and that employees can receive an EVC-test on in each 5 years. On microeconomic level we identified five different HR practices: recruitment and selection policy, training, job design policies, policies to fight absenteeism and management policies.

We used case studies to determine the effect of these practices. The results of these case studies indicate that the four companies are actively trying to implement practices that are suitable for their company and the employees. The outcomes of these case studies give an indication of the HR practices within these companies. Besides that we determined why companies implement HR practices. In the four case studies this does not always has to do with the labour productivity of the employees or their rate of absenteeism.

This study shows that it is difficult for HR manager, supervisors or work council member to determine the effect of for example training on the labour productivity of employees. Our empirical study confirmed that there is a positive relationship between the HR practices and labour productivity and the rate of absenteeism (according to the four case studies). One remark that has to be made is that the effect of HR practices on company performances dependent on motivation and commitment of the employees.

Finally, we combined all our *findings in a financial forecasting model*. We determined that the impact of practices on the income statement of a company depends on the labour productivity, salary, rate of absenteeism, pension arrangement and the age of the employees. We developed a forecasting model that predicts (using Markov matrixes) the expected changes within a workforce. We determined for each individual employees the probabilities that he/she will leave the company and linked these probabilities to the costs and benefits of each employees. These outcomes made it possible to forecast the effects of employees related costs and benefits on the income statement and balance sheet.

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This report is the result of my master thesis project carried out at Mercer. This master thesis is the last step that has to be taken to receive a Master of Science degree in Business Administration in the track Financial Management. Therefore I want to thank people that had a contribution to this report.

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I hope this thesis will be as interesting and as fun to read as I had writing it.

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14 May 2009

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LIST OF ABBREVIATIONS

A&O foundation	Foundation of labour market and training for the large-scale metalworking and electrical industry	Stichting arbeidsmarkt en opleiding voor de metaalektro
AOW	Old-Age Pensions Act	Algemene Ouderdomswet
ARBO	The working conditions act	Arbo-wet
CAO	Collective Labour Agreements	Collectieve arbeidsovereenkomst
CBS	Central Bureau of Statistics	Centraal Bureau van de Statistiek
CPB	Central Planning Office	Centraal Plan Bureau
EVC	Accreditation of prior learning	Erkennen van Verworven Competenties
IFRS	International Financial Reporting Standards	
KvK	Chamber of Commerce	Kamer van Koophandel
OOM	Training and development for metal working firms' foundation	Opleiding Ontwikkeling Metaalbewerking
NKV	Dutch catholic trade union	Het Nederlands Katholiek Vakverbond
RJ	Dutch financial reporting rules guidelines	Raad voor de jaarverslaggeving
SME	Small and Medium-sized enterprises	Midden- en Kleinbedrijf
SZW	The Ministry of Social Affairs and Employment	Ministerie van Sociale Zaken en Werkgelegenheid
UWV	The Administrative Institute for Employee Insurance Schemes	Uitvoeringsinstituut Werknemersverzekeringen
VPL	Early retirement policy, flexible retirement policy and the 'life-span leave' arrangement	VUT, Prepensioen en Levensloopregeling
VUT	Early retirement policy	Vervroegd uittreden
WAI	Work Ability Index	Werkvermogen index
WIA	Work and Income According to Labour Capacity Act	Werk en Inkomen naar Arbeidsvermogen
WAO	Occupational Disability Insurance Act	Wet op de Arbeidsongeschiktheidsverzekering
WGA	Disabled Workers Resumption of Work Act	Wet Werkhervatting Gedeeltelijke Arbeidsgeschikten
WGBL	Law of equally treatment based on age	Wet gelijke behandeling op grond van leeftijd bij de arbeid
WW	Unemployment law	Werkloosheidswet
WW-AWF	unemployment premium for the general unemployment fund	werkloosheidswetpremie voor het Algemeen werkloosheidsfonds,)
ZW	The Health law	Ziektewet

1. There is need for change! The workforce is ageing.

16 September 2008, the Netherlands

Minister Donner of the Ministry of Social Affairs and Employment (Ministerie van Sociale zaken en Werkgelegenheid, SZW) presented his budget and goals for 2009:

“The policy of Minister Donner and State Secretary Aboutaleb of the Ministry of Social Affairs and Employment (SZW) is especially focussed on increasing labour participation. That is to say: more people in work, more hours in work and more people continuing to work until the age of 65. The SZW budget for 2009 includes measures via various lines to get more people into work.

It is true that the tight labour market is temporarily becoming somewhat less tight, but the urgency in the long term is evident: the population is ageing rapidly. If there is no drastic increase in labour participation, there will be a threat of big shortages in employees and the wages will rise sharply. And this will undermine our international competitive position. Closer to home the image looms of care institutions with not enough carers, schools with not enough teachers and a crumbling support under our welfare state. In the words of Chairman Peter Bakker of the Commission Labour Participation which recently gave advice to the Cabinet in June, the Netherlands will then ‘come to a creaking halt’.

(Internationalezaken.szw, 2009)

As indicated by Minister Donner the population within the Netherlands is ageing. This will cause problems because there will be a big shortage of employees. The government therefore asked the Commission Labour Participation to write a proposal on measures that can increase the labour participation within the Netherlands. But unfortunately within six months the labour participation within labour market changed enormously. On 16 September 2008 the ministry of SZW measures aimed at increasing the labour participation within the Netherlands in 2009. But on 17 February 2009 the results of the Central Planning Office (Centraal Plan Bureau, CPB) denoted that the labour participation is not increasing. In fact, the unemployment rate is now predicted to rise to 5.5% in 2009 and will further increase to 8.75% in 2010. The cause for this change is the financial crisis (Minaz, 2009). Besides that the financial crisis affected the amount of vacancies within the Netherlands. On June 30th 2008 the amount of vacancies was 240 thousand (CBS, 2009a). Eight months later the Netherlands only had 198 thousand vacancies by the end of December 2008 (CBS, 2009b).

The government is trying to stimulate the economy, increase the labour participation and prevent that the national debt will rise faster in the Netherlands. One of the solutions the government is considering to implement is to increase the retirement age of employees gradually from 65 to 67 years old. Companies on the other hand are trying to find solutions to keep sales up so that they do not have to fire employees. Firing employees means that companies will lose knowhow which they will need when the economy improves. Therefore companies have to try to retain their employees. To help companies, the government offers the reduced working hour scheme¹. The reduction of work hours gives employers the time to come up with a solution to retain their employees and to

¹ In December 2008 the government gave the employers the opportunity to apply for a permission to offer their employees a reduction of work hours. Employers can apply for permission if they expect a decrease in sales of at least 30 % in the coming two years. The employer has to offer their employees training during the reduction of work hours. The employees’ loss of payment will be compensated by a partial WW-placement (SZW, 2009a). The number of companies in the metal industry that applied for the reduced working hour scheme is higher compared to other industries (SZW, 2009b).

survive the financial crisis.

Companies are focusing on other problems than the problems that will arise because of the ageing population. But on the long run the ageing population will cause tremendous problems on macroeconomic level as well as on microeconomic level. Because of this companies have to take action to make sure that their company will not suffer from the problems that will arise because of the ageing population. This study will hand measures that help companies to overcome problems that arise because of the ageing workforce. Firstly, we will give an indication of the scope of the problems caused by the ageing workforce. Secondly we will explain why there is need for a scientific study on this topic.

1.1 The ageing workforce

The Netherlands, as well as other European countries, have an ageing population and workforce. This means that the amount of employees that have left or will leave the labour market will increase at a certain point. Besides that the amount of younger employees that can replace these employees is decreasing (so-called dejuvenation).

One of the main reasons which resulted in an ageing population is the dejuvenation. After WOII more babies were born in Western-Europe and the USA than before WOII. These people cause problems on the labour market, now. In 1946 a record number of 284.000 babies were born. In figure 1 the number of babies born alive in the Netherlands during the period 1950 until 2010 is shown. Until 1970s the number of new born babies was roughly 250.000 each year, but after 1970 this number dropped enormously. In 1983 the baby boom came to an end because the smallest number of born babies (170.000 babies) was reached (RIVM, 2008).

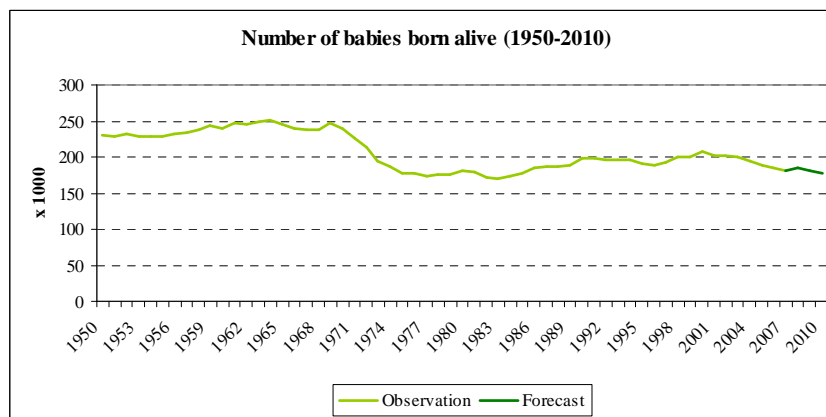


Figure 1: number of babies born alive (1950-2010) (CBS-Statline, 2008a)

In 2011 the people that were born in 1946 will reach their 65th year. This all means that 284.000 employees (if all of these people are alive and employed) will reach their retirement age of 65 or are already retired². A smaller amount of younger employees can replace them within companies because fewer babies are born after that period. Therefore companies will face problems finding new employees. These problems are partially

² The CPB predicts that the unemployment rate will increase in 2010 (Minaz, 2009). This will cause financial problems for the government within the Netherlands. Employees and employers have to pay a pension premium over the salary of the employees. This pension premium is used by the government to pay the people who are currently entitled to such a payment. Therefore the high unemployment rate and the high amount of employees that leave the labour market (because they reached their retirement age) will have a big impact on the financial situation of the government within the Netherlands.

caused by the workforce participation rate in the Netherlands.

One of the main factors that influenced the labour participation rate is the introduction an early retirement scheme (VUT) in 1975. With the introduction of the VUT employees were able to retire before the retirement age of 65. The government introduced the VUT to decrease the amount of young unemployed people³. Since the oil crisis of 1973 there had been a large problem on the labour market because of the high amount of young unemployed people. Therefore a member of the board of the Dutch catholic trade union (het Nederlands Katholiek Vakverbond, NKV), Mr Riemen, came up with the plan called “Young for Old”, where old employees were replaced by younger employees. With the introduction of this plan the VUT was presented. Employees retired from their jobs, on average at the age of 60. The purpose of this policy was that for each older employee a company should employ a young unemployed employee⁴ (synergy-at-work, 2008). But after a number of years the balance between young and old employees in the Netherlands changed. The participation of older employees within the workforce became more important. The figure below shows that still a large part of the population with the age of 55 until 65 is not employed.

In figure 2 the difference is shown between the population and the workforce participation⁵ in the Netherlands for the year 2008. Figure 2 shows, that employees between the age of 55 and 65 have a lower participation rate (47%) compared to employees between the age of 35 and 45 (86%).

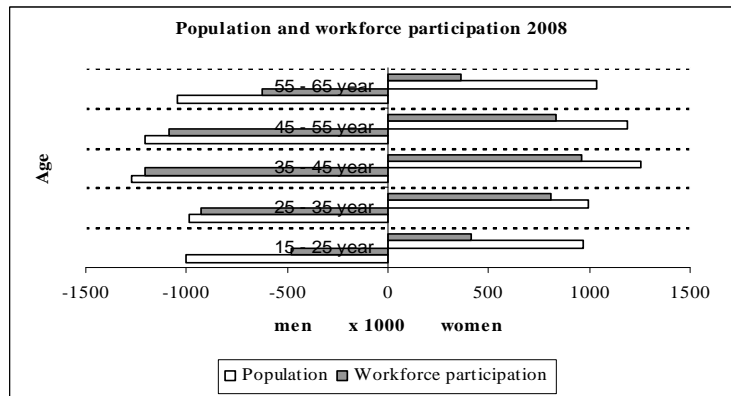


Figure 2: Population and workforce participation (CBS-Statline,2009)

Besides the low participation rate of older employees in the workforce, the balance between young and old employees will even shift more in the coming years. This is because the amount of people in the population that is older than 65 is growing. In 2008 15% of the entire population will be older than 65. In 2020 this percentage will be 20% (CBS-Statline,2009b).

All of these changes in the population and workforce (the low birth rate, the increasing number of people older than 65 years and the low participation rate of older employees) will cause problems on the labour market. The ageing population and workforce cause problems because:

³ The baby boom generation was nineteen years old in 1975.

⁴The government installed this policy in such a way that this policy was attractive for both employers and employees. Employers could employ younger employees and the employees (that used the VUT) could retire earlier without any fiscal consequences. Employees received a payment that was about 80%-90% of their former salary. These employees did not have to pay any social premium and therefore their ultimate payment were almost 100% of their former salary. This together with the possibility to save money for their retirement, made it very attractive for employees to resign earlier (synergy-at-work, 2008).

⁵Gross workforce participation is the percentage of the total population (all people between the age of 15 and 65) that work at least 12 hours a week or are searching for a job of at least 12 hours weeks.

- The amount of (younger) employees that can replace the employees that leave the company is decreasing.
- Companies will have to retain employees that are working within the company and have to make sure that these employees will not work for the competitor.
- When the government decides to increase the retirement age of the employees this will affect the workforce. Employers then have to deal with employees that were planning to retire before their 67th year (in some cases even before their 65th year). If these employees can not proceed to retire earlier because of financial reasons, this can demotivate and can increase their rate of absenteeism or decrease their productivity (van Zijl, 2004).

We refer to these problems as the problems that arise because of the aging workforce. All of this means that companies have to offer good terms of employment and good working conditions to attract new employees and retain their employees within their company. Motivation is another factor that has to be taken into account. In figure 2 is shown that older employees have a low participation rate. To increase the labour participation of these employees companies have to introduce practices. Human Resource Management (HRM) can contribute to this process. HR practices do not only influence the possibility to attract or retain employees, HR practices can also reduce the rate of absenteeism and increase the productivity of the company. This way, HR practices improve both the financial and non-financial performance of the company.

The project initiator is the organization Mercer. Mercer is willing to develop a financial model that forecasts the effects of (HR) practices on the financial performance of companies in the metal industry. To forecast the effects of the ageing workforce on the financial performance and the costs and benefits that are related to a workforce of a company we need quantitative figures. Therefore we have to determine which HR practices companies should introduce? And determine in what way HR practices influence the financial performance of a company?

According to Becker (1962) the human capital theory implies that the production capacity of employees can be enhanced by investing in their knowledge, skills and abilities. An example of these HR practices is training. A vast number of researchers tried to determine the effect of training on organisational performance. For example, Almeida and Carneiro (2006) describe in their article the link between the duration of training, the direct cost of training and productivity. Most authors tried to estimate the relationship between training and productivity, but did not link that information to costs or benefits. Likewise, Conti (2005) tried to define the effect of training, productivity and wages in Italy. According to Conti (2005) the majority of the studies have found a positive impact of training on productivity. Those researchers tried to determine the effect of only 'one' HR practice. Different researcher tried to determine the effect of HR practices (in general) and the impact on labour productivity (e.g., Guthrie, 2001). Researchers like Sels, De Winne, Delmotte, Maes, Faems & Forrier (2006), tried to describe the effects of HR practices on productivity and the financial statement. They tried to link HRM and small business performance to financial performance, productivity and voluntary turnover. They found a relationship between HRM intensity and productivity. Sels et al. (2006) collected their qualitative data using a survey and linked those findings to quantitative data for each company. They found that the total effect of HRM intensity on the outcome of productivity was 12%. This means that an increase on the HRM intensity

scale will show an increase of productivity of 12%. Many other studies have failed to determine the impact of HRM and organisational performance, but Sels et al. (2006) tried to make this relationship more measurable. In their research they did not determine which individual HR practice causes those findings.

1.2 Problem statement

The aim of this master thesis is to develop a (financial) forecast model that will describe the effects of different HR practices that can help companies retain and attract new older employees. We will investigate the effects of HR practices on the (financial) performance of companies in the metal industry. We will only investigate the effects on the labour productivity, rate of absenteeism and financial statement. We made this choice to investigate the effects of these dependent variables because the output of this study will be used in a financial forecast model. Besides that labour productivity of employees is interrelated to their rate of absenteeism. If employees have a high rate of absenteeism this will negatively affect their labour productivity.

Our problem statement is:

To develop a financial forecast model that reflects the effects of different practices with respect to the ageing workforce of companies on both productivity and the financial performance of companies in the metal industry.

During this research we will focus on Small and Medium-sized Enterprise (Midden- en Kleinbedrijf, SME) in the metal industry with i.e. 50-250 employees (MKB, 2008a). We will focus on employees between the ages of 45 and 65, because the labour participation rate is low compared to other categories. The percentage of women in the metal industry is very low and therefore our focus will be more on older employees in this industry. In his study will refer to **older employees** as employees who are older than 45 years. We will study HR practices that can affect this group of employees.

1.3 Practical relevance

A survey of Centraal Beheer Achmea and Mercer (2008) points out that many companies are not recognizing the ageing workforce problem. In general, most of the HR practices introduced within companies are targeted at younger employees. As Szeman and Kusera (2007), stated companies lack HR practices for employees with an age between 45 and 55 years. According to Punakallio (2007) managers should consider the effects of ageing when they adjust their practices. The outcomes of this study can give insight in the seriousness of this problem within companies. Besides that, this study can hand tools that can help employers to implement measures to fight problems they will have because the workforce is ageing.

1.4 Scientific relevance

According to Boselie (2002): *“Most research on HRM and performance is quantitative, focused on the existence of (significant, causal) relationships and the magnitude of the effects. To better understand underlying processes that moderate/mediate the relationship between HRM and performance there is a need for qualitative research (p. 150).* Therefore, we use a qualitative method to make a contribution to the scientific field of HRM and to determine the effect of different HR practices that can be implemented to fight the problems that arise because the workforce is ageing in the metal industry. Besides that researchers tried to determine the effects of HR practices on the financial performances of companies. But none of these researchers, by our knowledge, developed

a model that described the impact of these practices on the financial statement of companies. The focus of this study is to determine these quantitative effects of practices on the financial statement of companies in the metal industry.

This all means that the outcomes of this study will have a practical as a scientific added value within the field of HRM.

1.5 Thesis structure

The results of this study will give an indication of the effects of the ageing workforce and HR practices on the financial statement of a company. To accomplish this we have to determine *which* practices affect the ageing workforce and *how* they affect the financial statement a company. We address these aspects in this research. In this paragraph we describe the structure of this research which is shown in figure 3.

Chapter 2 commences with information about the theoretical framework of this research. We describe the relationship between the variables used in this research. In chapter 3 the research methodology is described. In chapter 4 we try to determine which practices have a positive effect on the problems that arise because of the ageing workforce.

These practices are determined based on desk research. These practices are described on three different levels: the marco-, micro- and mesoeconomic level. On each level different actors have implemented certain practices. Therefore these practices are described classified in these levels. Chapter 5 is focussed on the HR practices and their effect on labour productivity. In this chapter we show the outcomes of our empirical research. Chapter 6 describes what kind of effect the practices have in the financial instatement of companies in the metal industry. Chapter 7 continues with a description of the effect of the practices on the financial performance of a company. The outcome of this research is a financial forecasting model that is composed by using a Markov matrix. Finally, in chapter 8 we describe the conclusion and recommendations.

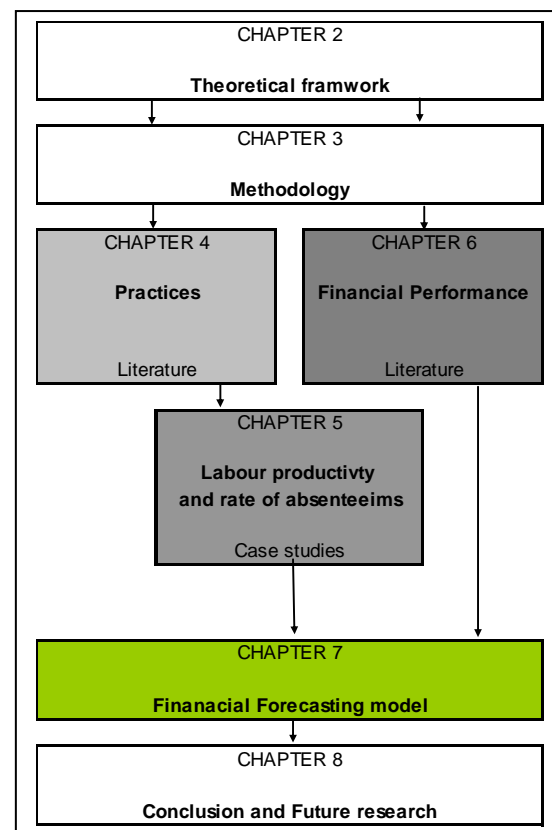


Figure 3: Structure of Thesis

2. Theoretical framework

A theoretical framework has to help the reader to understand the relationship between the variables and factors that are needed to find a solution for the problem. In this chapter we explain how we are going to find a solution for the problem defined in chapter 1. We will start with defining the variables and their intermediated relations. Finally, we will describe the research questions that will be use to come to a solution.

2.1 Human Resource Management

Nowadays, Human Resource Management (HRM) is in many cases used to retitle the traditional Personnel Management. But according to Guest (1987) there is a difference between HRM and Personnel Management. Guest state that HRM focuses more on the long-term planning, higher commitment of the employees, more self-control by management, employees relations perspective is unitarist (focus on the individual and high trust), preferred organisational structure is organic, HRM is largely integrated into line management and HRM is evaluated though human assets accounting. But how can we define HRM? There are different definitions used for HRM (e.g. in Legge, 2005 and Boselie, 2002). Boselie (2002) analysed the different definitions of HRM as well and divided them into three different parts Human, Resource and Management.

Boselie (2002) determined that the *Human* part denote the field of interest. It indicates the relationship between the company and the employees. Within the definition used by Beer et al. (1984) this ‘human’ part is also emphasized. Beer et al. (1984) state, that: “human resource management involves all management decisions that affect the relationship between the organization and employees – it is human resource” (p.1). Boselie (2002) indicates that *Resource* refers to the values, rareness, inimitability and non-substitutability of human capital. Hendry and Pettigrew (1986) denote that employees are valuable resources which can create a competitive advantage for companies. The same assumption is made by Becker (1962). According to Becker (1962) the human capital theory denotes that the production capacity of employees can be enhanced by investing in their knowledge, skills and abilities. Companies can enlarge their human capital by investing in the human resources and therefore realize a competitive advantage. Boselie (2002) takes one more step to explain the concept of HRM by clarifying the term *Management*. He indicates that *Management* refers to the actions of the manager or the supervisor towards the employees to achieve the goals of the company. This can be realized by coherent and consistent management. Boselie (2002) indicates that not only the goals of the company have to be taken into account, but also the goals of the individual employees and the societal needs of the relevant stakeholders as well.

Summarizing we can define HRM as *the relationship between the company and employees in which the management of the company guides employees towards the goals of the individual, company and society while simultaneously creating a competitive advantage.*

HRM will therefore realise continuity of the company. But how do HR practices affect the goals of a company? Different authors approach HR practices in a different way. They draw a distinction between individual HR practices and bundles of HR practices. Boselie, Paauwe and Jansen (2001), for example, state that “HR practices affect the performance not individually but are interrelated elements in an internally consistent HR

'bundle' or system" (p. 1122). When an employee receives training his or her wage can increase eventually. According to Boselie, Paauwe and Jansen (2001) not one individual HR practice can influence the performance of the company, but all HR practices bundled together have a positive effect on the performance of the company. Other researchers are only focused on individual HR practices (Becker and Gerhart, 1996). Other approaches to the concept HRM and HR practices are the best-practice and best-fit approaches. The best-practice and the best-fit approach are two different approaches which can give more inside information about the effect of HR practices on company performance. The best-practice approach state that the company which implements the 'best' HR practices within their company will be the one who will be successful. This approach assumes that all successful companies have implemented the same HR practices. Pfeffer (1994) is one of the researchers that determined 16 best-practices⁶ (in Legge, 2005). His research received a lot of criticism. Paauwe (1996) indicates that the best-practices used within Pfeffer's research are so prevalent for companies within the Netherlands that they can not be the source to realize a competitive advantage against other companies within the Netherlands (in Legge, 2005). The assumption that researchers make regarding best-practices is that the effects of best-practices are generalizable and that they are not firm specific (Becker and Gerhart, 1996). The best-fit approach on the other hand indicates that the effect of the HR practices within companies differ depending on their organizational context (e.g. the culture, structure and technology used in the company) (Boselie, 2002).

Our goal is to give a clear overview of the effects of HR practices that are implemented within companies. Therefore we will try to describe the effects of individual HR practices. We want to determine the effects within the metal industry which means that we want to generalize the effect of the different HR practices. Therefore we assume that the HR practices that will affect problems that arise because of the ageing workforce will be best-practices. But which HR practices affect the performance of companies?

2.2 HRM and Performance

The two most quoted and fundamental models for the development of HRM as a scientific discipline are the Harvard approach developed by Beer et al. (1984) and the Michigan-model developed by Fombrun, Tichy and Devanna (1984) (Boselie,2002). Both models are described below.

Harvard approach

Beer et al. (1984) determine five components in their model which are stakeholder interest, situational factors, HRM policies, HR outcomes and long-term consequences. In their model they denote that the stakeholder interests together with the situational factors influence HRM policy choices within companies. These HRM policy choices affect the HR outcomes, which affect the long-term consequences. Figure 4 shows these relationships.

⁶ "Pfeffer argues, for example, that a greater use of sixteen specified practices, such as participation and empowerment, incentive pay, employment security, promotion form within the company, and training and skill development, results in higher productivity and profit across all types of organizations"(in Boselie, Paauwe and Jansen, 2001: p 1108).

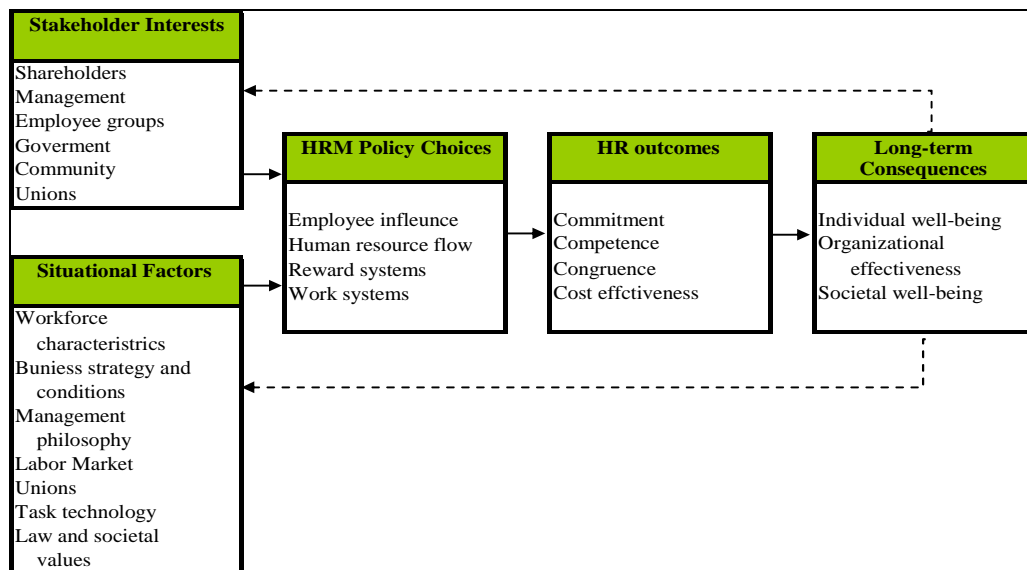


Figure 4: Map of the HRM territory (Beer et al., 1984).

Beer et al. (1984) show in their model that the stakeholder interests and the situational factors affect the HR practices that companies will implement. The influence of stakeholders (e.g. work councils, trade unions and government) on HRM policies and outcomes is typical for the European concept. The unions and government have implemented practices, laws and regulation which affect the HR practices that are chosen in companies.

The main focuses of this model are employee influence and work systems. As starting point this model is that not only the HRM department will be activity involved with the HRM system but the entire management staff will contribute to the HRM system within companies. The focus is to commit employees to the company and use the ability of all the employees optimal to realise company goals and strategic. High commitment of the employees is the main focus of this model.

Michigan model

The Michigan model uses as starting point the environment. Most companies are facing an environment that enormous complex and is rapidly changing compared to years ago. This means that companies will changes their mission and strategy. To realise this mission and strategy the company has to determine that optimal strategy is needed to accomplish this. When company has decided which organisational structure is needed the company has to attract or retain enough employees to execute the tasks and to realise the missions of the company. With the organisational structure Fombrun, Tichy and Devanna (1984) refer to the different divisions of the company but also the job descriptions of the employees. Ones the company have state the organisational structure it has to design the human resource system. The four practices Fombrun, Tichy and Devanna (1984) implemented within their Human Resource Cycles are practices used in all companies. These practices are: selection, appraisal, rewards and development. In Figure 5 is model is shown.

These practices have an impact on the individuals as well as on the company goals. In the middle of their Human Resource Cycles Fombrun, Tichy and Devanna (1984) placed performance of the employees, which will be affected by these practices. The Fombrun's point of view is that goals of the company only will be reached if practices are congruent with the company strategy. Therefore there has to be a fit between the strategy of the company and their HRM system.

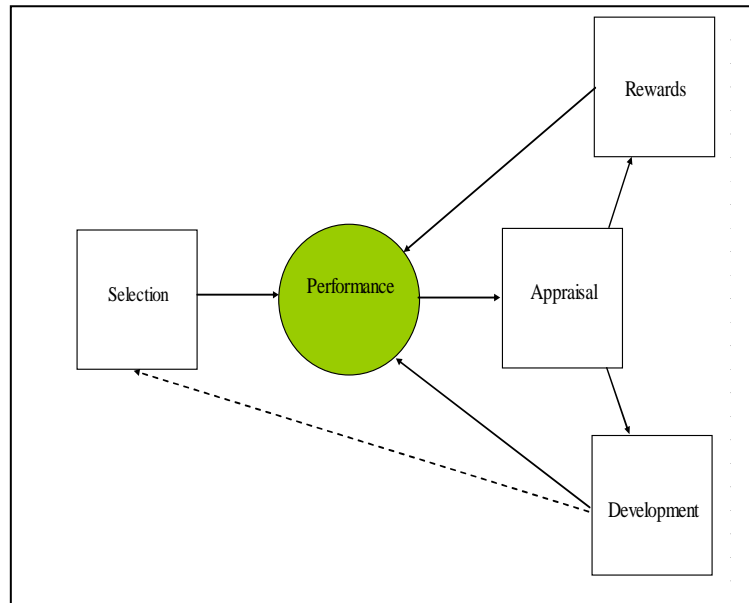


Figure 5: The Human resource cycle (Fombrun, Tichy and Devanna, 1984)

The main difference between the two models is that the Harvard model is more focused on the development of employees within the company whereas the Michigan model is focused on achieving the company strategic goals. One other difference is that the Michigan model takes the point of view of the owner of the company. An owner of a company will be more focused on making profit. Whereas the Harvard model takes the point of view of the other stakeholder: the trade union and employees (Boselie, 2002). Both the Harvard model and the Michigan model are general models used in the HRM field. The similarity between the two models is that they both indicate environmental factors will affect the HRM practices within company. One of these environmental factors are the labour market conditions.

2.3 Environmental factors

Beer et al. (1984) indicate that situational factors for example the labour market condition and workforce characteristics affect the formulation of the HR policies within the companies. Within certain industries companies can have trouble finding employees with certain skills, one of these industries in the metal industry. The metal industry indicates that they have problems to find employees with technology skills. Therefore companies have to find other solutions to solve this problem. One of these solutions can be training employees or offering HR practices to retain employees within the company. Furthermore, Beer et al. (1984) state that the workforce characteristics can affect the formulation of HR practices. Also Fombrun, Tichy and Devanna (1984) denoted that social environmental factors for example the demographics of baby boom will affect need for strategic HRM systems. Szeman and Kusera (2007) denoted that company did not implement HR practices for these effects. Szeman and Kusera (2007) stated that companies lack of HR practices for employees with an age of 50-55 year. They indicate:

“Early exits are also increased by the age discrimination practiced by employers. This generally begins for the age of 45 and the companies justify it by the poor state of health of older workers, their physical and mental burn-out and lack of required level of training.” (p.4).

Old age policy or active ageing policies can be a solution for this problem. An old age policy is focused only on older employees and offers instruments that can make their work more comfortable. Instruments that can be introduced are, e.g., additional leave days for older employees. This instrument is introduced in companies after the employer organisation and unions came to an agreement and included the additional leave days in their CAO agreement. Old age policies focus on instruments that spare employees than preventing employees to become less capable to perform well. The old age policy was expanded with the introduction of the active ageing policy. This policy focuses on *all* employees. An active ageing policy is focused on all employees and giving them (depending on their stage of life) required HR practices, e.g., training or better balance between work and their private life. The purpose of active ageing policy is not to introduce new or additional HR practices, but the focus is more on the HR practices that already exist and using these policies in a different way so that *all* employees are healthy, vital and motivated (Verhoeff, 2007). Szeman and Kusera (2007) determined that HR practices within companies are not focused on older employees. Before we can study which HR practices will positively affect older employees who work in the metal industry we have to describe more about the laws and regulation within the Netherlands and give more insight about the metal industry. Therefore we will first give more insight about the influence of the government or employer organisations and unions on practices in companies. Second, we will explain more about the workforce characteristics of companies in the SME metal industry. Finally we will describe the difference between HR practices in small and larger company.

2.3.1 The government and unions

Boselie (2002) stated that the influence of government on the HR practices within companies is higher in the Netherlands compared to other countries. Besides that, the employer organisations and unions negotiate about the CAO agreements in which HR practices are partially determined. This is because the relationship between the employers and employees are institutionalised with the Netherlands. The social system within the Netherlands is installed in a way that employees who become unemployed or retire will receive a benefit. This benefit is paid by the tax payments of the employees that are working. When then labour participation is low and the number of employees that receive a benefit is high the government will have problems to pay for these benefits. Therefore the government is trying to increase the labour participation within the Netherlands. To increase the labour participation the government has installed practices and law and regulation which indicate that companies have to offer good working conditions that to their employees. These law and regulations affect the practices within companies and the way that company has to treat employees.

The employers can also implement HR practices besides the practices that are implemented or formulated by the government or in CAO agreement. Each company/industry will implement practices that will fit the characteristics of the employees and the jobs they have to perform. Therefore we will describe these characteristics.

2.3.2 SME metal industry

The characteristics of employees that are working in the large-scale metalworking and electrical industry and the light engineering industry are mainly the same. First, there are more men (87%) working in the metal industry than women (13%). In the last couple of

years the metal industry is becoming more attractive for women. According to the ‘Training and development for metal working firms’ foundation (Opleiding Ontwikkeling Metaalbewerking, OOM), the number of women that are working in the metal working firms has increased with 8% in 2007. The OOM foundation has introduced a website FEMME Metaal to increase the number of women in the metal industry and they were successful (OOM, 2008). Secondly, there are more full-time employees than part-time employees in this sector. In 2007 the ratio between full-time and part-time work is approximately 9 to 1 (Senior Power, 2006). The activities the employees have to perform in this industry are not mostly arranged in a way that employees can work flexible work hour (Braaksma, 2007) or part-time. The education level of the employees in the industry is shown in the table⁷ below.

Age ⁸	%	Education level	%	Origin	%
Young than 30	12%	Elementary school	49%	Native employees	91.5%
30-50	57%	Senior Secondary Vocational Education or lower (In Dutch MBO).	30%	Foreign employees	8.5%
Older than 50	31%	Higher vocational education (in Dutch HBO).	21%		

Table 1: Characteristic of employees who work in the metal industry (ROA, 2008)

One of these characteristics is that the workforce is ageing. The 31% of the employees are older than 50 years (in 2008) and only 12% is younger than 30 years. Because of the ageing population the number of older employees within company will increase even more. The jobs within the metal industry are more age sensitive, because the workload is higher compared to other jobs. This may influence the performance of older employees in this industry (Vis, 2000). These characteristics have to be taken into account when we determine the HR practices in companies in the metal industry. But first we have to determine if there is a difference in HR practices in SME companies compared to large companies.

2.3.3 SME companies and HR practices

Winnubst and De Kok (2008) discovered two differences between larger companies and SME companies regarding HR practices. First, they state that smaller companies do not use the same HR practices compared to larger companies. In large companies the (HR) manager and the owner of the company are mostly two different persons. The role of the manager and owners are combined within smaller companies. Therefore the managers within smaller companies have more freedom to make certain decisions within the company. On the other hand, the decision-making process within smaller companies is restricted to the vision of the owner of the company. And because the owner of the company has to make management decisions as well he/she will have less time to focus on the HRM policy of the company. Braaksma (2007) found in his study that 40% of the SME metal companies have a HR manager. This is very low.

⁷ The figures used in this table are determined for the large-scale metalworking and electrical in 2007.

⁸ These figures are only recorded for the companies that operate in the basis metal branch (a subdivision used by CBS).

An owner of a company will organize the HRM policy of the company in a different way than a HR department. The HR department is only responsible for the HRM policy within the company and will be more specialized. Smaller companies will have less skills and capacity (in time and number of employees) to organize the HR policies in the same way as larger company. This explains the heterogeneity of the strategies implemented within midsize companies and the difference between smaller and larger companies. Furthermore, it can give inside on why certain SME companies do (or do not) have a formal HRM policy and can standardize their HR practices. In addition, the number of HR practices used within smaller companies is on average fewer than the HR practices implemented within larger companies. Winnubst and De Kok (2008) determined in their study that smaller companies use fewer HR practices which can improve the performance of employees. How can HR practices affect the performance of employees?

2.4 HR practices and performance

Beer et al. (1984) show in their model that HR practices can contribute to the company goals. Beer et al. (1984) state that HR practices can influence on the long run, for example the efficiency, service performance and price performance of the company. Fombrun, Tichy and Devanna (1984) is also focuses on performance and in particularly on the performance of individuals to realise companies goals. Paauwe and Richarson (1997) state that HR practices can affect the productivity and profit of companies.

Many employers whoever associate older employees with an increase of labour cost and a decrease in labour productivity. Henkens, Remery and Schippers (2003) found that employers relate the increase of average age of the workforce with higher labour costs. Employers expect that the labour productivity of the workforce *will not increase* because the average age of their workforce is increasing. On the other hand, employees expect *an increase* in the rate of absenteeism of their workforce because the average age of their workforce is increasing. Kotlikoff eand Gokhale (1992) found in their empirical study that the labour productivity of employees decreases around the age of 45. They found that the labour productivity of these employees is lower than the wage they received for their performances. On the other hand younger employees have a higher labour productivity in relation with their wage (in Dorhout, Maassen van den Brink and Groot, 2002).

With the introduction of HR practices an increase of labour productivity and a decrease in absenteeism can be realised (e.g. Sels et al., 2006; Guthrie, 2001). According to Tangen (2002) productivity can be increased by five different relations between the input (i.e. labour) and output (i.e. produced goods or the sales of the company). The five different relations are:

- output and input increases, but the increase in input is proportionally less than the increase in output;
- output increases while input stays the same;
- output increases while input is reduced;
- output stays the same while input decreases;
- output decreases while input decreases even more.

The labour productivity of individual employees affects the output of a company. The output can be affected by the rate of absenteeism of the employees within the company. The employees that are absent can not realise the output that the company expects and therefore the labour productivity of these employees decrease.

Guthrie (2001) states that labour productivity does not guarantee long-term profitability and success, but labour productivity is a necessary condition to make sure the company performs well. Sels et al. (2006) state an increase in labour productivity will have a positive effect on the total personnel costs because an increase in labour productivity can have added value to the profitability of the company. Investing in HR practices can have a positive influence on the organisational productivity. Therefore implementing practices to decrease the problems that can arise because of the ageing workforce can have a positive influence on the performance of a company. The labour productivity of a company can give a good indication of the efficiency of the company. A company should not only focus on the labour productivity of the company because the company can still go bankrupt even when the labour productivity of their employees is at its maximum. The labour productivity of a company ignores the costs of production (e.g. salary payment to employees) and liabilities of the company (e.g. long-term and short term loans).

The financial statement of a company provides this information about the financial position of the company; it gives an indication of the financial performance and an impression of the cash flow of the company. The financial statement of a company consists of the income statement, the balance sheet, the cash flow statement, statement of changes in equity, etc. (Iasplus, 2008). These statements give an overview of the costs and benefits of a company.

“The income statement is a financial statement that reports the revenues generated and expenses incurred over an accounting period” (Leach & Melicher, 2006: p.123). The income statement provides an overview of the revenues, costs and profits of the company and reports the net income of the company. *“The balance sheet is a financial statement that provides a ‘snapshot’ of a business’ financial position as of a specific date”* (Leach & Melicher, 2006: p. 120). A balance sheet of a company gives an overview of the assets (the value of the company), the liabilities (the obligation of the company to creditors) and the equity (owners on property used in the company). One of the most important intangible assets of a company is their HUMAN CAPITAL. The knowledge of the workforce is very difficult to measure. Therefore these assets are not incuded on the balance sheet.

The financial statement may have to be reported according to the International Financial Reporting Standard (IFRS) or according to Dutch civil code 2. IFRS and Civil code 2 are accounting standards that companies have to apply when they are preparing their financial statement. The Dutch financial reporting standard (RJ) is a guideline that can be used to apply the civil code 2 on the financial statement. The position of one company can be compared to one another when IFRS or RJ is applied. Public listed companies or companies that are a subsidiary company of a public listed company have to apply the IFRS regulations. Not-publicly listed companies usually report according to the RJ accounting standards within the Netherlands, but are free to use the IFRS regulations. MSE companies could choose to report according to the IFRS regulations because of imago reasons (it can be important for the company to keep up with peer companies and other publicly listed companies) or transparency reasons (to make it easier to measure and compare their financial statements with subsidiary companies) (Zbc, 2008).

All these aspects have an impact on HR practices and their effect on company performance. We do not know how many SME metal companies are public listed companies. However, one third of the sales of the SME metal industry was exported in

2008 (Onderneming, 2009). Therefore, it can be interesting for these companies to use the IFRS regulation when drawing up their financial statement.

2.5 Recapitulation

HRM is *the relationship between the company and employees in which the management of the company guides employees towards the goals of the individual, company and society while simultaneously creating a competitive advantage*. Within the field of HRM there are different approaches. First, different researchers draw a distinction between individual HR practices and bundles of HR practices. There are researchers that believe that HR practices do not affect the performance of employees individually but indicate that HR practices are interrelated and affect the performance of companies when they are bundled. Second, other approaches to the concept HRM and HR practices are best-practices and best-fit approaches. The best-practice approach states that the company which implements the 'best' HR practices will be successful. This approach assumes that all successful companies have implemented the same HR practices. The best-fit approach on the other hand indicates that the effect of HR practices are depending on the organisational context and therefore differ between companies.

Within the field of HRM there are two important fundamental HRM models: The Harvard approach and the Michigan Approach. The Harvard approach is more focused on high commitment of employees within the company. The Michigan approach is more focused on high performance. Both models denote, that environmental factors affect (or should affect) the HRM policies within companies. The environmental factors/situational factors that have an impact on (or should have an impact on) the company HRM policies are: policies implemented by the government, CAO agreements, law and regulations, workforce characteristics and the characteristics of SME companies. One of these characteristics is that the workforce is ageing. The 31% of the employees are older than 50 years (in 2008) and only 12% is younger than 30 years. Because of the ageing population the number of older employees within company will increase even more. Besides that the jobs in the metal industry are more age sensitive which indicates that employees on the long run will have a hard time performing their tasks. These aspects have to be taken into account when SME companies implement HR practices or when HR practices are advised to implement in these companies.

The models developed by Beer et al. (1984) and Fombrun, Tichy and Devanna (1984) both indicate that HR practices affect company performances. To develop a financial forecasting model for the SME metal industry we will determine the effect of HR practices on the financial performance of company. Besides that in a study of Henkens, Remery and Schippers (2003) they found that employers associate older employees with high labour costs and a decrease in labour productivity. The labour productivity of employees can be positively affected by HR practices. The labour productivity is partly affected by the rate of absenteeism of employees and therefore will have to take that into account by determining the financial effects of HR practices. A company should not only focus on the labour productivity of the company because the company can still go bankrupt even when the labour productivity of their employees is at its maximum. The labour productivity of a company ignores the costs of production (e.g. salary payment to employees) and liabilities of the company (e.g. long-term and short term loans). Therefore we will also focus on the financial statement of companies: specifically the income statement and balance sheet of company in the SME metal industry. The financial statement of a company has to be reported according to the IFRS or civil code 2 of the

Netherlands. Public-listed company report according to the IFRS regulation and non-public listed company report mostly by using the Dutch financial reporting standards (RJ). The RJ is a guideline that can be used to apply the civil code 2 on the financial statement.

All of this indicates that we have to answer the following research question to develop a financial model that can help companies to overcome the problems that will arise because their workforce is ageing.

Our research question is:

RQ. What is the impact of practices that can be used with respect to the ageing workforce on the financial performance of SME companies in the metal industry?

The sub questions that have to be answered to find an answer to our central research question are:

Q1. Which practices are available with respect to the ageing workforce problem in the SME metal industry?

- A. Which practices are or will be implemented by the government with respect to the ageing workforce problem?
- B. Which practices are already available in the Collective Labour Agreements with respect to the ageing workforce problem?
- C. Which HR practices can be implemented by the management of a company (and are not yet used on a large scale within companies) with respect to the ageing workforce problem?
- D. Which obligations have to be obeyed when companies implement HR practices?



Q2. What is the impact of the HR practices on labour productivity and rate of absenteeism?



Q3. What is the impact of the practices on the financial statement of the company?
A. Which IFRS or RJ regulation must be taken into account when determining the effect of HR practices on the financial statement?

But how to we track the answers of these questions? In the next chapter will give an answer to this question.

3. Methodology

In this chapter we describe the methodology to find an answer to the question: What is the impact of HR practices that can be used to solve the ageing workforce problem, on the financial performance of companies in the metal industry? First we will describe the methodology used to determine which HR practices affect the ageing workforce problems positively. Second, we will describe the methodology to determine the effect of these HR practices on the financial statement. These results will be the input needed for our financial forecasting model. We describe our research method, the samples and procedures to determine these relationships of companies in the MKB metal industry.

3.1 Desk research

Which HR practices are we going to analyse and what are the effects of HR practices on the financial statement? This research question has a descriptive purpose, because we want to describe the effects we found in literature. This research question as denoted in chapter 2 will be answered by using desk research. Desk research is a method that researchers use to find out of literature is available on a particular topic. The researcher analyses information that is already available and that can be used in their research. This method is used in our research to get an overall indication of the HR practices that can be applicable to the SME metal industry. Furthermore, in chapter 2 we indicated that the government and unions have an impact on the HR practices that could be implemented in companies. These practices (e.g. salary payment) affect the financial statement of companies. The content of these practices are partially prescribed by law and collective labour agreements. Therefore we will take these facts into account by describing the affect of HR practices on the financial statement. We use desk research because most of the information needed to determine the HR practices that can have an impact on the financial statement are described in documents. Another method that can be used for example, in-depth interview where the opinion of experts can be gathered. This kind of research is time consuming. Desk research, on the other hand, is less time consuming. In addition, most of the information needed to determine which HR practices can positively influence the ageing workforce. This information can be found in literature. Therefore we choose to use desk research to determine these practices.

3.1.1 Procedures

We will first describe which HR practices can reduce problems that result because of the ageing workforce. These practices are determined by analyzing literature and by investigating which HR practices are implemented in companies. Second, we determined which of these practices can be implemented within the metal industry by analysing the workforce characteristics and the literature for SME. This will give a list of HR practices that are applicable for companies in the SME metal industry. These outcomes are used within the case studies. Furthermore, the effects of HR practices on the financial statement are determined by the government and unions. These facts are partially recorded in laws and regulations and partially in agreements between employers' organizations and employees unions. Therefore we will use desk research to describe these effects.

3.2 Case studies

Several researchers, as described in Chapter 1, tried to determine the effects of different HR practices on labour productivity and rate of absenteeism. Some of those researchers

found a causal relationship but did not determine the size of the effects in quantitative figures. Sels et al. (2006) used a method where they determined the effect of more HR practices on productivity and financial performance. Sels et al. (2006) collected their data from a survey and used a data bank with financial information of the companies. The information needed for our research is: which HR practices are implemented in companies and what are the effects of these HR practices on the labour productivity of employees? The methodology that can be used to get this kind of information from a large group is a survey (web-survey). The information collected from a large group can help to generalize the results of this research to the entire population. To generate a forecasting model it is important to find results that can be generalized, because we should be able to apply this model to different companies within the SME metal industry. During this research we found out that we were not able to approach a large number of companies, because the development of a web-survey was delayed. Therefore we choose to approach a sub-group as a pilot to get a first impression of the (expected) relationship between the HR practices and financial performance of a company. The participants were first approached to participate in a survey⁹. Second, the sub-group was approached to conduct a case study. A case study is method that involves gathering in-depth information about for example a person, social setting or group (Boselie, 2002). We use case studies to investigate the effects of HR practices in companies. We can determine by using case studies *which* HR practices are implemented within the company, *why* the company has implemented certain practices and *what* the effects of HR practices are on the financial performance of companies. This will give insight in the relationship between HR practices and the financial performances of companies. To determine the effects of HR practices on the financial performance we will use a descriptive approach, but also an explanatory approach. Because in some cases we will go further than only explaining that there is a relationship between the two variables but we will also investigate why there is a relationship. A case study is a method which can provide in-depth information about the relationships between different variables. Therefore we chose this method to find an answer to our research question.

Labour productivity - The labour productivity of a company can be defined in different ways. According to Guthrie (2001) labour productivity can be defined as total output divided by labour inputs. It determines to which extent a firm's human capital is efficiently creating output. When a company can realize a higher labour productivity as before it indicates that the company realize a high output using the same number of employees (Sels et al., 2006). The added value will give an indication of the efficiency of the workforce of a company. We define labour productivity as follows:

Labour productivity is defined as the Gross Margin (sales – costs price of sales) divided by the number of FTE's.

This definition is chosen to calculate the added value of employees in the metal industry. The cost price of sales of a company can not be assigned to the added value that employees create. Therefore we made the choice to use the gross margin instead of the sales of a company.

⁹ The sample and measures that are used for the survey are shown in appendix 1. These results are not shown in this thesis because we could not make any assumptions based on the figures of 12 companies.

Rate of absenteeism – The rate of absenteeism is defined as:

We will calculate the rate of absenteeism by the amount absent days (including weekends) divided by the amount of employees (in FTE's) multiplied by amount of calendar days in the observation period. There are exceptions: employees who are on maternity leave and employees, who are working on therapeutically bases without any wage value, do not have to be included in this percentage. The employees that are partially absent should be included in this percentage (Deursen, 2004).

We choice this definition because most companies register the first absent day and the recovery day of the employees. These dates are also needed for the re-integration policy employers have to apply for. This is will be explained in more detail in chapter 4.

3.2.1 Participants

We approached 12 of the companies that collaborated on the survey, and four of them were prepared to collaborate in a case study¹⁰. Two of these companies are operating in the light engineering industry and two of these companies are operating in the large-scale metalworking and electrical industry. The light engineering industry is divided in sub-groups therefore we made to choose to approach companies in one of these sub-groups. We choose the metalworking firms subgroup. The companies that were approached have 50 - 250 employees. The companies were no costumers of Mercer. The companies that are a customer of Mercer were not approached, because Mercer has a policy that prohibits approaching customers of Mercer to participate in a survey, more than once a year.

To determine the effects of the HR practices on the labour productivity we spoke with three different employees within each company: the HR manager, a supervisor and a work council member. With these outcomes we determine what the effects are of the different HR practices are on the labour productivity and the rate of absenteeism of (older) employees. The interviews were conducted with the HR manager of the company because he/she determines the HR policy within the company. The HR manager will implement HR practices for a reason. The supervisor of the company is the executer of the HR practices and has immediate contact with the employees. The supervisor works closely with the employees therefore the supervisor will be able to see how HR practices influence the behaviour and attitude of the employees. The work council members represent all employees in the company. Companies with a workforce of more than 50 employees are legally obligated to establish a work council. The employee's council has to agree on the working conditions (ARBO) policy within the company. When the employee's council does not agree with the ARBO policy the employer have to develop a new ARBO policy (CNV, 2008). The effects of the HR practices will be influenced by the perception of employees regarding the HR practices. Because of this it is important to check their vision regarding the HR practices. Table 2 shows the participants that we interviewed during the case studies. The names of the companies are not mentioned because at the start of this research we promised confidentiality to the participants.

¹⁰ We decided to use case studies because the low number of respondents of the survey affected the statistical conclusion validity of this research and therefore the validity of this research.

Sector	Companies n = 4	Interviews n = 9
The large-scale metalworking and electrical industry	Company X	HR manager Supervisor / Work council member
	Company Y	HR manager Supervisor / Work council member
The light engineering industry	Company Z	HR manager Supervisor
	Company D	HR manager Supervisor Work council member

Table 2: Case studies (1)

3.2.2 Procedure

To collect data for our research we conducted face-to-face interviews. We used an open interview because we will have the opportunity to probe or ask follow up questions. We developed an interview questionnaire¹¹ for each company with the information received from the survey. In the survey we asked which HR practices were implemented within the companies. This information was used during the interviews. The questions were focused on why the companies implemented certain HR practices. To prepare the interviewees for their interview they received information about the contexts of the interview and the subject that we were going to discuss. We used a recorder to accurately record the interview (with permission of the interviewees).

During each interviews we dressed in a fashion similar to that of the people that are interviewed. To make the interviewees comfortable the interviewer uses a relaxed and friendly attitude. As a result the interviewees were comfortable and the interviews were completed successful. Within each company the interviewer had the opportunity to receive a conducted tour of the factory.

3.2.3 Data analyses

In this study we focus on three different key figures: the HR manager, supervisor and a member of the work council. Biemans (1999) found in his study that the perception of these three groups differs significant regarding the performance of the HR department. (in Boselie, 2002: pp. 94). This difference can be explained by the ‘multiple realities principle’. The multiple realities principle tells us that each person has different perspectives on phenomena, based their own social background and their position in society (and relevant for this study: position in the company). The background and position of the interviewees and their positive and negative experiences with the HR department (or HR practices) can have an impact on their perception of HRM. This can influence their opinion they have regarding the effect of the HR practices within their companies (Vennix, 2003). Therefore we have to take these aspects into account when we analyze the outcomes. To minimize the effect of multiple realities we compare the outcomes of the different interviews within one company. When the outcomes of the interviews show different outcomes, this affects the reliability and internal validity of this research in a negative way. When the outcomes of the interviews are similar this will affect the internal validity of this research positively. This way we can examine if the

¹¹ The interview questionnaire is shown in appendix 2.

relationship between HR practices and performance is caused by the implementation of practices or is caused by other intermediated variables. Furthermore, the recorded interviews are written down and send to all the interviewees to check on factual errors. Information that was not relevant for this research is excluded. After the interviewees received the interview report they were approached to provide feedback and more information if needed. To compare the outcomes of the interviews between the different companies we will use a data-matrix. This data-matrix this describe the effects of the HR practices within each company.

We only examined four companies within two different sub-sectors in the metal industry. This low number will affect the external validity and therefore we can not states that these results will hold for other companies within the metal industry. We can not assume that the outcomes of this research will hold for the total metal industry and therefore can not be generalized. This research will give an indication of HR practices that can be implemented in the metal industry and will give inside information on the effects of HR practices and the perception of different key figures in the companies. The outcomes are described in chapter 5.

4. Policies and practices

To increase the workforce participation in the Netherlands, the government, unions, employer organisations and the companies have to trigger employees to stay employed at a higher age. On macro-, meso- and microeconomic level (HR) practices can be implemented and have been implemented to increase the workforce participation. In this chapter we will answer research question 1: “Which practices are available with respect to the ageing workforce problems?” We describe the different policies and practices at macro- and mesoeconomic level and the HR practices on microeconomic level.

4.1 Macroeconomic level

On macroeconomic level the government has implemented practices to solve ageing workforce problems. The decreasing amount of working employees and the increasing amount of people that reach their 65th year will have an enormous impact of the financial situation of the government. Because people that reach their 65th year receive a retirement benefit which is financed by the employees that are working on that moment. If the premiums the working employees pay do not cover the costs of the total retirement benefits the government has to make the payments. To decrease this impact the government has implement policies to increase the labour participation within the Netherlands (Visser, 2005).

The government introduced two new policies the Work and Income According to Labour Capacity Act (Werk en Inkomen naar Arbeidsvermogen, WIA) and the early retirement policy, flexible pre-pension scheme and 'life-span leave' arrangement (wet Vut, Prepensioen en Levensloop, VPL) to increase the workforce participation in the Netherlands. These two policies are described in section 4.1.1 and 4.1.2.

4.1.1 WIA

In 1967, the introduction of the old Occupational Disability Insurance Act (Wet op de Arbeidsongeschiktheidsverzekering, WAO) attracted more disabled employees than expected. The WAO gives employees the right to receive a part of their last earned salary when they become disabled. This instrument is implemented by the government to compensate employees for the loss of earning capacity as a result of disability. The employees that became disabled and could not perform their job received 80% of their last earned salary. In 1985, the government decided to bring this benefit back to a maximum of 70% of last earned salary, because the amount of disabled employees was rising. In 1990 the Netherlands counted 900.000 disabled employees. This amount was too high and therefore the government made the employers responsible by obligating them to pay the first year 70% of the last earned salary to the disabled employees. In 1998 PEMBA was introduced to increase the responsibility of the employers even more. The government imposed on the employers a premium for the disability insurance of their employees. This premium consists of two parts, a basic premium and a differential premium. But still the disability rate was very high, therefore the government introduced a new policy.

The government implemented a different measure and changed *the absenteeism and disability policies* (which were nation wide arranged) on 1 January 2006. The absenteeism and disability policy are implemented to ensure that employees who are disabled will receive a regular income. The old WAO focused on the employees' disability whereas the WIA focuses on the employees' ability to work (and as a result: the

amount of money he or she is able to make).

The old WAO act made it for employees possible who were not able to earn more than 15% of his/her last earned wage to be classified as fully disabled. Because of this the employee had the right to make use of WAO benefits and therefore he/she had the right to receive 80% of his/her last earned wage. When the WIA was introduced the absenteeism and disability policies fundamentally changed in the Netherlands. The aim of this new policy is to minimize long absenteeism of employees and decrease the probability that employees will make use of the WIA benefits. Therefore the government changed the policies. The government decided that employees will receive a disability benefit when they are more than 35% disabled and that employees can receive up to 70% of their last earned wage. Furthermore, the government introduced a re-integration policy that obliges employers to take an active role in the re-integration of their absent employees (the law of Poortwachter). This law obliges, for example, employers and employees to develop a plan to get the employee back to work. Employers are now much stricter involved with the absenteeism of their employees. But that was not all? Employers have to continue to pay the wages of their employees when they are absent for two years. The old regulation used a period of one year. Now, the employer has to pay 170 % of the salary of an employee over two years. This new policy made it for employers interesting to reintegrate their employees that are absent faster (SZW, 2008). Therefore employers have to implemented measures.

The two reasons why employees become absent and eventually will receive a disability benefit are denoted by the ministry of SZW. The two reasons mentioned by the ministry of SZW are that employees have psychological interference or absenteeism because of back, neck or shoulder pain. In 2000 in average four out of thousand employees become disabled because of back, neck or shoulder pain. The industries with jobs that have a higher workload have the largest amount of employees that become absent (SZW, 2009c). One of these industries is also the metal industry.

To decrease the rate of absenteeism and disabilities of employees a new policy is introduced in Finland: *the Work Ability Index (WAI)*. The problems resulting from the ageing workforce and the tight labour market show a declining trend in Finland. The positive development is caused by the increase of senior employment in Finland from 1998 until 2004 and the changes on national policy level (Punakallio, 2007). Finland uses rehabilitation policies in companies which focus on practices that develop work shift schedules and flexible working possibilities and use practices to identify and support the work ability of employees. The work ability of employees is measured by means of the *Work Ability Index (WAI)* (Punakallio, 2007). It is a survey that employers use to get an impression of the work ability of individual employees in the future. The WAI measures the physical and mental work ability of employees. The outcomes of the survey can give an impression of the practices that have to be implemented to prevent absenteeism and disability of their employees. Companies collaborate internally and externally with occupational health services (the occupational health Care Act 1383/2001) to determine the boundary conditions that are needed to keep employees perform health. The well-being of employees increased as a result of WAI-survey and practices that were implemented based on the outcomes of the survey in Finland. This effected the job satisfaction of employees positively and the absenteeism due to sickness decreased or stayed the same (Punakallio, 2007). The WAI is introduced on national level in Finland. The Dutch government also started to implementation of the WAI in the Netherlands. The SZW of the Netherlands asked the institution of "Blik op de Weg", to start with the implementation of the WAI within companies, branches and industries in the Netherlands (FNV, 2008). This policy can decrease the absenteeism and disability problems even more within the Netherlands. As a result it can have a positive effect on the labour participation with the Netherlands.

4.1.2 VPL

In 2006 the government introduced *early retirement policy, flexible retirement policy and the 'life-span leave' arrangement (wet VPL)* to increase the labour participation within the Netherlands. The focus of this policy is to motivate older as well as young employees to stay employed. When the new VPL regulation was introduced (Belastingdienst, 2008), the retirement policy changed in the Netherlands. The government did not stimulate the use of *the VUT* regulation and therefore made it less attractive to retire before the retirement age of 65. The new flexible retirement policy and the 'life-span leave' arrangement were introduced to stimulate employees to work until the retirement age of 65. The government introduced a compensation policy for the employees that were born before 1950 (who were almost 65 years). Employees that were born before 1950 have to work at least 10 years in the same industry. Besides that employees have to be at least 60 years old to enter the early retirement system (Imhoff & Henkens, 1998).

The new flexible retirement policy and the 'life-span leave' arrangement were introduced for employees that are born after 31 December 1949. The flexible retirement policy is developed to motivate employees to stay employed at a later age. Flexible retirement entails that employees can choose – within certain margins – when their retirement will start (Watsonwyatt, 2008), but *without* the entitlement to the financial (fiscal) benefits that were introduced with the VUT. Therefore it is less attractive for employees to retire before the age of 65. To compensate for this change the government introduced 'life-span leave' arrangement. 'Life-span' arrangement is a policy that enables employees to save a

part of their wage in order to finance a subsequent period of unpaid leave from work. This leave arrangement gives employees the possibility to balance their work and family/care responsibilities. Employees can for example take a leave to take care of their children or parents, go to school, use it for a sabbatical or retire earlier. There is a maximum to the amount of salary that can be changed for a period of unpaid leave (Centraal Beheer Achmea, 2008). Employees can save each year maximum 12 % of their wage and can save maximum a total of 210% of their gross wage. The aim of this policy is to give employees the possibility to recover and be able to perform their jobs longer. Within the metal industry employees have the same possibilities.

4.2 Meso-economic level

CAOs and industrial laws have an impact on HR practices that companies are able to implement and affect the employee-related costs. The part of the HRM framework is set down in the CAO and can be specified by the employer within the company. These HR practices are for example monetary rewards, training, flexible retirement, leave arrangements and 'life-span' leave and absenteeism and disability policies. These arrangements are settled between the employer organisations and the unions. Each of these actors has different interests. The employer organisation aims to promote the interests of the employers whereas the unions promote the interest of the employees. The main goals of the unions and employer organisations are to increase labour participation and labour productivity. The arrangements between the employer organisations and unions are laid down in the CAO arrangements (AWVN, 2008). These policies are agreements between the employers organizations and the unions these policies are described below (these are recorded for 2008).

4.2.1 Monetary rewards

One of the most important practices that are arranged between the unions and employer organisation are the rewards systems. In 2008 employees were better able to get what they wanted from employers because the labour market was tighter and companies had a hard time finding new (well educated) employees. This development also influenced the wages and provided opportunities for unions during CAO negotiations. In the second quarter of 2008 the salaries increased on average with 3.4 % in the Netherlands. This percentage was higher than in 2007 (FD, 2008). Companies had problems filling up vacancies (CNV, 2007) and because of this had to offer competitive wages to attract new employees and retain their present employees. In the CAO of the light engineering industry this change is visible. The salaries in the light engineering industry increased with 3.5% on 1 April 2008 and will increase on 1 February 2009 again with 3% (CAO, 2008). Furthermore, the employees received a single bonus of € 200.¹² in April and December of 2008. In the large-scale metalworking and electrical industry the salaries increased with 3.5% in 2008 and will increase with 3.5% in 2009 and 0.75% on 1 January 2010. The metal industry is trying to improve their image and therefore introduced attractive policies to stimulate employees to work in their industry (CNV, 2007). Offering employees market conform rewards¹³ can realize this.

4.2.2 Training

Training employees is another HR practice that can improve the image of an industry.

¹² The employees are awarded that were employed within the company from 1 November 2007 until April 2008.

¹³ The financial crisis can have a temporally effect on the increase in the wage systems within the Netherlands.

Employees that were 45 years old or older in 2005-2008 were given the right to use one training day each year that was compensated by the employers (CAO, 2005). The unions and employer organisations have adjusted HR practices to improve the image of the industry. The unions proposed to increase the training days to a maximum of 5 days for each employee, but eventually the number of training days that was agreed upon and recorded in the CAO was only one¹⁴ day in the light engineering industry. The unions and employer organisations of the metal industry came to the arrangement to implement an accreditation of prior learning (Erkennen van Verworven Competenties, EVC) test. EVC is a process of recognizing the competence that individual employees can gain through formal, informal or non-formal learning in different settings (Kenniscentrumecv, 2009). Employees that are working 5 years by the same employer can undergo an EVC-test once in the 5 years. An EVC-test measures the skills of the employees and gives them a certificate for the skills that were not recognized before. The employer organisations and unions introduced this policy to increase the employability of low educated employees. In addition, the OOM foundation (for the light engineering industry) and the labour market and education foundation (Stichting arbeidsmarkt en opleiding, A+O foundation) (for the large-scale metalworking and electrical industry) offer employers subsidies to train their employees. These practices will affect the labour participation of employees in the metal industry.

4.2.3 Additional leave days

Employers can offer employees to buy and/or sell additional leave days. In this way, employees can choose between time off and a monetary reward. But there is a maximum of days that employees can exchange, which is recorded in the CAO arrangement (CAO, 2008). The unions and employer organisation introduced the additional leave days to spare older employees within the companies. Offering additional leave days to older employees can ensure that they are better able to recover from their work. Besides that they will stay employable in the company for a longer period. Employees that are older than 50 years old receive additional leave days. These additional leave days are recorded within the CAO agreements (art. 20 CAO, 2008). Besides that, older employees who are older than 55 years are not obliged to work on shifts (art. 51 CAO, 2008). Those two policies spare the older employees within the company and can increase the employability of these employees.

4.2.4 Other measures

The laws and regulations that are established on macro economic level are included in the CAO arrangements. WIA and VPL are under the same conditions recorded in the CAO. To promote the re-integration of employees within the own company, the M&T board (metal & technique board), can give the employer a budget of € 2000,-. The aim of the M&T board is to decrease the number of employees that enter the WIA arrangements (Vakraad, 2008). The unions and employer organisations recorded these practices in the CAO to encourage companies and employees to increase the labour participation and labour productivity.

4.3 Microeconomic level

“Young for old must make place for young beside old!” (Vis, 2000: p. 3). At microeconomic level there are two important actors who have different wishes and

¹⁴ The reason why the unions and employer organisations agreed that the companies have to offer one training day is not known.

demands; the employees and the employers. The employees and employers have to collaborate to create a company where both young *and* older employees can find their fit. The employees have to show initiative, perform well and develop their skills to be able to perform different tasks. On the other hand, employers have to provide a stimulating work environment and have to offer facilities that can influence the performance of (older) employees in a positive way (Vis, 2000).

According to Boxall and Purcell (2003): “*The employees are motivated to enter an employment relationship when; the benefits of doing so (such as wages, intrinsic enjoyment, social standing) outweigh the costs (such as increased stress and trialling costs). These benefits do so in the light of alternatives to that employment (such as alternative job offers or staying at home)*” (pp. 146).

Employers should therefore create a sufficient level of interdependence between themselves and the employees. Without a sufficient number of employees companies will not be able to accomplish the productivity that they desire and make a profit. Therefore employee retention and employee turnover are important topics companies should focus on. In this section we describe HR practices that will make it possible for a company to attract and retain more (older) employees. The following HR practices are described: recruitment and selection, training, job design, policies to fight absenteeism and management.

4.3.1 Recruitment and selection

Henkens, Remery and Schippers (2003), found that more than half of the employers that participated in their study had problems with recruiting and selecting employees. The manufacturing and construction industry stated that it was difficult to find new personnel, but had fewer problems with retaining these employees. Recruitment and selection policies can simplify the search for new employees.

The recruitment policy of a company described the ways in which the company tries to attract candidates. Companies that use a pro-active recruitment policy are those who carefully plan their recruitment activities. They use all types of recruitment instruments and aim to find the best candidate, whatever the conditions of the labour market are (Boxall & Purcell, 2003). These companies will be able to attract more candidates than their competitors. It is difficult for small companies to use several types of recruitment instruments because this will increase the costs. Therefore it is important to have a well considered recruitment plan within the company; this can result in lower costs and increase the quality of the response (Gils, van Hees, van Zandvoort, 1999). Investing in hiring practices also affects the labour productivity because companies hire employees that will better fit in the company. Employer can invest in recruitment practices by using more sources to recruit employees and by increasing the amount of information gathered about each applicant. Therefore companies should make the right choice when they select employees. Selection is about choosing the right candidate among candidates. It entails making a fair and relevant assessment of the strengths and weaknesses of candidates (Boxall & Purcell, 2003). When selecting new candidates carefully the turnover rate can decrease because of a better fit between employee and employer. As a result it is important to evaluate the recruitment and selection procedures of the company on a regular basis to make adjustments (Koch & McGrath, 1996).

Age limitations in recruitment and selection policies can cause problems because

companies are than focused on recruiting and selecting young employees and are not interested in older candidates. Such conservatism will cause problems because the average age of the workforce is rising (Boxall & Purcell, 2003). Because of age discrimination or unfair assumptions and stereotypes, older employees have problems to find a job. To improve the work participation of older employees and their equal treatment within companies the European council's directive introduced general guidelines¹⁵ to increase the diversity in the workforce. In the Netherlands the law of equal treatment based on age (Wet gelijke behandeling op grond van leeftijd bij de arbeid, WGBL) was introduced on December 17th 2003. This law states that companies are not allowed to discriminate employees based on their age when contracting new employees or when ending the employment relationship. The directive states that this does not mean that companies should, e.g., recruit or train employees who are not competent and capable to perform in a certain function (O'Conneide, 2005). But companies should not reject young or old (new) employees because of their age. This indicates that companies should attract young but also older employees to fill in the gaps in their workforce and therefore adjust their selection and recruiting system.

4.3.2 Training employees

Older employees have to be able to receive training to retain their knowledge and skills in the same way as younger employees. Dorhout, Maassen van den Brink and Groot (2002) state in their study that the chance that employees will receive training is declining when their age is increasing. According to the study of Jinkerson and Mattox (2005) training employees has a positive impact on retention rates¹⁶ that employees stay within the company. Training employees could influence the commitment of employees to the company and therefore companies should see training as an investment that increases labour productivity (Sieben, 2007). A research of de Groot (1994) found that labour productivity of employees can increase on average with 16% when employees are trained (Dorhout, Maassen van den Brink and Groot, 2002).

Training employees is very important. But what kind of training should employees offer? Companies can provide training to their employees with different characteristics. For example companies can provide training designed to acquire: general skills or specific skills. Or company can provide training designed to train employees: formal or informal or even on-the-job or off-the-job.

Company specific training, e.g., is training employees on an organisational specific manufacturing machine. *General training*, e.g., may consist of general computer training or management training of employees. The difference between formal and informal training is that *formal training* is given by an instructor and an informal training is given by a co-worker/ line manager. *On-the-job training* is training of employees on the workplace. *Off-the-job training* is the training of employees away from their workplace.

According to Becker (1962) companies that give their employees specific skills training will have a lower turnover rate than companies that provide employees with general skills

¹⁵All European countries had to implement the equal treatment law in their regulations before 2 December 2003, but companies could get permission to wait three years before implementing the guidelines regarding age discrimination.

¹⁶Companies can obligate employees to stay within the company for a certain time or obligate the employees to pay the training costs back to the company when they decide to leave the company (before a certain time). This can affect the retention rate within these companies.

training. Employees that receive a specific skills training can not use these skills within another company, and therefore the chance that these employees will leave the company can decrease. General skills training on the other hand can be used within other companies and therefore these skills can increase the productivity within other companies as well. Employees are willing to invest in general training because it improves their position on the labour market and assures that employees can earn more by other company. This increases the risk that employees will leave to company. This all mean that there is a chance that companies will not earn their investment back. Therefore most of companies are less willing to pay for general training compared to specific skilled training (Becker, 1962). The same can be said about function related training and non-function related training. Employers are less willing to invest in non-function related training because the investment can not be seen in the daily functioning of employees. Nowadays mostly employees and employees each pay a part of the training costs (Dorhout, Maassen van den Brink and Groot, 2002).

Training employees can motivate employees to increase labour productivity and will enhance the skills of employees what can result in an improvement of performance on their job. This means that the employer has to offer facilities to make it possible for employees to train and to develop themselves. The employees on the other hand, must be willing to train themselves to increase their employability (Lokhorst, 2003). According to Backerra, Cremers & Kasper (2008) training is necessary for maintaining and extending human capital as well. If older employees will not receive any training this will affect their human capital and this will affect their labour productivity negatively. In conclusion: older and younger employees have to be trained within a company.

4.3.3 Job design

Job design of a company includes all the goals and tasks that have to be accomplished by employees. Employers can decide to change the job design of employees to increase the labour productivity of the employees and/or the work motivation. Companies can decide to implement job rotation, job simplification, job enrichment or job enlargement. Companies in Greece use cyclical work/job rotation policies. Job rotation indicate that employees move from one job to the other with as goal to give these employees a greater variety of tasks and alleviate boredom. With the introduction of this practice one part of the body of an employee does not have to carry the entire workload. This practice can have a positive effect on older employees because they will no longer to be excluded from participating in the production process and therefore stay longer¹⁷ employable (Mestheneos & Kapolou-Loannidi, 2005). This practice is also introduced within the Netherlands.

In Job enlargement the current function is expand with a number of different tasks on the same level. Job enrichment is slightly different from job enlargement. Job enrichment entails that the function is enriched by assigning other tasks or task components of another (higher) level to the function, e.g., by increasing the responsibility of the employee (Orpen, 1979). When these practices are implemented within companies the motivation of the employees can increase. Employees who work on the same tasks for a long period can have a decreased motivation. Offering employees the possibility to take on new challenges by means of job enlargement or job enrichment their motivation may increase (AWVN, 2000;Orpen, 1979) and therefore their labour productivity may

¹⁷ Delta industries in Greece promote this policy (Mestheneos & Kapolou-Loannidi, 2005).

increase. Besides the opportunity to raise the work capacity by enlargement or enrichment of the function, the company can give employees the opportunity to lower the workload of the employee by offering them a *demotion or a job simplification*. *Demotion*¹⁸ is a tool that can positively influence the employability of older employees within the company. It may be introduced to spare older employees that perform less because of health reasons. According to a research done by Josten and Schalk (2005), demotion is mostly offered to employees that have health problems. But they found that demotion did not solve the problems of these employees. They give several reasons for this finding:

- A decrease of respect from other employees made a lower function less attractive and
- There was less communication with management during the change of function and therefore employees did not understand why demotion was offered.

This problem can be solved by improving the communication between the employee and management, listening to the wishes and demands of the older employee and by communicating with the other group members. When the management of the company complies with these factors it can increase the employability of older employees.

4.3.4 Policies that fight absenteeism

Companies have to offer their employees a certain 'quality' of working conditions/environment. First, the companies in the Netherlands are legally obliged to offer employees good working conditions and work hours. These policies affect the absenteeism of employees within the company. ARBO law states that employers must pursue a policy with the basic rules to offer employees a safe and healthy working environment. This means that companies have to offer employees, e.g., protective clothing. Tools, machines and buildings have to be in good working conditions to ensure the safety of employees. Companies have to obey the safety rules on noise, toxic gas and smoke. Employees are obliged to use the tools and instruments that the employers offer them to grant their safety. In addition employees are obliged not to endanger themselves or others when they perform their tasks (CAO, 2008). Companies with more than 50 employees are obliged to have a work council. The work council has to agree on the ARBO policy within the company (CNV, 2008). Especially in the metal industry it is important the employees have good working conditions because their jobs have a higher workload.

When the workload and the ability (physical and mental) of the employees are out of balance employees can lose their motivation and can have health complaints. Employees can become disabled to perform their tasks which can have a negative effect on the company. The disability of employees can be caused by the workload, the work conditions, an unhealthy lifestyle or changes in the private life of the employee (Lokhorst, 2003). Therefore the work council has to agree on and helps decide how the working conditions are arranged within the company. A decrease of workload can have a positive effect on the health and motivation of employees. This can result in a decrease of the absenteeism rate, which will decrease the labour costs (Imhoff & Henkens, 1998).

¹⁸ Demotion regulations are arranged in the CAO agreements.

Instruments that can be implemented to improve the working condition within company will prevent absenteeism and disability of employees. When employees get older there will be a reduction in joint mobility and a decrease in muscular strength. With the introduction of ergonomic policies the chance that employees will become sick will decrease. Therefore the chance that employees remain employable will increase. Roper and Yeh (2007) state that companies should introduced instruments that decrease the level of physical strength employees need when performing their jobs. These instruments can spare employees that have problems with heavy weights. In addition, companies can improve the health of their employees by offering or promoting exercise programs. Physical training can improve the well-being of the employees which will improve the work capacity of employees and will eventually result in fewer health care costs. Furthermore, in the USA there are companies which give information to employees about the effects of bad habits (e.g. smoking, eating unhealthy food) on their health and well-being. The aim of these policies is to reduce the costs of sickness absence within companies (Vis, 2000). These programmes may also have a positive impact on the rate of absenteeism within the Dutch companies.

4.3.5 Management

According to Punakallio (2007) commitment and motivation at all levels within the company is important to realise success. Managers are the executers of the HRM policy within the company. So, they have to adopt a management style that fits both younger and older employees (Vis, 2000). Therefore *management behaviour* is important. The management staff of a company has immediate contact with the employees and therefore most of the communication between the employees and company is mediated by the manager. The management staff can influence the behaviour of the employees and can increase the motivation of employees by asking what the wishes and demands of these employees are. The involvement of employer with the re-integration process of employees can have a positive influence on the period of absenteeism of an employee¹⁹ (Centraal beheer Achmea & Mercer, 2008).

Managers should approach each individual employee in a way that fits that person. An employee who is 50 years old can be functioning very well, but another employee of the same age could be burned-out. Therefore it is important for companies to implement individual arrangements instead of (or besides) collective arrangements (Vis, 2000). Because of this, it is important that management looks at the wishes and possibilities of their employees on an individual basis. The commitment of employees will affect their labour productivity of the company. Therefore this is important to increase the commitment of employees (Boselie, Paauwe and Jansen, 2001). Instruments that may contribute to this arrangement and that may stimulate employees are: a career prospect plan, performance interviews and a work meeting.

A career prospect plan is an instrument that may bind employees to the company. In this plan the personal development of an employee is recorded. It recorded which direction employees are willing to go (and grow) and it binds employees to the company for a long period. Within a career prospect plan employees and employers can plan the prospects of the employees for the coming ten or fifteen years. This is useful to employees that are in

¹⁹ We will analyze the effect of management involvement on the rate of absenteeism during our empirical research.

the last stage of their working life as well, because it may help them to get a better perception on the last couple of years before their career ends (personeelsnet, 2008). Within a flat organisational structure it is difficult for employees to see where possibilities and opportunities lie to grow and how they can develop themselves within the company. Therefore an active policy regarding career prospect plans can be an instrument to clarify the possibilities. Especially, SME companies should therefore implement career prospect plans for all their employees. Furthermore, performance interviews increase the communication between the employee and the employer (management staff). The manager and employees discuss the possibilities of the employees and their performance on the individual on the job. As a result the manager gets a better impression of the abilities of employees and their wishes. The conversation is aimed to increase the quality of work and teamwork within the company. The management of the company will because of this get an impression of the working circumstances (Gils, van Hees, van Zandvoort, 1999). In addition, a work meeting is a conversation in which management tries to stimulate employees to be more involved in the decisions that are made within the company. Frequently planned discussions of progress will increase the commitment of employees to the company. Eventually the aim of a work meeting is to improve the functioning of the entire company (Gils, van Hees, van Zandvoort, 1999).

4.4 Conclusion

This chapter described which (HR) practices can be implemented to solve the ageing workforce problems which could be introduced in company in the SME metal industry. We found different HR practices implemented on different economic levels, the macro-, meso- and microeconomic level. The (HR) practices described in this chapter will have an effect on the financial performance of companies in the metal industry. We will implement these practices in our financial model in chapter 8. These practices are shown in figure 6.

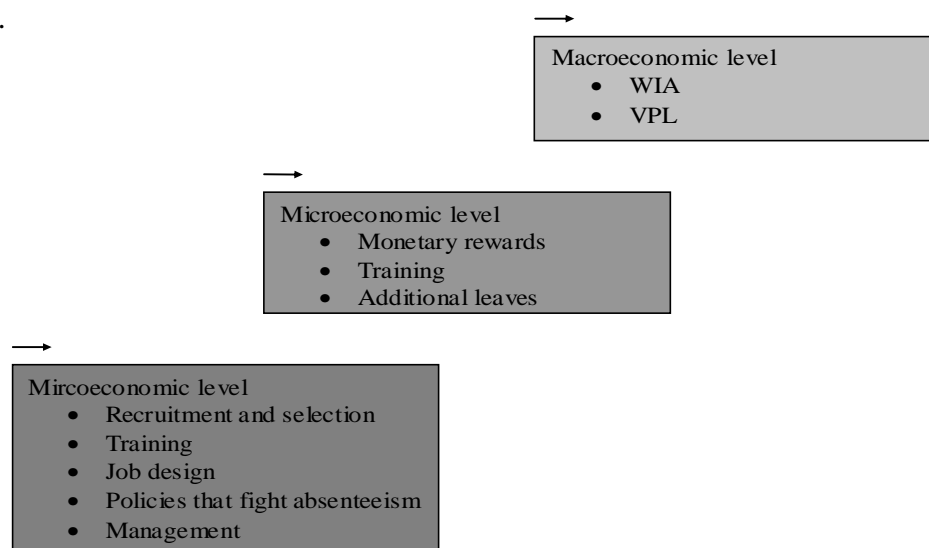


Figure 6: Practices

Besides these three different levels of practices company have to obey the law and regulation regarding employees and working conditions. Company may not discriminate employees based on age by recruitment, training etc. Employers have to offer a save a work environment and good working conditions. The practices on mircoeconomic level are in practices that can be implemented within companies. Therefore we use these practices in our empirical research to determine the effects on the labour productivity and the rate of absenteeism of employees within the metal industry.

5. Labour productivity and rate of absenteeism

In our empirical research we try to find an answer to the following question: ‘What is the impact of the HR practices on labour productivity and rate of absenteeism?’ To answer this question we conducted interviews with employees of four different companies in the SME metal industry. We present these results in this chapter. Two of these companies operate in the large-scale metalworking and electrical industry and the other two companies operate in the light engineering industry. First, we describe the characteristics of the four companies. Second, we describe what kind of picture companies have of the ability of older employees. Third, we describe which HR practices have been analysed. In addition, we will describe each individual HR practices in detail.

5.1 The four case studies

The four companies we analyzed were interviewed in December 2008. Therefore the information gathered may be slightly changed within these companies compared to now. Figure 7 shows for each company which employees were interviewed for this study. We could not interview within each company a work council member, because most of these employees were working in the production process and were not able to participate on this study. The characteristics of each company are described below.

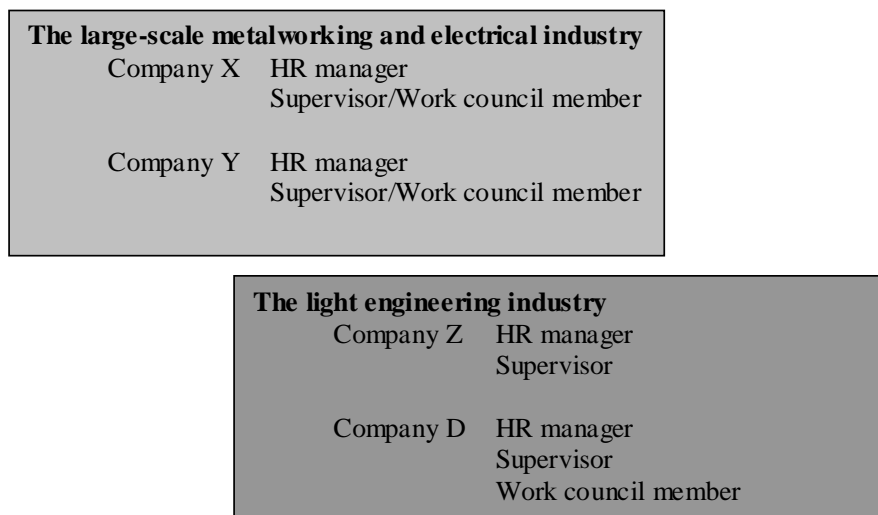


Figure 7: Case studies (2)

Company X is active in the large-scale metalworking and electrical industry. The company builds machines. The organisational structure is flat and the company consists mainly of technically skilled employees, mostly engineers and welders. There are working eleven female employees on non-technical functions within this company. Company X is going to implement a lean production line in 2009. We interviewed two employees in company X: the HR manager and a supervisor. The supervisor is work council member as well. We therefore also asked the questions that were drawn up for the work council member. The HR manager has been active within this company for half a year. She is trying to implement changes in the HR field. Therefore, most of the HR practices are not yet implemented within the company. The supervisor has been working in this company since May 2001. The supervisor is trained to perform this function as a supervisor. Company X recently experienced difficulties filling vacancies. The company

still has problems to find the right candidates for certain jobs.

Company Y is active in the large-scale metalworking and electrical industry. The company is an iron foundry. The level of education of the employees differs. The production employees have an elementary degree or a technical secondary education (In Dutch: MTS) degree. The foremen have minimal a senior secondary vocational education (In Dutch: MBO) degree. One female employee is working on the production department. Furthermore, the company has employed a lot of foreign employees (e.g. Turkish and Moroccan employees) compared to the industry average. In Company Y two employees were interviewed: a HR manager and a supervisor. The HR manager is at the same time the general director of the company. He started working at this company five years ago. The supervisor is a quality manager and at the same time he is a work council member. The supervisor is 25 year employed in this company. To be able to fulfil this job the supervisor has obtained a technical higher vocational education (In Dutch: HTS) degree. The HR manager recently applied for *the reduction of work hours arrangement* offered by the ministry of SZW. The company did not experience difficulties in filling vacancies because of the tight labour market.

Company Z is active in the light engineering industry and is a metal working firm. The company is characterised by a flat organisational structure. Most of the employees are have a technical secondary education degree. Employees within the company need technical expertise to perform their jobs, because Company Z produces high quality products. Furthermore, no female employees are working in the production department. Nine employees are foreigners and seven of them are of Polish origin. 98% of the employees work full-time. It is difficult to work part-time in the production department because all the tasks have to be performance at the same time. Therefore part-time work and flexible work hours are not possible within the company. When one task is not fill up is will have an impact on the tasks other employees have to perform. In Company Z two employees were interviewed: a HR manager and a supervisor. The HR manager has also the task of controller and started working in this company in May 2007. The supervisor started working in 2001 in Company Z. Since October 2008 he is a planning engineer and a work council member as well. To perform the task of planning engineer, the supervisor has been trained to obtain a senior secondary vocational education degree. Company Z recently experienced difficulties filling their vacancies. They could not find enough well educated employees within the Netherlands. Therefore Company Z chose to hire seven polish employees. There are no vacancies at Company Z in December 2008.

Company D is in the light engineering industry and is a metal working firm. The company is characterised by a flat organisational structure. The education level of the employees is very diverse. 10% of the employees is of foreigner origin. One female employee works in production department. The other employees are all men. The production employees work on full-time basis. In Company D three employees were interviewed: the HR manager, a supervisor and a work council member. The HR manager is also a controller within the company. The HR manager started working in this company mid 2006. The supervisor has been working in this company for nineteen years and did not receive additional training to perform his job. He supervises a group of employees who are older than 50 years. The work council member has been working fourteen years at Company D. Company D recently experienced difficulty filling their vacancies. Company D has ten vacancies in December 2008.

The quantitative figures that we gathered are described in table 3.

	Company X	Company Y	Company Z	Company D
Foundation year	1960	1846	1909	1969
Province	Gelderland	Gelderland	Gelderland	Utrecht
Number of employees in 2007	125	95	90	101
Employees older than 45 years	20%	40%	30%	40%
FTE in 2007	120	94	87	98
Rate of absenteeism in 2007	3.75 %	6.2 %	5.2 %	3.8 %
HR department / HRM degree	Yes/Yes	No/No	No/Yes	No/No
Labour productivity (sales/FTE)	€ 116,000.-	€ 245,000.-	€ 115,000.-	€ 306,000.-
Sales 2007	€ 14,000,000.-	€ 23,000,000.-	€ 10,000,000.-	€ 30,000,000.-
Wage payment 2007	€ 5,500,000.-	€ 4,700,000.-	€ 2,300,000.-	€ 3,000,000.-
Training costs	€ 100,000.-	€ 30,000.-	€ 26,000.-	€ 6,000.-

Table 3: General information companies - case studies

Company Y and D have the highest percentage of older employees within their company and have a high labour productivity compared to the other two companies. The calculation of the labour productivity is different than we mention in chapter 3. The companies could not hand the production costs and therefore we divided the sales by the number of employees. On the other hand the rate of absenteeism within Company X is the lowest with a low labour productivity compare to the other companies. Besides that Company D invested very low in training compared to other companies and has the highest labour productivity. This difference can be caused because the production costs are included within the labour productivity and because both companies produce different products their production costs can differs enormously.

5.2 Older employees

In chapter 2 we stated that the jobs within the metal industry are age sensitive, because the workload is very high compared to other industries. This may influence the performance of older employees in this industry (Vis, 2000). Therefore we first determined whether older employees have a lower labour productivity or a higher rate of absenteeism according to the interviewees. In this study we refer to older employees as employees that are older than 45 years. All the respondents state that older employees are valued and respected within their company.

Company Z states that labour productivity of older employees is lower compared to labour productivity of younger employees. Company Z tries to offer these employees other tasks, but the HR manager states that labour productivity of these employees drops to the same level even when they are assigned to other tasks. The other companies do not indicate lower a labour productivity or a higher rate of absenteeism for this group of employees. Company Y said that the labour productivity of older employees is the same as younger employees. Company D stated that older employees are appreciated and respected within the company. The HR manager does not see a lower productivity or a higher rate of absenteeism of these employees compared to younger employees. The employees who almost reached their retirement age may have a lower labour productivity compared to other employees.

There is no difference between the rate of absenteeism of older and younger employees within this Company X. The HR manager of Company Y denotes that “*We do not get the impression that older employees are sick more often than younger employees. Perhaps it is in our company the other way around. This has mainly to do with the mentality of young employees in the company.*” Older people feel that they really need to work, while the younger employees stay at home more easily. In Company Z the HR manager does not observe a difference between the young and older employees regarding their rate of absenteeism. Within the group of older employees, only a difference is visible by the employees who almost reached their retirement age. One of these employees is working still at the same rate since he started within the company. Another employee becomes sick quite easily if he has to work harder than normal. The HR manager states that this has to do with the mental state of the employees. In Company D there is almost no difference between the rate of absenteeism of younger and older employees. The only noticeable difference is that younger employees are often sick for one day as the older employees are continues present.

The outcomes of the case studies do not correspond to the outcomes of the research by Henkens, Remery and Schippers (2003). Employers they questioned expected that the labour productivity of the workforce *will not increase* because the average age is increasing, but did expected that the rate of absenteeism of the workforce *will increase* because of the age of the workforce. Besides that Kotlikoff eand Gokhale (1992) found in their empirical study that the labour productivity of employees decreases around the age of 45. The four companies we approached do not have the same impression of the older employees working in their company. This difference can be explained by the commitment of the employees to the company. The companies state that all employees are commitment to the company.

5.3 HR practices

The variables we used in our empirical research are:

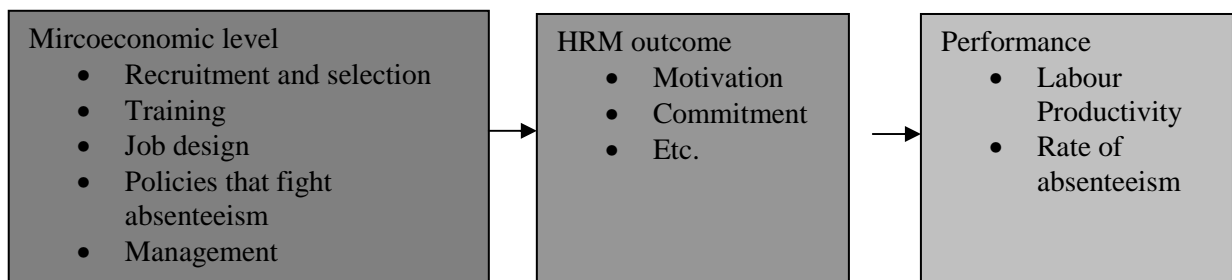


Figure 8: Variables empirical research

In the next section we will describe our findings. We will discuss each HR practice individually. Some HR practices are implemented within the company for both younger and older employees therefore we will sometimes use the term employees for these cases. When HR practices have an effect or have a difference effect on only older employees we will mention that.

5.3.1 Recruitment and selection

The recruitment and selection policies are partially affected by the number of vacancies a company needs to fill. Besides that companies will focus on recruitment and selection policies when they recognize the importance of proactive a recruitment and selection

policy. Furthermore, companies recruiting employees that better fit the company will have a positive effect on the labour productivity and rate of absenteeism. All four companies implemented more recruiting activities to attract more employees than before the tight labour market.

Company X indicates that they receive enough applications, but these candidates do not have the skills that are needed. Two important vacancies were not filled for a long period. Company X therefore used advertisement to find candidates. The supervisor indicates that in the same ad they announced the profit sharing employees received last year. This amount was very high and within short-time the two vacancies were filled up. The Company X is now focused on attracting the right candidates that better fit the company and therefore carefully selects its candidates. The company decided to change their recruitment and selection plan. The HR manager stated that the company first had to determine its mission, vision and the kind of employees that would fit their company. Therefore, Company X decided to use a different recruitment and selection method to attract employees that better fit their company. If we can accomplish this it will have a positive effect on the labour productivity of these employees. The HR manager states: *"We will achieve this by photographs of staff members on our website and by giving candidates the opportunity to virtually look at the daily work of the engineers and welders."* The website is not especially designed to attract older employees, but to find the right person for the job. This can be younger or older candidates.

Company Y does not have problems to find employees in spite of the tight labour market. Only at engineering level the company had problems to find candidates. Company Y recruits employees on production level using an employment agency or employees offered to work for the company by themselves. In addition, the company approached graduated students to apply for a job. The company mostly hired older employees because these candidates have a lot of experience. According to the HR manager these employees are quick to understand the organizational process. Therefore those employees quickly achieve a high labour productivity level. The HR manager indicates that they do not have a pro-active recruitment plan on production level, because they do not have difficulties to fill vacancies. He indicates that candidates who do not like their jobs and are less motivated leave the company within one week. As a result the employees who are motivated will stay within the company. Employees who do not fit the company will leave. The company does not have a recruitment and selection plan but if they need employees they can ad-hoc implement a new recruitment policy.

Company Z recently experienced difficulties when filling their vacancies. They could not find enough well educated employees within the Netherlands. December 2008 there were no vacancies in Company Z. Company Z tried to hire employees for the production department through a recruitment and selection office. Unfortunately, they could not find appropriate candidates. Therefore the company used different recruitment method to find employees. They called in an employment agency that is working with employees that have a polish background and the vacancies were filled within 6 weeks. Company Z hired seven polish employees with this new recruitment method. The company evaluates their recruitment company each year. If they need employees, then the company is actively recruiting candidates. Because the employees within this company need technical expertise to perform their jobs, they carefully selected their employees.

Company D is working with a poster office (detacheringsbureau) to fill up vacancies. The company used advertisement and searched on the national vacancy department to recruit employees but that did not work. Those vacancies can be filled up by young or older employees. In December 2008 the company had 10 vacancies. Most of the employees who left the company left because they could earn more, follow certain training or just wanted a challenge. Company D will not offer certain employees more salary than others because the other employees would want to have a raise too. The company has not been successful at recruiting employees because there are still vacancies. They said they need employees who possess certain skills and these employees are hard to find because of the tight labour market. The HR manager is adverting in a newspaper and is searching on internet sites to find employees that fit the jobs. Company D states that they do *not* mention in their advertisements that they offered a high profit share to their employees last year or use other aspects (e.g. their wage system) to trigger candidates to work for the company. They feel that employees should come to work at this company because they want to and not because they offer a high profit sharing. Company D states that employees must be willing to work for the company and have to be willing to produce the products Company D is developing.

According to Koch and McGrath (1996) investing in hiring employees can mean that the company will attract employees with a higher labour productivity than when they do not invest recruitment and selection. Company X and Z denote that they need employees with a high quality and to attract these employees they have to invest in recruitment and selection policies. In addition, Company Y denotes that not only investing in recruitment and selection will attract employees with a higher labour productivity, but employees that are not motivated to perform these jobs will not stay within the company. Therefore employees with a higher labour productivity will stay within the company. Companies have to invest in their recruitment and selection policies to find employees who fit the company because of the tight labour market. Therefore they use different resources to find employees that fit their company. Company D denotes that employees must be willing to work for the company and have to be willing to produce the kind of product Company X manufactures. Hiring employees that are willing to produce the products the companies are making will affect the labour productivity of these employees positively.

Recruitment and selection	Company X	Company Y	Company Z	Company D
Different kinds of R & S/ proactive policy	Invest in R&S	Invest in R& S(not active for production employees)	Invest in R&S	Invests in R&S (but is not successful).
R & S plan	Yes	No	Yes	No
Fit with the company	Important, employees	Important but employees that	Important, need employees with	Important, employees

Table 4: Case studies – recruitment and selection

Company X is the company that has the most proactive recruitment and selection policy. Company X is the only company in our case studies that has a separate HR department. This can explain why this company is more actively trying to attract new employees. As indicated by Winnubst and de Kok (2008) smaller companies in general do not have a

separate HR department and therefore do not have the time to manage all the HR practices. This is strongly visible in Company D. The HR manager of company is at the same time Controller. This indicates that the HR manager can not only focus on the HRM Policies of the company and have a proactive recruitment policy. Furthermore each company found it important that employees fit the company.

5.3.2 Training

The four companies indicate that *training* employees can have a positive effect on their labour productivity. In the CAO agreements employer organisation and unions recorded that companies have to offer one training day to their employees that is financed by them. Besides these training hours and costs companies should invest more in their employees.

In Company X younger and older employees have the possibility to receive *training*. The employees have to invest in time and the company will pay for the training. The employees can indicate when they need training or the management staff can decide that an employee needs training, e.g., when the quality of the production is low. The training budget and the kind of training employees will receive are depending on the organisational goals. Older employees are not often trained, because they do not want to be trained. But the company tries to stimulate older employees to get training because the A&O foundation finances a part of the training costs of older employees. The labour productivity of these employees is not lower but when employees are not trained it negatively affects the employability of these employees. The supervisor states that employees are working more efficient because of the training they receive. Both the HR manager and supervisor state that different types of training can have different effects on the labour productivity and *motivation* of the employees. Therefore, they can not express what kind of effect training will have on the labour productivity and motivation of employees. The HR manager states that employees *must be willing to* be trained.

In company Y all (young and older) employees are offered training. The training that employees will receive depends on the goals of the company and the needs of the employees. The HR manager states: "*The effect of the different kinds of training is difficult to measure.*" Besides that, the added value of some courses is only measurable after a longer period, e.g., a first aid course. The company made the decision to pay the training costs and half of the training hours and the employees had to invest the other half of the training hours. Employees must be *willing to receive training*. Older employees within the company are trained because not being trained will result in a decline in knowledge. It is important for the company to retain the older employees, because these employees know the company and know what needs to be done. Firing the employees will entail that the company will lose knowledge and will result in a decline of labour productivity. Therefore the company decided to apply the reduction in working hours arrangement.

Employees in Company Z can state if they need training. Besides that the foreman and management staff can decide that employees need training when they do not function well or when the knowledge level of the employees is low in a certain field. Company Z uses the budget that is released by the OOM foundation²⁰ to train their employees. This budget is €2,000.- per two years for each employee. The budget that the company itself

²⁰ OOM foundation finances a part of the training costs for companies in the metal working firms when they train their employees.

makes available to train employees is about €50,000- per year. The company has approximately 100 employees which means that they invest an additional €500.- p.p. Furthermore, the HR manager makes a cost-benefit analysis to determine which training will be offered to the employees. Company Z offers all their employees training because it has a positive effect on their labour productivity. The effects of training depend on the type of training the employees receive. To increase the labour productivity the company hired a new employee (who is over 65 years old) who will give individual training to all the employees. Because of this all employees will learn how to improve the cutting speed of their machines. Company Z tries to increase productivity even more by training all employees to be able to operate on three different machines; these employees are then able to replace their colleagues when one of them becomes absent or is on holiday. This makes it possible that the company will not loss any production. The employees in the metal industry are attached to their machines, therefore a number of employees did not respond positively to this new system. The work council supports the changes in the company.

At company D young and older employees get the opportunity to receive training. During performance interviews the employees can state if they would like to receive training. Furthermore the company makes ad-hoc decisions to train employees. The company determines on an individual basis if an employee will receive training. Company D pays the training costs and employees have to invest the training hours. Depending on their function, the employees have to be trained on a regular basis. The supervisor states that training employees will increase the knowledge of the employees, but does not necessarily mean that employees will work efficient.

Training	Company X	Company Y	Company Z	Company D
On-the-job vs off-the-job	70% vs 30%	90% vs 10%	90% vs 10%	80% vs 20%
General vs organisational specific	20% vs 80%	100% vs 0%	0% vs 100%	0% vs 100%
Formal vs informal	70% vs 30%	0% vs 100%	90% vs 10%	100% vs 0%
Function related vs non-function related	100% vs 0%	100% vs 0%	100% vs 0%	100% vs 0%

Table 5: Case studies – types of training

Table 5 shows the difference between the types of training the four companies offer. The companies use the different training types because they do better fit the company. Company Y for example denotes that there are no iron foundry schools where employees can go to. Therefore most of the trainings are on-the-job. Furthermore, companies can not hand what kind of effect training will have on their employees. The HR manager of Company Y stated that one of the problems when he tries to determine the effect of training is that some effects will only be visible after a longer period, e.g., a first aid course. The four companies in our study did not invest in both of these forms of training. Therefore they could not give an indication of these effects. These founding match our findings in literature. In table 5 our findings are shown that are linked to training.

Training	Company X	Company Y	Company Z	Company D
Effect of the training	Depends on the type of training.	Depends on the type of training.	Depends on the type of training.	The company does not see a direct effect.
Who to train?	Employees that need training and are motivated.	Employees that need training and are motivated.	Employees that need training and are motivated.	Employees that need training and are motivated.
Training older employees	Yes, but are not always motivated to be trained.	Yes, not being trained will result in a decline in knowledge.	Yes, all employees are trained.	Yes, all employees are trained.

Table 6: Case studies – training employees

In all the four case studies motivation is an important factor to determine if employee will receive training. When employees are not motivated and willing to invest in themselves the company will also not invest in them. This motivation factor can also affect the increase in labour productivity when employees are trained. Therefore not only offering employees training will be important but also trying to motivate them can affect the increase of their labour productivity. As stated by all four the companies older employees are trained. This means that companies are willing to invest in older employees but the employees their selves must be motivated to be trained.

5.3.3 Job design

Each company indicates that the *job design* of the company affects the labour productivity of employees. Each company has implemented different job design policies. The HR practice job design can be divided into four different types: job rotation, job enrichment, job enlargement and demotion. The job design types implemented within each company are described below.

The supervisor of Company X states that employees can rotate from one type of machine²¹ to another type if necessary. The company wants to implement job enrichment, but it is not yet implemented and therefore the effect of job enrichment is unknown. Furthermore, Company X is stimulating employees to take more responsibility than only performing their own tasks (job enlargement), but this process is not yet fully implemented. The HR manager states that job enlargement will affect the labour productivity of younger and older employees. Demotion is possible within the company, but not often executed. One of the employees proposed to work on another function because he had physical problems. According to the supervisor the rate of absenteeism of this employee did not decrease. Therefore they do not see a positive effect of demotion on the rate of absenteeism or labour productivity of employees.

In Company Y the HR manager states: *“I tried to implement job rotation when I started working at my previous employer. Some employees thought this was a good idea. But one employee came to me and announced that it made him unhappy. Job rotation does not work for all employees and it only works if employees prefer job rotation.”* In certain jobs

²¹ Employees produce one machine on their own. The employees have two weeks to produce a machine. Together with the foreman they determine which tasks they have to perform each day.

employees need to stay concentrate and therefore they should continually rotate. The HR manager states that job rotation will not always have a positive effect on the labour productivity of employees. If it does not motivate employees' positive, it will affect labour productivity negatively. Job enlargement is possible within the company, because there are no strict terms of reference. The HR manager states: "*We try to encourage it. But job enlargement can also have an inverse effect on the employees, when they do not dare to take more responsibilities.*" One of the employees, for example, was offered fork-lift truck training. But this employee did not dare to take that responsibility. In this situation, job enlargement will not increase the labour productivity of the employees.

The HR manager of Company Z indicates that the younger employees are more motivated to increase labour productivity²². The company tries to encourage this by giving these employees more responsibilities. In June 2008, two younger employees with the age of 21 and 23 have been made team principals. Since the company appointed the two team principals problems on the work floor are solved more rapidly. The labour productivity of the entire team has increased by approximately 5% to 10%. Demotion is possible within the company, but not often applied. One employee in production could not perform his job because of illness. To enable this employee to return to the work floor, the company offered him another function. The labour productivity of this employee improved for a short time, but dropped later on to the same level as before. To improve the total labour productivity the company implemented a five S-project. The five S's stand²³ for: selecting, arranging, cleaning, standardization and structural improvement. Each half hour the activities employees performed were registered. The company found out that 60% of the work time was spent on searching for tools. This information was used to introduce improvements. Job rotation is not applied within this company because the tasks of the employees are arranged in such a way that they work on one machine where they have to perform different tasks.

Job enrichment is possible within Company D. Company D states that it is possible of employees to take more responsibility. There are employees within the company who work on two or three machines at the same time. This can decrease the turnover rate of the employees within the company and can have a positive effect on labour productivity. The *autonomy* employees have is appreciated. In addition the company implemented job rotation to spread the workload of the employees. If they did not implement job rotation labour productivity of these employees would drop, because of the workload. The employees work in a chain and if one employee does not perform well, this will affect the work of other employees. Therefore they will keep each other focused and keep the labour productivity on the same level. Demotion is not (often) adopted within the company.

To summarize we show in table 7 the job design practices implemented within company.

²² The productivity of the machine two younger employees worked on increased by approximately 40%.

²³ In Dutch: selecteren, schikken, schoonmaken, standaardiseren en structureel verbeteren.

Job design	Company X	Company Y	Company Z	Company D
Job rotation	N/A	Job rotation can have a positive or a negative effect on employees.	N/A	(2)Job rotation has a positive effect.
Job enrichment /job enlargement	Job enrichment has a positive effect on employees.	Job enlargement can have a positive and a negative effect on employees.	Job enrichment has a positive effect on employees.	Job enrichment has a positive effect on employees.
Demotion	Demotion has no effect on employees.	N/A	Demotion has a positive effect.	N/A
Other job design practices	N/A	N/A	S-project has a positive effect.	N/A

Table 7: Case studies – job design

The HR manager of Company D explained that employees who perform certain tasks have to rotate to stay productive; if these employees do not rotate, their labour productivity will drop. Another HR manager stated that job rotation or enlargement does not always have a positive effect on their employees. Some employees do not want to perform other tasks. Obligating these employees to rotate during their job performance can affect their labour productivity negatively. Each company has designed the jobs in such a way that employees are motivated and productive. We found in literature that job design can motivate employees to increase their labour productivity. The companies explain that the job design of the company will affect the labour productivity of employees. Some employees do not want to change their tasks and therefore the HR manager states that job rotation or job enlargement does not always have to result in an increase labour productivity. *Demotion* is not used often within the companies. In Company Z and Company X, one employee demoted to a lower function. In Company Z the rate of absenteeism of that employee dropped and in Company X no difference is shown. Based on these two observations we can not determine the effect demotion has on the labour productivity employees. In literature we found research in which was shown that this tool can positively influence the employability of employees (e.g. Josten & Schalk, 2005). If it increases the employability of employees it could also have an effect on labour productivity or rate of absenteeism of employees. Within one of the companies demotion did not affect the rate of absenteeism. This can be explained by the lack of communication between management and employee during the change of function. Or because of a decrease in respect from other employees, which can affect the employees' state of mind. This can be the reason why demotion did not work in one of these companies.

5.3.4 Additional leave days

Additional leave days are leave days older employees receive and are prescribed in the CAO. These additional leave days are offered to older employees to give these employees the possibility to recover from their work. This could affect the labour productivity and rate of absenteeism of these employees positively.

The supervisor of company X states that older employees are not less often absent than younger employees due to the additional leave days they receive. The supervisor states that older employees do not have a higher labour productivity because of the additional leave days. There are not many employees that have the right to use additional leave days

within the company. The supervisor does not see an effect of these additional leave days on the labour productivity or the rate of absenteeism.

The quality manager of company Y states that employees who make use of additional leave days are not less absent or have a higher labour productivity than employees who do not make use of additional leave days. The quality manager states that these employees use the additional leave days to go on a longer holiday.

In Company Z the additional leave days older employees receive are not used immediately but are saved. Employees save these days to use them connected to their retirement. There is currently one employee who will retire in August 2009. His last work day will be in about two weeks and the rest of the days he will make use of the additional leave days he saved. The HR manager states: *"You can not oblige employees to spend these days."* Legally it is possible, but when employees work overtime you can not afford to let them use a leave day the next day. *"This way the company has an employee on his payroll, who is not present."* Only the companies, who are stricter and are not performing well, will oblige their employees to use these additional leave days, said the HR manager. Because Company Z never obliged employees to use the additional leave days, it is not easy to change this policy. Both the HR manager and the supervisor do not see an effect of additional leave days on older employees. The HR manager explains that he does not see the added value of these leave days. The HR manager states that when these additional leave days are used by the employees it may affect their labour productivity or rate of absenteeism positively, but employees do not use them properly. He does not see why employees with an office job will need these additional leave days to perform their jobs.

The supervisor of Company D states that he does not see a difference in the rate of absenteeism of employees that are entitled to additional leave days compared to employees that are not entitled to additional leave days. These employees may use this days for additional holidays. The supervisor states that this does not affect the rate of absenteeism or the labour productivity of the employees positively. Unfortunately the labour productivity will be negatively affected by the additional leave days older employees receive. Furthermore he does not see any other effect of these leave days on older employees.

The four companies indicate that the additional leave days older employees receive do not have an effect on labour productivity or rate of absenteeism. Additional leave days are offered to employees to minimize the outflow of older employees. The commission of equal treatment of employees indicated that policies which discriminate based on age are only legal when these policies are legitimate, suitable and necessary. The four companies do not see any positive effect of the additional leave days on the employees. Company Z states that employees do not immediately use the additional leave days they receive but save them for an early retirement. Therefore additional leave days do not affect their labour productivity or rate of absenteeism in a positive way. In literature we found that additional leave days are implemented to spare to older employees. We may assume that this could affect the labour productivity or the rate of absenteeism of these employees. Offering employees additional leave days can give them the possibility to recover and therefore result in a lower rate of absenteeism. But we did not confirm this based on the interviews. As indicated by Company Z these practices must be implemented if employees need the additional leave days. The law of equal treatment in some countries

(e.g. Canada) states that these practices can help employees to prepare for their retirement and therefore these practices are justified. But according to the Dutch equal treatment commission these practices are unjustified (O'Conneide, 2005: pp. 40). So, perhaps as indicated by the four companies this practice is not necessary for (all) employees and therefore should not be offered to (all) older employees. Besides that Minister Donner (of the ministry of SZW) is committed to decrease the number of additional leave days for older employees. He states that this practice affects the chances of older employees on the labour market, because it increases labour costs when employees become older (ANP, 2008). The same assumption is made by Company Z. Therefore, unions and employer organisations should consider what they are going to do with these additional leave days for older employees.

5.3.5 Policies to fight absenteeism

The policies that fight absenteeism differ in each company. Practices that we found in literature are: ergonomic policies, instruments that can decrease the level of physical strength needed to perform tasks and advice about the effects of bad habits on health and well-being of their employees.

Company X does not have an *absent policy*, because the rate of absenteeism is very low. This low rate of absenteeism can be explained by the high level of commitment of employees to the company. Most of the employees live in the same village and are neighbours. Therefore the rate of absenteeism is low. Another reason is that the solidarity between employees is very high especially by older employees. The supervisor states that it is important that they listen to their employees. The HR manager indicates that the involvement of the supervisors with sick employees is important. This is probably another reason why the rate of absenteeism is low. The HR manager started a research to determine why employees are absent, which physical complaints they have and what problems cause them (work perception research). With these findings the HR manager wants to implement instruments that will prevent absenteeism of employees. The HR manager realised (in another company) a decrease of the rate of absenteeism from 15% to 4%. This work perception research is comparable to the WAI used in Finland. The supervisor states that one of the prevention measures they implemented was an instrument by which employees do not overload their back by performing their tasks. According to the supervisor the back trouble decreased and that resulted in a lower rate of absenteeism. One of the employees was approximately five times a year absent for an entire week. After the introduction of this instrument the rate of absenteeism of this employee dropped. This employee is now two times a year absent and only for a few days (because of back trouble). Because the employee is young it can not be assigned to the age of the employee. All employees have to work with tools which are designed to work more comfortable. This will motivate employees to work more efficient. Working with these tools can prevent absenteeism on older age.

The HR manager of Company Y told us that when employees state that they need some tools, the company tries to offer them. One example is that employees have told the HR manager that they needed an elevator. The company provided the elevator and as a result employees do not constantly have to bend when they perform their jobs and because of that they would get less back troubles. Furthermore, the supervisors stay in contact with sick employees. The HR manager states: “*By doing so we try to get sick employees back to work quicker.*” As a result employees can recover faster. In addition if the company does not take adequate measures to enable employees to work until their 65th year, the

rate of absenteeism will increase. The HR manager states: *“I think that the rate of absenteeism will increase with 2% for that category.”*

Company Z is actively trying to decrease the rate of absenteeism. Last year, all the supervisors received an ‘absent guidance training’. During this training the supervisors learned how important it is to guide sick employees and how they should guide them. The HR manager states that absenteeism policies are very important. Sick employees are additional costs for the company because they have to replace these employees with other employees. Employees will be sick for a longer period, because they do not get any attention. Sick employees have to return to the work floor, because by being present on the work floor employees will become mentally faster prepared to work. As a result employees will physically recover faster. Giving employees, that have been absent for a long period, attention can drastically decrease the rate of absenteeism (this can save months) and giving attention to employees that have been absent for a shorter period can decrease the rate of absenteeism as well (this can save days). The HR manager states: *“Someone who has the flu stays at home for a week and someone who has the flu and is called by a supervisor stays at home for maybe three or four days.”* In addition, Company Z offers employees tools to prevent absenteeism. The company offers tools to their employees to minimize the workload. Before the HR manager started working at this company, the rate of absenteeism was 5.2% (in December 2007) and now the rate of absenteeism is 2.4% (in December 2008). To decrease the rate of absenteeism even more the HR manager wants to hire a physiotherapist in order to learn employees with back trouble or employees that sit the entire day in which position they have to work or sit in.

The rate of absenteeism within the Company D is 3.2% at this moment. To decrease the rate of absenteeism the company implemented several measures. Company D offers their employees an absenteeism bonus. This means that employees will receive a bonus if their rate of absenteeism in that year is between certain boundaries. The bonus depends on the classification in which the rate of absenteeism of the employee is in. In addition, two months ago the company offered their employees a fitness subscription. A few years ago a number of employees took a fitness subscription, because they had back troubles. Therefore the company decided to offer a deduction on the fitness subscription to all their employees. An effect of the fitness training is only visible on the employees who started training a few years ago. In addition, the company offers tools that help employees to perform their work better. Furthermore if an employee is sick the ARBO-service will immediately approach him/her and will undertake action if needed.

Table 8 shows the instruments that are implemented within the four companies to fight the absenteeism.

Policies to fight absenteeism	Company X	Company Y	Company Z	Company D
Tools to work with	Tools have a positive effect on the absent rate of employees.	Tools have a positive effect on the absent rate of employees.	Tools have a positive effect on the absent rate of employees.	Tools have a positive effect on the absent rate of employees.
Involvement of management ARBO	Involvement of management has a positive effect on the absent rate of employees.	Involvement of management has a positive effect on the absent rate of employees.	Involvement of management (absent guidance training) has a positive effect on the absent rate of employees.	Involvement ARBO-doctor can have a positive effect on the absent rate of employees.
Health and well-being	N/A	N/A	N/A	Fitness subscription has a positive effect on the absent rate of employees.
Other instruments	N/A	N/A	N/A	Absent bonus has a positive effect on the absent rate of employees.

Table 8: Case studies – policies to fight absenteeism

One of the *absenteeism policies* that are used by all four companies is offering tools to their employees to improve working conditions. Instruments that are not mentioned in literature are implemented in Company Z and D. Company Z performed a research to determine which tasks of the employees demanded too much time. Employees were searching for tools 60% of their time employees. They implemented practices to decrease this percentage, which resulted in a higher productivity. To decrease the rate of absenteeism employers are willing to offer tools to their employees, but their employees have to clarify what they need. In addition, in literature we found that immediately involvement of management by absent employees can affect the rate of absenteeism positively. Three out of four companies indicate that management is directly involved with absent employees. Giving employees attention when they are absent can decrease their rate of absenteeism. Three companies state that they bring absent employees back to the work floor which decreases their rate of absenteeism. He states that as a result employees are recovering faster. In Company D the manager is not involved but the ARBO service is involved when employees are absent. They indicate that the ARBO approaches the employees directly. Therefore they do not see the need to contact the employees themselves. Other HR practices that are used by company D are an absent bonus and fitness subscription. These policies can have a positive effect on the rate of absenteeism of this company. In literature we found that offering or promoting exercise programs can affect the rate of absenteeism positively. Within this company we found evidence that this practice can have a positive effect²⁴ on employees. Therefore our findings in literature are similar to our findings in these case studies.

5.3.6 Management

The *management* instruments of companies have an effect on the commitment and the motivation of the employees positively. In the four companies we analysed what affect a

²⁴ This only counts for employees who started a couple of years with this program. These employees started to exercise because they had back trouble.

career prospect plan, performance interviews and a work meeting have on labour productivity.

The supervisors of Company X have to stimulate employees to perform well. The company focuses on 'employability'. Employees have to decide what kind of tasks they want to do and which development they want to go through. This will influence the labour productivity of the employees. According to the HR manager and the supervisor one of the most important factor of being a good employer is to listen to the wishes of all employees, young and old. A tool that can be used to make this possible is a career prospect plan. During these discussions employees have to determine in which direction they want to develop in the up coming five years and what kind of training or tools they need to accomplish their goals. This will affect the labour productivity of these employees positively. Another tool is the performance interview. The supervisor states that during these interviews employees get the possibility to tell about their problems and come up with solutions or matters that can improve their work. It will affect the labour productivity of employees on an individual basis because the wishes and demands of one individual are heard. Work meetings are a tool that involves employees with organisational choices. This tool affects the commitment of the employees on collective bases and therefore can affect the labour productivity of employees positively. Only when employees see that the agreements are observed by the supervisor. To commit employees to the company the supervisor divides the employees during the work meetings in two groups. By doing so, the employees give more feedback and come up with more solutions. The employees' response during the work meetings increased with one and a half time. According to the supervisor a performance interview and the work meetings influence the labour productivity of an employee positively.

The HR manager of Company Y does not see the added value of the performance interviews. The HR manager states: *"However, employees have to receive feedback on their performance and that happens very often. It is better to give employees feedback on the moment that something happens, whether it is good or bad. Therefore we debate with the employees very directly. We believe it de-motivates employees if we wait until the performance interviews to tell them what they did wrong that year."* Company Y tries to increase the commitment and the motivation of employees by immediate communication. When employees receive positive feedback, it can affect their labour productivity positively. Furthermore, there are no official career prospect plans implemented within the company. But, if needed, the HR manager discusses with the employees what the possibilities or wishes are of these employees, e.g., in the last few years within the company. As a result the labour productivity of employees can be retained. In this way the company tries to take the individual needs of employees into account. In addition, the motivation of the employees is very important. The quality manager said that: *"Because of this employees take their responsibilities and try their best when performing their tasks."* The quality manager told that there are no structural work meetings. But if there is a work meeting organized, it affects the motivation of the employees.

Company Z is going to implement career prospect plans because it wants to give their employees with position in the company where they can excel. Therefore the labour productivity of the employees can increase. Company Z did not implement this policy yet and therefore they can not determine what effect career prospect plans will have. A 'performance interview' is another instrument the company will use more often in the future. According to the supervisor it is an instrument that gives clarity to employees

about their performance within the company. As a result it will affect the labour productivity of employees positively. Work meetings are at the moment not often scheduled. Company Z is going to schedule those meetings more often, because employees stated that they feel they are not heard. This policy affects the labour productivity of employees positively but no effect is seen on the rate of absenteeism of employees. The individual approach towards the employees is important within the company. As a result the company can determine the needs and wishes of the employees and influence the performance of employees.

In Company D employees do not see the purpose of the performance interviews. Therefore it does not contribute to the commitment of employees and therefore does not affect the labour productivity. The supervisor stated that most of the time, performance interviews result in asking a raise. During performance interviews the employees should announce problems or matters that affect their performances. During the performance interviews the supervisor can get a better relationship with the employee. According to the supervisor he and other supervisors should give feedback to the employees immediately and should not have to wait until the performance interviews. Therefore the communication with the employees takes place when needed and the supervisor does not wait until the performance interviews to discuss certain matter. In addition, career prospect plans are only implemented for younger employees who are trained for a part-time going to school and working the other part of the time within the company. Furthermore the supervisor states that work meetings are not organized on regular basis, but they discuss with their employees what they have to do each day. The company indicates that they try to meet the needs of the employees, but there is a limit to what the company is able to do for the employees.

Management instruments	Company X	Company Y	Company Z	Company D
Career prospect plan	N/A	N/A	N/A	N/A
Performance interviews	Performance interviews have a positive effect on the LP of the employees	Performance interviews have a positive effect on the LP of the employees. when the feedback is positive	Performance interviews have a positive effect on the LP of the employees.	Performance interviews have a positive effect on the LP of the employees.
Health and well-being	Work meetings has a positive effect on the LP of the employees.	Work meeting has a positive effect on the LP of the employees.	Work meetings has a positive effect on the LP of the employees.	N/A

Table 9: Cases studies – Management instruments

In conclusion, in literature we found that it is important to have a management style that fits both younger and older employees. To accomplish this companies have to listen to their employees and try to meet the (individual) needs and wishes. Instruments that can accomplish this are: career projection plan, performance interview and work meetings. The four companies explained that they approach each employee individually. They said that communication with employees is important. By communicating with employees their productivity can increase. Career prospect plans are not implemented yet within the

four companies. Two out of four companies state that a performance interview has a positive effect on labour productivity of employees, when employees see that agreements are implemented. One company denotes that performance interviews only affect the labour productivity of employees when employees receive positive feedback during the performance interview. They state that a performance interview is an instrument that makes employees feel that they are heard, which can motivate them and increase their labour productivity. In literature we found that a performance interview is an instrument that gives employers the possibilities to affect the behaviour of their employees positively. It is a tool that gives management an indication of the needs and wishes of the employees. The same results are found during our study.

5.4 Other factors

During the nine interviews we find that not only the HR practices that we determined have an effect on the labour productivity or absenteeism of employees. But in fact the four companies indicated that the other factors have also impact on the labour productivity and rate of absenteeism of employees. These factors are shown in table 10.

Companies	Positive effect on Labour productivity	Postitive effect on rate of absenteeism
Company X	<i>Listening to the employees</i> and a based wage system	<i>Commitment</i> , solidarity of the employees with the company and by listening to the employees.
Company Y	When the company is performing well the employers has to show that to the employees, <i>motivation</i> of the employees.	<i>Commitment</i> , <i>motivation</i> of the employees. Team atmosphere.
Company Z	<i>Attention is important</i> and walking to all the employees.	<i>Giving employees attention</i> is one of the most important thinks
Company D	Social control, <i>commitment</i> of the employees	Social control. <i>Work atmosphere</i> by being open and friendly to the employees. Mentality of the employees.

Table 10: Effects on labour productivity and rate of absenteeism

We see that the commitment, motivation and giving employees' attraction are the factors that are mentioned mostly. HR practices can affect the commitment, motivation and job satisfaction of employees within the company (Boselie, Paauwe & Jansen, 2001). In the section 5.3 we explained that management instrument can have an impact on the motivation and commitment of the employees and therefore affect the labour productivity of employees. But the interviewees explained that their employees are just motivated and committed to the company. But why and which factors do influence their commitment and motivation of employees to the company?

In literature we found an answer to this question. Guest (2006) point that employees within smaller companies have higher expectation of the employers and therefore these employees perform better compared to employees with lower expectations. The expectation of the employees is determined by the psychological contract between the employee and the employer. This contract can be seen as the ideas and beliefs of the employees regarding their agreement with the company. A good example of this is that an employee believes that when he/she performs well, he/she will get a promotion. The

difference between larger and smaller companies is explained by Winnubst and de Kok (2008). They state that the hierarchy is stronger within large companies compared to smaller companies which results that employees become estranged from the company. A strong bureaucracy within the company can negatively affect the motivation of employees. Within smaller companies fewer policies are recorded in rules and regulation and therefore the employees have more flexibility within the company when they perform their tasks and can have an individual relationship with the company. These factors can influence the commitment and motivation of employees. As indicated by the nine interviewees' employees who are committed and motivated within the companies and are performing well. Furthermore, Bal (2008) indicated in his article that if the employees observe that the employer does not keep one's appointments this can disappoint them. He states that this will affect the job satisfaction and commitment of the employees negatively. Furthermore, it can affect the absenteeism and performance of the employees negatively. Therefore, as indicated by Company X, employers should listen to their employees and should keep to one's appointments.

In conclusion, we can say that besides the HR practices that are implemented within the company employers have to develop a culture which gives employees the possibility to commit to the company. Therefore not only the HR practices that we described can have a positive effect on employees but also the culture and the expectation of the employees towards the company have an impact on their performance.

5.5 HR practices and performance

The relationship between the HR practices and the labour productivity and rate of absenteeism can not be explained by the four case studies we carried out. The labour productivity between the companies differs enormously. Company D has the highest labour productivity of €306,120.- and Company Z the lowest. This difference can not be clarified by the number of employees that are working within each company, because this number is almost similar. If we compare the HR practices used within these companies we can see that both companies have implemented practices to have an impact on the labour productivity of employees. We can not explain this difference by analysing the HR practices used within each company. But maybe we can explain them by analysing the similarities between the companies:

- Companies Z and D are in the light engineering industry whereas Company X and Y are in the large-scale metalworking.
- All the four companies are located within small villages. The production employees are all living nearby.
- Company Y, Z and D have HR managers who also perform other tasks (Company X has a HR department).
- The HR practices implemented within each company are partially similar.

But why do the labour productivity and rate of absenteeism of these four companies differ so enormously? There are three factors that can explain the difference:

- Companies within the metal industry produce a large scale of products (in the different subsector this also differs enormously).
- We determined the labour productivity by dividing the sales by the number of FTEs. The production costs can differ enormously between the four companies.
- The HR practices that we measured do not have a best-practice approach but a best-fit approach.

- Other factors can affect the labour productivity or the rate of absenteeism within companies as indicate in section 5.4.

We can not indicate which of the above differences can explain these outcomes. This is because four case studies are a small sample to determine an effect of HR practices on the labour productivity or rate of absenteeism. But it gives an indication of the HR practices used within these companies and their effect on employees. For example, HR practices used to affect the labour productivity of employees within the company are within three companies *training and job enrichment*. HR practices that affect the rate of absenteeism of employees are *direct involvement of management* with absent employees and *offering employees good tools* to work with. These practices will be used in chapter 7.

5.6 Conclusion

The results of these case studies indicate that the four companies are actively trying to implement practices that are suitable for their company and the employees. The outcomes of these case studies give an indication of the HR practices within these companies. We found that companies have or will be going to implement HR practices that are not mentioned in our theoretical study. Besides that we determined why companies implement HR practices. In the four case studies this does not always has to do with the labour productivity of the employees or their rate of absenteeism.

Noticeable is that the HR practices that are implement within these companies are suggested (partially) by the employees within the company. Besides that, the labour productivity of employees are affected by others factors within the company. To determine and quantify the effects of these practices on the labour productivity or rate of absenteeism of employees one has to rule out the other factors which can have an effect on the outcomes of the study.

One other outcome of this study is that it is difficult for HR manager, supervisors or work council member to determine the effect of for example training on the labour productivity of employees. Our empirical study confirmed that there is a positive relationship between the HR practices and labour productivity and the rate of absenteeism (according to the four case studies). One remark that has to be made is that the effect of HR practices on company performances dependent on motivation and commitment of the employees. When employees are not willing to use a certain kind of practice and the HR practice is implemented within the company is can have an opposite effect. Therefore these HRM outcomes have to take into account by implementing practices into the company. This shows also that it is hard to determine the direct relationship between HR practices and company performances.

Besides the problems of the intermediary variables which make it difficult to measure the effect of HR practices, one has to make distinguish between the different kinds of HR practices. If we for example take training; there are different kinds of training and each have a different effect on employees. Besides that, training employees is not always implemented to increase labour productivity but for example to increase employability. The different training kinds are not always applicable on employees within certain companies. For example, iron foundries can have problems to find an iron foundry schools where employees can go to. Therefore this company can not offer off-the-job training. Does this make it easy to determine the effect of training within this company?

No! Because there are a lot of different on-the-job training possibilities which can have a different effect on the labour productivity of employees. This all indicates that it is very hard to determine the effects of HR practices on company performances.

Besides the fact, that HR practices have a positive effect on the labour productivity or absenteeism, companies are sometimes limited to implement 'best'-practices within their company. Implementing certain HR practices within the company is not always a choice HR managers have to make but are determined by the industrial characteristics and company characteristics. These characteristics can have a negative impact on the practices that can be implemented for older employees. One example is that employees have to work full-time and there are no possibilities to use flexible work hours in some companies in the SME metal industry. Besides that, other HR practices have to be implemented not to motivate employees but because of safety reasons (we aim at the HR practice job rotation).

To come back to the question we asked ourselves at the beginning of this chapter: ('what is the impact of the HR practices on labour productivity and rate of absenteeism?') we can state that HR practices have a positive effect on labour productivity and rate of absenteeism. Unfortunately we can not quantify these effects with the outcomes we found in this empirical research. But this study gives handles that can further be investigated in a new study.

6. Financial performance

In this chapter we will answer question: “What is the impact of the practices on the financial statement of the company?” The law can pose constraints on practices that are related to employee costs and benefits. These laws can be complex and confusing and therefore we will describe the regulations regarding these practices. In paragraph 6.1 we will describe the financial obligations that are linked to the income statement. And in paragraph 6.2 the balance sheet obligations are described and we determined which IFRS or RJ regulation must be taken into account.

6.1 Income statement

In this section we will describe employees’ related items on the income statement of companies in the metal industry. One of the largest expense items on the income statement of a company is ‘salary and social insurance premium’. Besides the salary payment, companies have to pay premiums and can offer their employees a pension plan. In this paragraph we describe these expenses.

6.1.1 Salary and social insurance premium

The salary and social insurance premium consist of different parts (Belastingdienst, 2009):

- Gross salary of the employee;
- Premium of social insurance (e.g. WAO/WIA basic premium and WAO/WGA²⁵ differentiated premium).

Gross salary of the employee

The Dutch government installed a minimum gross salary which employers are obliged to pay their employees. The minimum monthly salary of an employee that is older than 22 years is €1356.60 (as from 1 July 2008). Employers are only legally obliged to offer their employees this minimum wage if the employee works full-time (st-ab, 2008)²⁶. Besides that, the government installed the social system in the Netherlands in such a way that the employers have to pay a part of the social insurance premiums. Based on the gross salary payments the employers have to pay premiums to the government based on the gross salary of each employee.

Premium of social insurance

The premium of social insurance consists of:

- Employees insurance premium (unemployment premiums and disability insurance premiums)
- Income related health insurance contribution

Employees insurance premiums consists of premiums based on unemployment (werkloosheidswet, ww²⁷), WAO and/or a WIA. WAO premium has to be paid because there are still employees that became disabled before 1 January 2004 and therefore

²⁵ WGA is a disabled Workers Resumption of Work Act, (Wet Werkhervatting Gedeeltelijke Arbeidsgeschikten).

²⁶ This means that employers who are willing to offer a variable payment or reward to their employees based on the performance of these employees have to implement a system that will at least pay this legally obligated minimum wage. Therefore only a sales related wage will not work in the Netherlands.

²⁷ The Health law (ziektewet, ZW) is a part of the WW premium and therefore is not calculated separately.

receive WAO benefits.

The WW premium consists of two parts an unemployment premium for the general unemployment fund (werkloosheidswetpremie voor het Algemeen werkloosheidsfonds, WW-AWF) and an unemployment premium which is industry related (werkloosheidswetpremie voor sectorfonds). The WW-AWF premium is the same for all companies. The government implemented the industry related WW premium to fight the seasonal unemployment. Industries with high seasonal unemployment were stimulated by implementing this policy to spread their activities and therefore realise continuation of employment (Startbedrijf, 2009). The WW-AFW premium was 4.75% for 2008 and the WW premium which is industry related was 1.02% for the metal industry in 2008 (Belastingdienst, 2009). The WW-premium has to be paid over a salary part that is higher than €1,326.75 each month for 2008. With this premium the government pays the unemployed people a wage. The WW premium was paid by both employees as employers. But in 2009 this law changed which indicated that the employees were not longer obliged to pay for this premium.

The disability insurance premium is also paid by the employer. The disability insurance premium consists of WAO/WIA basic premium and WAO/WGA differentiated premium. The first premium is the WAO/WIA basic premium (5.65% for 2008) that all employers have to pay based on²⁸ the gross salary of their employees. The second premium is the differentiated premium. The differentiated premium is determined by the government for each company individual. The government determines this differentiated premium by defining the chances that employees within a company will have the right to receive a disability benefit. The government determines this amount by examining the amount of employees that received this payment in a certain company two years ago. Therefore this premium is company dependent (Gijbertsen, 2007).

On 1 January 2006, the Health Care Insurance Act (Zorgverzekeringswet) was introduced in the Netherlands. With the introduction of this new law the premiums that have to be paid to the medial insurance company changed. Now people have to pay premium to the medial insurance company and have to pay an additional income-related premium. The income-related premium must be paid by the employees and was 7.2% of their salary in 2008. This income related contribution is paid up to € 31,231.- of the salary of employees in 2008. The employer have to compensate for this payment and therefore they will reimburse the contribution made by the employee. These contributions are additional costs employers make besides the gross salary employers pay to their employees.

6.1.2 Pension plan

Besides the salary payment, companies can offer their employees a pension plan. Employees that reach their 65th year can receive three different pension incomes. First the The General Old-Age Pensions Act (Algemene Ouderdomswet, AOW) is based on the time a person lived in the Netherlands and paid of the social security premium. Secondly, an employer can contribute to the pension payments of their employees. Employers are not legally obliged to offer their employees a pension payment. There are some

²⁸This financial constraint has two exceptions. In article 47 of the law of financing social insurances (Wfsv, 2008) is stated that employers do not have to pay the WAO/WIA basic premium on the wages of their employees, (a) when the employer hires an employee that is 50 years old or older, or (b) when the employee is 54.5 years old at the beginning of that calendar year. Therefore it can be attractive for employers to hire older employees.

exceptions; employers have to realise a pension for their employees because, e.g., the participation in a company pension fund is obliged or, because this is arranged in the CAO. The height of the pension depends on the salary of the employee and the premium the employer and the employee saved. Those arrangements can be sublet to pension funds or pension insurers. Thirdly, the employee can make other private arrangements with pension insurers to save for a pension payment.

An employer is obliged by law to inform new employees about the pension regulations they *are or are not offering* their employees. The pension fund in the case of the metal industry will receive a premium that will be put aside until employees reach their 65th year. Employer and employees contribute to the total premium. When the contribution of the employer is less than 50% of this premium, this can cause a problem, because the tax authorities determine this as a wage payment (Arbeidsrechter, 2008). Therefore the minimum percentage of this fiscal premium that the employer pays is 50% in the metal industry (Bpmt, 2008). Employers are obliged to tell the employees what kind of pension payment they will receive if they retire. If the employer states that he/she will pay a premium or offer them a pension payment than the employer is obliged to do this (Arbeidsrecht, 2008).

The employers in the metal industry are joined to a pension fund (Stichting pensioen funds Metaal en Techniek, article 69, Cao, 2008). Therefore employees will receive a pension payment from their employers. The pension payment consists of the premiums partially paid by the employer and partially by the employee. The employer paid by minimal 50% of the total pension premium and the employee maximum 50%. In the metal industry there are two different pension premiums used based on the salary of the employee. These premiums are determined by the pension fund each year. In 2008 the part of the salary that was less than €70,809.- was charged with a premium of 25.5%²⁹. The salary part that was above that margin was charged with a premium of 16.7% (Bpmt, 2009). The pension premium does not have to be paid on the franchise sum of €14,520.- (for 2008), because employees will also receive AOW payment from the government.

The following calculation has to be made to determine the pension costs for one employee in 2008 (see also formula 1): First, one has to determine the full-time salary for one year [if an employee is working part-time one has to divide their total salary by their part-time percentage to determine their full-time salary]. If ones full-time salary was less than €70,809.- then one has to use the first row in formulas and if it is more than €70,809.- one has to use the second row³⁰. Second, we have to deduct the €14,520.- (franchise) of the gross salary for 2008 (e.g. €50000.- - €14,520.-). Third, by multiplying this outcome by the part-time percentage, the pension premium (0.252%) and the percentage of the premium that employer pays³¹. Fourth, if one follows the steps we described above one will determine the pension costs for one employee. When the employee determines for each employee the pension costs and adds them up one will determine the total pension costs the employer has to pay for employee (i) as show in the formula below.

²⁹ These figures are denoted for the light engineering industry.

³⁰ For example, the full-time salary of an employee is €50,000.- than use the formula in the first row.

³¹ In the formula we used 50% as the part of the premium paid by the employer.

$$PC_i^{2008} = \begin{cases} (Sf_i^{2008} - 14,520) \times Part\% \times 0.252 \times 0.50 & \text{if } Sf_i^{2008} < 70,809 \\ (56,289 \times 0,252) + ((Sf_i^{2008} - 70,809) \times 0.167) \times Part\% \times 0.50 & \text{if } Sf_i^{2008} \geq 70,809 \end{cases} \quad (1)$$

6.1.3 Other costs

Besides the salary payment and pension plans companies there are other labour costs that are linked to employees. The CBS of the United Kingdom (2009) determined the following definition for total labour costs:

Total labour costs are the sum of wages and salaries (pay) paid by an employer to an employee, plus any other costs incurred by the employer. As well as wages and salaries, total labour costs include employer's social contributions (including national insurance, contributions and pensions, paid on behalf of the employee) and other non-wage costs including sickness, maternity and paternity costs, vocational training costs, recruitment costs and benefits in kind. The latter include company cars, mobile phones and accommodation (Ons, 2009).

These non-wage costs effects are company dependent and can affect the salary payment employer have to make negatively. When, for example, an employee becomes absent this will mean that the employer has to hire another employee to replace the absent employees and therefore have to make additional costs. Employers can make additional costs, for example, when they recruit employees or train them. All these costs will be allocated on the income statement of a company. The effects of HR practices on the income statement are expressed in different scenario applied on a company. This is shown in chapter 7.

6.2 Balance sheet

The balance sheet of companies will be influenced by the accounting standards companies have or may apply. Within the metal industry companies can use IFRS or RJ accounting standards. On 1 January 2005, the IFRS was introduced in the Netherlands. The IFRS is an accounting standard that companies have to apply drawing up their financial statement. This way companies justify there financial figures and can compare the position of one company with another. Public listed companies or companies that are associated to (international) public listed companies have to apply the IFRS regulations. Non-public listed companies can choose to use the IFRS regulations in the Netherlands, but they are not legally required to apply these regulations (zbc, 2008).

Dutch companies that are non-public listed do not have to use the IFRS regulations, but may apply the RJ regulations. The Dutch financial reporting standard (RJ) is a guideline that can be used to apply the civil code 2 on the financial statement. The RJ is an accounting standard that can be applied to the financial statement within the Netherlands. Both the IFRS regulations and the RJ regulations have a section that is concerned with employee benefits. The IFRS employee benefits regulations are denoted in IAS 19 and the RJ employee benefits are denoted in RJ271. We will describe both regulations and their impact on the way in which employee benefits have to be included on the balance sheet. We will only mention the regulations that are related to employee benefits because these benefits are affected by (HR) practices. Companies within the metal industry may use the IFRS or the RJ regulations because they may be public listed or non-public listed therefore we will describe both regulations.

6.2.1 RJ 271 and IAS 19 employee benefits

Employee benefits consist of all benefits that employees receive during or after their employment (RJ 271). The regulations do not distinguish between individual agreements and collective agreements with the company or between employees who work full-time and employees who work part-time. We will show the employee benefits based on the items mentioned in the RJ 271. We do not know how many SME metal companies are public listed companies. However, one third of the sales of the SME metal industry was exported in 2008 (Onderneming, 2009). It can be interesting for these companies to know that the impact of IFRS standards are, but we expect that the number of companies who do use the IFRS regulations is lower than the number of companies that use the RJ regulation. Therefore we will use the RJ regulations as basis for our structure. These are benefits during employment, post-employment benefits and termination benefits.

Benefits during employment

Short term benefits are benefits that are paid within 12 months after the employee rendered the related service. Because the payment occurs within 12 months the company does not have to allocate these figures using a discount rate. Long term benefits are benefits which are paid after 12 months. For these allocations a discount rate has to be applied. Benefits during employment are, e.g., wages, salaries and social security premiums, payments of absent days, jubilee payment, and remunerations received of a profit sharing plan and the life cycle benefits. We will shortly describe how these items have to be allocated on the balance sheet.

Wages, salaries and social security premiums have to be allocated when employees render services during an accounting period. This has to be allocated under liabilities (accrued expense) when the employees did not receive a payment. These benefits have to be allocated as an asset (prepaid expense) when the employees received their benefit but did not yet render the related services.

Depending on the kind of leave the payments of absent days have to be allocated on the balance sheet. The two different methods to allocate these costs are accumulating costs (e.g. holiday leaves) and non-accumulating costs. Accumulating costs are costs which have to be allocated because employees get the opportunity to save a part of their holiday for the next year. Therefore the employer is obliged to offer the employees their holidays next year. As a result of this these holidays have to be allocated as a liability. An example of non-accumulating costs is a payment during absenteeism and disability. This benefit has to be allocated on the balance sheet from the moment it occurs (RJ 271, 2008, lid 204). This regards employees who are not able to (partially) perform their tasks; when the employer expects that an employee will not (completely) recover during their remaining employment then the employer is obliged to continue paying the benefits to the employee. When calculating the possibility that an employee will recover, the rehabilitation chance has to be taken into account. On the other hand the IFRS (IAS 19) states: *“One form of a long term benefit is a disability benefit. If the level of benefit depends on the length of service, an obligation reflects the probability that payment will be required and the length of time for which payment is expected to be made. If the level of benefit is the same for any disabled employee regardless of years of service, the expected cost of those benefits is recognised when an event occurs that causes a long-term disability”* (IFRS, 2008). The WGA-payment arrangements correspond (partially) with the disability benefits described in this statement. First, within the WGA-payments the level of benefits is the same for each employee. Second, the years of service do not

(fully) affect this benefit. Therefore these costs *have to* be recognized on the balance sheet. As stated in the RJ 271 employers *can* allocate the future WGA-payments or *can* allocate these when they occur. But do companies always have to allocate these benefits balance sheet? When an employee becomes absent or disabilities the employer has to pay the WGA-payment to the employee for a period of 10 year. Companies within the Netherlands can pay the WAO/WGA differentiated premium to the UWV or can choose to pay a premium to an insurance company which will then arrange the WGA-payments the employer has to pay. According to the IFRS regulation in each case these costs have to be allocated on the balance sheet. The RJ regulation on the other hand indicates that companies do not have to allocate these payments of the balance sheet when they pay the premium to the UWV. If the companies decided to arrange these payments by an insurance company than these payment have to be allocated on the balance sheet (Mercer, 2009).

Even provisional benefits (e.g. jubilee payment) have to be allocated balance sheet. Employers have to determine the probability that each employee will receive this payment. As a result they can allocate the future payable to the employees. Aspects that employers have to take into account when determining this amount are, e.g., the probability an employee will leave the company and the salary increase.

The profit sharing and bonus payment have to be allocated on the balance sheet. Only when the employer has recorded their obligation before the financial statement is determined *and* when a reliable estimation can be made of the obligation.

When the employer makes a contribution to the life cycle benefits of their employees they have to allocate these benefits on the balance sheet. In most cases, employers do not contribute to life cycle benefits of the employees. Legally they only have to offer the possibility to the employee to be able to use of this policy. Therefore in most case the employers do not have to allocated life cycles benefits on the balance sheet.

Post-employment benefits

The financial regulation distinguishes different post-employment benefits, e.g., pension payments and VUT regulation. There are two different post-employment benefits plans, the defined contribution plan and the defined benefits plans. Under the contribution plan (DC-plan): *"the enterprise pays fixed contribution into a separate entity (a fund) and will have no legal obligation to pay further contributions if the fund does not hold sufficient assets to pay all employees benefits relating to employees service in the current and prior periods"* (IFRS, 2008). Defined benefit plan (DB-plan) *"are post-employment benefit plans other than defined contribution plans"*. The light engineering industry has an industry pension fund, which uses a DC-plan when determining their premiums, this means that the employers only have to pay the premiums and are not obliged to pay future contribution (Bpmt, 2009). Therefore the employers do not have to allocate the pension premiums on the balance sheet, because they do not share the risks. However if the premiums are not paid for that period they have to be allocated on the balance sheet. The pension premium payments have to be allocated separately on the income statement. The pre-pension/VUT regulations are included in the premiums employers pay to this industry pension fund and therefore do not have to be allocated separately on the balance sheet.

Termination benefits

This benefit has to be paid when an employer dismisses an employee. This has to be allocated on the balance sheet, if the employer is demonstrably committed to discharge employees and has a detailed plan to discharge employees, which can not be withdrawn. When this benefit is not paid within 12 month after the balance period, it has to be allocated on the balance sheet by using a discount rate (IAS 19, paragraph 78).

This all means that different items have to be allocated on the balance sheet in a different way. In general most of benefits that are paid during the employment of employees are allocated for a short period on the balance sheet. Therefore their impact on the balance sheet will be smaller. One of the long term items that have to be allocated on the balance sheet is the WGA-payment. Depending on number of employees that receive a WGA-payment the impact of this item can be large. The RJ regulation do not necessarily indicate that the WGA-payment have to be allocated on the balance sheet. Therefore if companies in the metal industry are not-public listen or a subsidiary company and pay the WGA-payment to the UWV than it is not obliged to allocate these costs on the balance sheet. SME companies can insure these payments by an insurance company because it is profitable. This depends on the WGA-payments the companies have to make and the number of employees that will have a chance to receive these benefits. When these payments are arranged by an insurance company then these benefits have to be allocated on the balance sheet. Therefore we will take these payments into account when we determine the different scenarios in chapter 7. In addition, the post-employment benefit is the pension payment that the employers pay for their employees. This benefit does not have to be allocated on the balance sheet, because this arrangement is settled with an industry pension fund based on a premium obligation. Therefore the company does not share the risks that arise form this obligation. In addition, the termination benefits have to be allocated on the balance sheet if there is a plan which can not be withdrawn.

To conclude, employers have legal obligation depending on the practices they offer the employees. Therefore for each company different practices will be allocated on the balance sheet.

The items that we discussed in this chapter will be implemented in a forecasting model to show their effects on the long run.

7. Implication - Forecasting model

In chapter 6 we described the impact of practices on the financial statement of companies in the metal industry. The salary of the employees is almost always the highest item on the income statement of a company that can be attributed to the employees. In this chapter we will combine our findings in a financial forecasting model. We will determine what the costs and benefits of the (HR) practices are and these will be linked to the number of employees within a company. We will develop formulas to forecast the costs and benefits (for the next five years). These formulas are only applicable to companies in the metal industry. This will result in a financial forecast of the financial statement of a company. Finally we show the outcomes of different scenarios that are applied to a fictive company in the metal industry.

7.1 Approach

Before we can make a forecast of the costs and added value of a workforce, we have to determine the changes in the workforce within a company. Each employee makes costs that are individual related. The size and workforce is therefore very important to forecast the costs and benefits of a company.

The workforce structure and size of a company can change because of different causes. The need for personnel is based on the prospects on the market and sales of the company, on the production method and techniques within a company and on the structure and culture of a company (Evers and Verhoeven, 1999). The need for additional employees will influence the costs of a company especially when a company has a hard time filling up vacancies.

To estimate the changes in the workforce we first look at the inflow and outflow of employees. The inflow of employees is defined as the number of new employees with a contract with the company. The outflow of employees is defined as the number of employees, who *had* a contract with the company but decided to or had to leave the company. Second, we look at the changes in function and characteristics of the employees. When employees change from one function to the other, this can have an impact on their salaries. Besides that, the characteristics of the employees, like their age and time of employment, will affect their terms of employment. The change in age of employees can have an impact on the costs of a company, e.g., when employees reach their 50th year they receive extra leave days. All these aspects have an impact on the costs and benefits of the employees and therefore we have to take these aspects into account when we are developing a forecasting model.

To be able to forecast the changes in the characteristics of employees in the company we will use a technique that is used in the actuarial profession to determine for example the chance that an insured person will die. This projection technique is based on the Markov chain theory and makes use of the so called Markov matrices. The Markov chains have mathematical properties that make this technique suitable for projection purposes. A Markov matrix can be used to calculate the probability that a transition between two states (for instance function or salary level) will happen within a certain time. We will determine the probability that an employee will change in function or salary level and the probability that an employee will leave the company in a given year. The chance that a new employee will enter into a contract with the company will be calculated in a different

way. This is shown in a later section.

This forecast model can be used to give an indication of the gaps that will arise in the workforce of a company. In addition, we can determine the costs and benefits related to the employing personnel on an individual level (for one employee) and on company level (for the entire company).

7.1.1 Markov matrix

The Markov matrix functions as follows. First, based on historical information, we calculate what the probability is that an employee will change from one function or salary level to another and the probability that an employee will leave the company. We need at least two years of historical data to calculate the actual changes in function or salary level and the outflow of the company. This historical data is used to calculate the probability that an employee will change in function and that they leave the company within a given year. We estimate this probability by counting the number of employees that change in function or leave the company and transform that information to the probability that an employee will change in function. When *more historical data is available* we will be able to make a more accurate estimation of the size and characteristics of the company and therefore a more reliable projection of the future workforce.

We can develop a Markov matrix for one year with historical data and the probabilities that employees will change in function or leave the company. To develop the matrix we assign a number to the different functions or salary levels in the company. In the last row of the matrix we assign the number of outflow. In this way we can determine the probability that an employee in function 1 will stay in function 1. This will be denoted as p_{11} , in formula 02. In general, we will denote p_{ij} for the probability that an employee in level i will transfer to level j . The final row shows the probability that an employee in a certain function will leave the company.

This set of chances will be put in a matrix as follows:

$$M = \begin{pmatrix} p_{11} & p_{12} & \dots & \dots & \dots & \dots & p_{1n} \\ p_{21} & p_{22} & & & & & \vdots \\ \vdots & & & & & & \vdots \\ \vdots & & & p_{ij} & & & \vdots \\ \vdots & & & & & & \vdots \\ \vdots & & & & & & \vdots \\ p_{n1} & p_{n2} & \dots & \dots & \dots & \dots & p_{nn} \end{pmatrix} \quad (02)$$

M denotes for Markov matrix with the probabilities p that an employee will change in function or salary level. The n in the matrix denotes for the last row in the matrix. This matrix determines the probability of changes within a company for in a given year. To forecast 2 or 3 or even more years ahead we have to multiply the Markov matrices. We did this to calculate the probability that employees will change in function or salary level from 2007 to 2009. This is shown in formula 03:

$$\begin{aligned}
 M \times M &= \begin{pmatrix} P_{11} & \dots & P_{1n} \\ \vdots & & \vdots \\ P_{n1} & \dots & P_{nn} \end{pmatrix} \times \begin{pmatrix} P_{11} & \dots & P_{1n} \\ \vdots & & \vdots \\ P_{n1} & \dots & P_{nn} \end{pmatrix} \\
 &= \begin{pmatrix} P_{11}P_{11} + P_{12}P_{21} + \dots + P_{1n}P_{n1} & \dots & P_{11}P_{1n} + \dots + P_{1n}P_{nn} \\ \vdots & & \vdots \\ P_{n1}P_{11} + \dots + P_{nn}P_{n1} & \dots & P_{n1}P_{1n} + \dots + P_{nn}P_{nn} \end{pmatrix} \quad (03)
 \end{aligned}$$

We used this formula to calculate the probabilities that an employee will change in function or leave the company in 2009. We assume that the probability that employees will change in function or leave the company will stay the same. This formula can be used to make a transition between two years. Multiplying the result of $M \times M$ with M we can forecast the size and characteristics of the workforce in 2010 etc. This information makes us able to forecast the size and characteristics of the workforce of a company (Maassen, 2005).

For example: Suppose that the company has four different function groups where function group 1 is the lowest and function group 4 is the highest in the organisational structure. Besides the function groups there is also an outflow chance. The probability that an employee will flow out of the company is determined per function group. The probability that one employee will change from one functions and flow out of the company is determined by the transition from one function to the outflow 'function'.

Suppose that we have found that on average 8% of all the employees in function group 2 move to function group 3 in one year and 9% of all employees in function group 3 will leave the company in one year. Now suppose that employee X has function group 2 in 2008 and we want to forecast the probability that this employee will work flow out of the company in 2010.

First of all, employee X has a probability of 8% that he/she will be for 8% in function group 3 in 2009. Since 9% of the employees in function group 3 will leave the company, employee X will leave to company in 2010 for:

$$8\% \times 9\% = 0.7\%$$

7.1.2 Application

We will calculate the probability that employees will change in function or leave the company by using the Markov matrices. The inflow of new employees within a company is calculated in a different way. The reason for using a different method to calculate the inflow of employees is because we do not know how many employees will be hired. Without knowing how many employees will be hired we cannot estimate the chances that these employees will start in a certain function. We can determine the probability that an employee will chance from outside the company into function j , but we do not know how many employees we have to sub-divide into the new function group. To determine that number we will use a different method. The most important factor that influences the inflow rate of employees within a company is the need of new employees within the

company. Besides that a company has to attract new employees to fill up their vacancies. How fast these vacancies will be filled up depends on recruitment and selection policies of a company, the image of the company and the attractiveness of the industry and function within a company etc. (CNV, 2007). Each of these factors will not be individually included in our formula, because their effects are very hard to measure. But the inflow rate found in the historical data is affected by the same factors because these factors are partially included in the current inflow rate of the company.

To forecast the inflow rate of a company we use the average inflow of employees within the last couple of years. We will only use the inflow rate of the years that do not deviate too much as an indicator for the future inflow. Using inflow rates that deviate too much may cause a less reliable forecast because the deviated inflow can be caused by other factors (a take-over) than factors that normally affect the inflow rate (growing sales). We assume that a company needs employees for two reasons, (1) to fill up new functions that are created by the company because of growth in sales and (2) to replace employees who left the company. Adding the two reasons one can forecast the number of employees that will be needed in the future (when the company is growing). We assume that the number of employees that flow in the company will be at the same amount as found in the historical data because we do not know that growth or slack the company will make in the future. We assume that the same development will be forecasted in the future. Therefore we will forecast the same inflow rate will be pursued. This means for example that we do not take the effects of the financial crisis into account. The financial crisis may influence the need for new employees within the company in a negative way. One can choose to take these effects into consideration but that will mean that more assumptions have to be made. What kind of effect will the financial crisis have on the inflow and outflow of an industry/company? These aspects will have to be answered for each company individually and we will need more information than the quantitative figures of the company over the last couple of years therefore we do not take these aspects into account.

The outflow rate of a company is determined by two factors. First, the probability that employees will leave the company, calculated using the Markov matrix. In this percentage we have excluded the employees that leave the company because they reached their VUT or pension age. Second, the number of employees that reach their VUT or pension age will flow out of the company. We chose not to include the employees that left the company because they reached their VUT or pension age in our Markov matrix. Because the chance that employees will leave a certain level or function is then influenced by the employees that anyhow will leave the company by which the chances are not influenced by the level or function they are working in. This would cause a bias in our outcomes.

7.1.3 Forecast period

The forecast period determines the reliability of the outcomes of the financial figures. In our example we calculated the financial figures for five consecutive years. To show the effects of the HR practices on the size of the company workforce and the financial statement we will show a forecast of more than one year. A forecast of the financial figures for a long period will decrease the reliability of the figures, because most of the figures are based on the assumption that the economy will continue to grow. Therefore in our calculation we assume that the financial figures will increase in the same way as they did in the last couple of years. The CPB projected an economic growth of 2% for the

years 2008 until 2011 (CPB, 2008)³². This growth indicates that the economic will grow in the same way the last couple of years. The historical data of the company used in the scenarios has a growing pattern in the last couple of years which will continue if we really on the CPB figures. If we assume that the growth rate will continue for a longer period then estimated by CBP, our results will be less reliable. Therefore we chose to forecast the financial figures for five year. Our aim is not to exactly predict the costs and added value of the employees within a company, but our goal is to develop a model that is able to give an indication of the changes in the workforce in different scenarios, in which we can show the effect of different HR practices on workforce. A forecast of the workforce over a period more than five years will give an indication of the future size and characteristics of the workforce, e.g., of the number of employees within a certain function, which can help employers to make certain decisions for the future. But these outcomes will not have any value because the economy is changing fast. Therefore we will make a forecast of 5 years based on the forecast made by the CPB [this was before the CPB estimate the large impact of the financial crisis on the unemployment rate and economic grow, as described in chapter 1]. Our model is able to forecast the effect of the zero increase if needed or forecast a negative growth linked to the financial figures. Besides that we can manipulate the inflow and outflow figures to forecast a slacking workforce of a company. These outcomes first have to be based on good assumptions. Therefore we will use the above mention growth in the economy to assume that the company will continue to grow in the same way as we found in the historical data of this particular company.

7.2 Financial statement

The financial statement consists of two different statements the income statement and the balance sheet. The effect of the HR practices on these two items will be described below. To develop a forecasting model we have to relate the employee related costs and benefits in a company to the Markov matrices. First we will describe the effects on the income statement and second on the balance sheet. These costs and benefits are determined for companies in the light engineering industry. The light engineering industry and the large-scale metalworking and electrical industry have each individual CAO's therefore we chose one of these sub-industries.

7.2.1 Income statement

We will first define the costs that are employee-related. In addition we will describe the benefits that are employee-related. We will first describe the formulas to determine the costs and benefits for each individual employee and second for the entire workforce. This way our calculation will be more transparent.

Costs

One of the most important costs of an employee consists of his salary, his vacation bonus and his end year payment (verbinden-online, 2008). If employees are absent because of sickness, they will be paid during their absence. That means that the company has to pay employees while they are not active for the company. The same holds for additional leave days for older employees since their number of leave days increases. In this section we will describe the formulas used to calculate the costs that a company that are linked to the employees. The impact of HR practices will be shown in a later section.

³² This figure was calculated before the financial crisis, therefore we do not know to what extend we can rely on this figure.

Salary costs

The salary of employees within the metal industry is recorded in the CAO arrangements. The function-groups employees are working in and their years of employment determine their salaries (COA, 2008). In 2006 and 2007 the salary of employees in the Netherlands increased on average with 2%. In the metal industry the salary of the employees increased in 2006 with approximately 1.4% compared to 2005 and in 2007 with 1.7% compared to 2006 (CBS, 2008). In 2008 the salaries actual increased with 3.5% and will increase in 2009 with 3%. On average this means that salaries in the metal industry increased in the last 3 years with approximately 2%. Because our forecast will start in 2007, we will use the increase of 3.5% for 2008 and an increase of 3% for 2009. For the years after that we will use the average increase of 2%. We will use this percentage to forecast the future salaries of the employees in the metal industry. This percentage is, e.g., equal to the increase of CAO-salaries and includes a correction on the salaries for one year (CBS, 2008). The following formula can be used to forecast the salary of an employee in the future:

$$S_i^t = S_i^0 (FYE_i^t) \times (1+r)^t \times (1+pr) \quad (04)$$

With t we define the years that have to be forecasted. i is the number of employees. Year 2007 is assigned '0', 2008 is assigned 1 etc. In our 'salary-formula' we use the salary rate of 3.5% for 2008 3% for 2009 and from 2010 and onwards we use a rate of salary increase of 2%. To determine the salary of an employee we look at the probability that an employee is in a certain function scale and the years working in his/her function (FYE_i^t). Multiplying this with $(1+r)^t$ gives us an indication of the salary of one employee in a certain year (S_i^t). S^0 is the salary in 2007. The social premium the employer has to pay of the salary is denoted as $(1+pr)$. Pr refers to the total premium the employer has to pay on the salary of an employee. The premium we mention here are the WW premium, WAO/WIA basis premium, WAO/WIA differentiated premium and the ZVW premium for each individual employee that an employer has to pay.

$$S_{total}^t = \sum_{i=1}^n S_i^t \times p_i^t \quad (05)$$

Multiplying salary S_i^t of the employee with the probability that an employee p_i^t will still be employed within the company will make use able to estimate the total salary payment of one employee. The probability that an employee will stay in the company is determined by the same way as shown in our example in 7.1.2. If for example an employee has a probability of 0.2 % that he/she is not employed with the company in 2009 this has to be excluded of the salary costs. Therefore, we multiple the salary of the employee with the probability that the/she works in a certain function. The n denotes the number of employees of that particular year. By adding all the costs for all the employees we are able to indicate the total salary costs for the company for one year. This is defined in the formula as S_{total}^t .

Pension costs

The pension costs for one employee depend on the salary of the employee. This indicates that the total pension costs of a company change depending on the total salaries of the employees. The number of employees within the company is therefore important. This

tells us that we have to link the pension costs to the employees within the company. In chapter 6 we explained which factors influence the pension payments of an employer and we showed the pension formula for 2008. This formula is given below.

$$PC_i^{t=1} = \begin{cases} (Sf_i^{t=1} - 14,520) \times 0.252 \times Part\% \times 0.50 & \text{if } Sf_i^{t=1} < 70,809 \\ (56,289 \times 0.252 + ((Sf_i^{t=1} - 70,809) \times 0.167)) \times Part\% \times 0.50 & \text{if } Sf_i^{t=1} \geq 70,809 \end{cases} \quad (06)$$

$PC_i^{t=1}$ denotes the total pension costs for year 1. $Sf_i^{t=1}$ defines the full-time salary of that employee and the $Part\%$ part-time percentage of an employee. The pension premiums differ in time and are calculated each year by a pension fund. For 2008 we will use the above formula and for future years formula (06). The premiums in formula (07) are determined, by the pension fund of the metal and technique for 2009 (Bpmt, 2008).

$$PC_i^{t=2} = \begin{cases} (Sf_i^t - 15,004) \times 0.273 \times Part\% \times 0.50 & \text{if } Sf_i^{t+2} < 73,287 \\ (58,283 \times 0.273 + ((Sf_i^t - 73,287) \times 0.177)) \times Part\% \times 0.50 & \text{if } Sf_i^{t+2} \geq 73,287 \end{cases} \quad (07)$$

PC_i^t is the pension cost for one employee for a certain year. If the salary of an employee is lower than €73.287.- the pension premium will be 27.3% of total wage minus the franchise of €15.004.- of an employee calculated for that year. The employer pays at least 50% of the total pension costs and the employee a maximum of 50% of the total costs. In our formula we assumed that the employer pays the minimum of 50% which they have to pay according to their CAO agreements. Therefore we multiply the salary and premiums with 0.50 (Bpmt, 2008).

$$PC_{total}^t = \sum_{i=1}^n PC_i^t \times p_i^t \quad (08)$$

Multiplying the PC_i^t of one individual employee with the probability that he/she will be employed by the company in a certain year (p_i^t) we are able to give an indication of the total pension costs of one employee for one year. The total costs of the company can be calculated by adding all the individual pension costs. The n denotes the total number of employees that year. Formula (08) gives the formula for the total costs of the company for one year.

Absenteeism costs

A forecast of the rate of absenteeism of employees within a company will give an indication of the costs that a company has to make when replacing absent employees. The rate of absenteeism of one individual is calculated by dividing the number of absent days by the number of calendar days in that period. In our case the total number of calendar days is 365 days for 2008.

But how can one forecast the rate of absenteeism of an employee for the future? Depending on the information that is available one can see a pattern of the absent days of an employee. One can not apply a growth rate to absenteeism rate when one forecasts the rate of absenteeism, because the rate of absenteeism of a company will not continually

grow. Therefore we will use the rate of absenteeism of the last year to forecast the rate of absenteeism of an employee. We use the following formula to make that forecast:

$$A_i^t = A_i^{t=0} \times f^t + (1 - f^t) \times \langle A^{t=0} \rangle \quad (09)$$

A_i^t denotes the rate of absenteeism of an individual employee. $A_i^{t=0}$ is defined as the rate of absenteeism of an employee in 2007. $\langle A^{t=0} \rangle$ is the average rate of absenteeism of the company used in our scenarios. f^t is the factor used in this formula. This factor is based on the following correlation. To make this correlation we used information from a company in the metal industry with approximately 250 employees. We will use this company to show different scenarios in paragraph 7.3. The following correlations are found for that company³³:

		Correlations		
		Amount of absent days 2005	Amount of absent days 2006	Amount of absent days 2007
Amount of absent days 2005	Pearson Correlation	1.000	.455**	.371**
	Sig. (2-tailed)		0.000	0.000
	N	258	192	177
Amount of absent days 2006	Pearson Correlation	.455**	1.000	.526**
	Sig. (2-tailed)	0.000		0.000
	N	192	235	167
Amount of absent days 2007	Pearson Correlation	.371**	.526**	1.000
	Sig. (2-tailed)	0.000	0.000	
	N	177	167	221

**Correlation is significant at the 0.01 level(2-tailed).

Table 1: Correlation of absent days in 2005, 2006 and 2007

In the figure above is shown that the number of absent days of an employee in 2005 has a higher correlation with the number of absent days of an employee in 2006 than with the number of absent days of an employee in 2007. Therefore we assumed in our formula that the rate of absenteeism of the employees A_i is partially dependent on the rate of absenteeism of 2007 for one individual employee and partially dependent on another factor. We use the average rate of absenteeism of the entire company for this factor. The f is the factor that determines the part that depends on the rate of absenteeism of an individual employee.

With the following formula we calculate the factor by which the correlation of the absence rate decreased:

$$\left(\frac{corr2}{corr1} \right) = \left(\frac{0.371}{0.455} \right) \approx 0.8$$

Dividing the two correction gives use an indication of declining relationship between the individual rate of absenteeism and that the average rate of absenteeism. We assume that each forecasted year the correlation between the rate of absenteeism in 2007 and the forecasted year will decrease with is factor for this particular company. That is the reason why we divided correlation 2 by correlation 1. With this information we made the following formula to estimate the rate of absenteeism for one individual employee in this company:

³³ We used the same data of his company to forecast different scenarios in paragraph 8.5

$$A_i^t = A_i^{t=0} \times 0.8^t + (1-0.8^t) \times \langle A^{t=0} \rangle \quad (10)$$

The rate of absenteeism of that individual will be less dependent on their own rate of absenteeism of 2007 depending on the years what will be forecasted. Therefore we implemented the 0.8^t and the $(1-0.8^t)$ in the formula. By filling in the t with for example 2 (a forecast for 2009) the rate of absenteeism of an individual we be more dependent on the average rate of absenteeism of the company in 2007 than their own rate of absenteeism in 2007. The 0.8 used in this formula is only applicable to this particular company. When forecasting the rate of absenteeism for employees in another company one has to determine this factor, as shown above for that particular company.

The costs that arise from absent of employees we are called costs of absenteeism. The costs of absenteeism of an individual employee can be calculated by multiplying their rate of absenteeism and their salary. Andriessen & Uijl (2003) calculates the costs of absenteeism of a company by multiplying two times (factor) the salary costs of an employee that becomes absent. This factor can differ from company to company, because one has to include the replacement costs and loss in labour productivity in their formula.

In our case the salary of the employee that is absent is included in the salary costs. We assume that an employer is not going to pay a replacement employee the same amount of money as the absent employee if the labour productivity of that employee is lower. But in a tight labour market an employer can not easily replace absent employees and therefore has to use other alternatives or pay more for the replacement employee. When the company is not able to replace an employee (or decides not to) it has to face a production loss. If the employer decides to replace the employee, he can accomplish this by asking their employees to work overtime or by hiring a replacement employee. The overtime payment in the metal industry differs between 0.78%³⁴ and 1.12% of the monthly salary of an employee (CAO, 2008). This means that overtime will cost employers approximately 1.3 times or 1.8 times³⁵ the hourly wage for one employee. The production loss that will be caused when the employer decides not to replace the employee differs between companies and is partially dependent on the function of the employee within the company. We do not know what the production loss will be, but we know what the overtime costs are, because of this we will use the average overtime costs as replacement costs. We chose to use a replacement factor that is between the 1.3 and the 1.8. Our replacement factor is 1.5. The following formula is used to calculate the absent costs for one employee:

$$Ac_i^t = (A_i^t \times Rf) \times S_i^t \quad (11)$$

Ac_i^t is the absent cost for one employee. $A_i^t \times Rf$ is the rate of absenteeism multiplied by the replacement factor of 1.5. Rf denotes the replacement factor. S_i^t are the salary

³⁴ A lower percentage (0.607) is indicated in the CAO. This percentage only applied to the employees that have to work on a holiday and will receive in the same week a day off. Because they do not replace other employees but themselves we did not include this percentage (CAO, 2008).

³⁵ For example if the gross wage of an employee is €1743.- a month, a month has 4,29 weeks (30 days/7) and if the employee will work each week 38 hours he/she will work (38 x 4,29) 163.02 hours each month. Dividing the €1743.- by the 163.02 hours will give an indication of the salary costs for each hour (€1069 each hour). The overtime costs for each hour will be between €13.59 (0.78% x €1743.-) and €19.52 for each hour (1.12% x €1743) (CAO, 2008).

costs of an individual employee. In our absent formula we did not take into account that employees who are two years sick and will receive in that same period a total of 170% of their salary. In our formula each employee will receive their total salary.

The higher the rate of absenteeism of an employee with a high salary, the higher the absent costs will be, because we link the rate of absenteeism of one employee to their own salary. This will influence the total absent costs of a company.

$$Ac_{total}^t = \sum_{i=1}^n Ac_i^t \times p_i^t \quad (12)$$

The total absent costs of a company is calculated by adding the entire individual absent costs Ac_i^t and multiplied by their p_i^t . The p_i^t denotes the probability that an employee is still active within the company. The n denote the number of active employees within the company. Adding all these absent costs up will give the total costs the company has to make.

Leave days

The number of additional leave days for older employees is recorded in the CAO agreements. The additional leave arrangements are described in chapter 4. Employees who are older than 50 years old are entitled to these leave days. Those employees have the right to use more leave days compared to younger employees. As a result companies have to make additional costs to replace these employees when they are on leave.

The formula that we use to estimate the costs that are linked to the additional leaves is as follows:

$$Lc_i^t = \begin{cases} (1,5 / 228) \times Rf \ 1,02^t \times S_i^t & \text{if } 50 \text{ years} \leq \text{age} < 55 \text{ years} \\ (2 / 228) \times Rf \ 1,02^t \times S_i^t & \text{if } 55 \text{ years} \leq \text{age} < 57,5 \text{ years} \\ (3,5 / 228) \times Rf \ 1,02^t \times S_i^t & \text{if } 57,5 \text{ years} \leq \text{age} < 58 \text{ years} \\ (5 / 228) \times Rf \ 1,02^t \times S_i^t & \text{if } 58 \text{ years} \leq \text{age} < 60 \text{ years} \\ (6 / 228) \times Rf \ 1,02^t \times S_i^t & \text{if } 60 \text{ years} \leq \text{age} < 61 \text{ years} \\ (6,5 / 228) \times Rf \ 1,02^t \times S_i^t & \text{if } 61 \text{ years} \leq \text{age} < 62 \text{ years} \\ (7 / 228) \times Rf \ 1,02^t \times S_i^t & \text{if } 62 \text{ years} \leq \text{age} < 63 \text{ years} \\ (7,5 / 228) \times Rf \ 1,02^t \times S_i^t & \text{if } 63 \text{ years} \leq \text{age} < 64 \text{ years} \\ (8 / 228) \times Rf \ 1,02^t \times S_i^t & \text{if } 64 \text{ years} \leq \text{age} \end{cases} \quad (13)$$

The additional leave days that an employee is entitled to, depends on the age of the employee. The last column in the formula denotes the age categories. Depending on the age of the employee a formula has to be applied. First column in the formula, e.g., (1.5/228), shows the percentage that an employee is on leave. 1.5 is number of the additional leave days that employees between 50 and 55 years receive. 228 are the number of work days³⁶ in one year. By multiplying this with the replacement factor (Rf is

³⁶ We calculated the number of workdays by counting the work days in one year (52x5=260) minus the in the CAO arranged number of vacation days (26 days for the light engineering industry) minus the compulsory holidays in one year (approximately 6 days).

1.5), the salary of the employee and the salary increase of 1.02 each year will give an indication of the leave days costs.

The total additional leave days of an employee (Lc_i^t) has to be multiplied by the chance that an employee will stay active within the company (p_i^t).

$$Lc_{total}^t = \sum_{i=1}^n Lc_i^t \times p_i^t \quad (14)$$

We can determine the total additional leave days costs for the company by adding all the leave days costs of all employees (n denotes the number of employees) up. Lc_{total}^t denotes the total costs that companies make for the additional leave days.

Benefits

We express the added value of the employees in the labour productivity they realise. Therefore we will describe the labour productivity formula in the next section.

Labour productivity

We assume that the labour productivity of all employees in a company in the metal industry has the same value. One of the reasons why we make this assumption is that we only have the average labour productivity of an employee in the metal industry. In reality not all employees will produce the same added value. Employees that work in the production process can have a higher added value for the company compared to an employee who is working in the cafeteria of the company. Besides that, the employees that are receiving a higher wage could have a higher labour productivity. But is this really the case? Because we can not determine which employee accounts for which part of the total added value we can not determine what the added value of each individual employee is. Therefore, since the added value of each individual employee is not known, one can use the following formula to calculate the labour productivity of their employees.

$$LP_i^t = GM_FTE_i^{t=0} \times FTE\%_i^{t=0} \times (1+r)^t \quad (15)$$

The labour productivity of the employees is calculated by dividing the gross margin (sales minus sales costs) by the total fulltime-equivalents (FTEs). This will give the gross margin per FTE (GM_FTE). In this formula $t=0$ denotes 2007. To determine the labour productivity of one employee we have to correct the labour productivity to their FTE% in 2007. Because we can not forecast the FTE% of an employee, we assume that it stays the same as in 2007. Another assumption that we have to make is that the labour productivity will increase each year by 2%. The r denotes the growth rate of the labour productivity. This way our model will stay consistent with the salary increase we applied on the salary of each employee.

To calculate the total labour productivity of the company one could use the following formula:

$$LP_{total}^t = \sum_{i=1}^n LP_i^t \times p_i^t \quad (16)$$

In the way we calculate the labour productivity in the formula (15) we did not take into account the probability that an employee will leave the company and will not added value to the labour productivity of the company. Therefore in formula (16) we multiply the labour productivity of each individual employee denoted by LP_i^t with the probability that an employee will still be active within the company. This is denoted by p_i^t . The n denotes the number of employees. We are able to give the total labour productivity of the company, adding up all the individual labour productivities multiplied with the probability that an employee will stay within the company. This is indicated by LP_{total}^t .

HR- practices

Companies implement HR practices for different reasons in their company. Companies can for example implement HR practices because they can have an added value to the company. Companies will get an impression of the added value of HR practices by determining the effects of HR practices on the financial performance of the company. During this study we were not able to determine the added value of the HR practices. Therefore we can not determine the quantitative effect of HR practices cause a lower rate of absenteeism or a higher labour productivity.

7.2.2 Balance sheet

In chapter 6 we described which financial obligations have to be allocated on the balance sheet. We distinguished four main categories which are: short term benefits, longer term benefit, post-employment benefits and termination benefits. Public listed companies have to allocate employees' benefits on the balance sheet and non-public listed companies may allocate these costs by the following regulations.

Most of the employees' benefits that occur during employment have to be allocated at the moment they occur. Short term items have to be allocated on the balance sheet without using a discount rate. Items that have to be allocated are salary and premiums, bonuses and vacation payments. We explained in chapter 6 when companies have to allocate the short term benefits on the balance sheet. We state that companies may allocate, e.g., the salary payment at the moment when it is a liability or expense. Employer have therefore allocate payables for the period that the service of the employees is not been paid. We assume that in our scenario this is not the case and that all employees are paid on the day that the balance sheet is determined.

One of the long term benefits is the WGA-payment benefits. If a company is public-listed then they have to allocate these benefits on the balance sheet. When a company is not-public listed than they may choose to allocate these benefits on the balance sheet. Employers have to allocate the WGA-payments of their employees on the balance sheet³⁷ at the moment that an employee receives a WGA-payment. The amount on the balance sheet is calculated as the present value of future payments to employees who receive a WGA-payment. The employer has to pay the WGA-payment of an employee for 10 years. Therefore the future payments have to be allocated on the balance sheet for that period. We calculated the present value of the future payments for the company that is used in the scenarios. Based on the characteristics of the company, the average amount of the present value related to the inflow in the WGA is estimated. This amount has to be

³⁷ The company can insure itself for the risks that are linked the disability benefits. Depending on the kind of insurance they do not have to allocate these benefits on the balance sheet.

allocated on the balance sheet for each year.

An example is presented in figure 9:

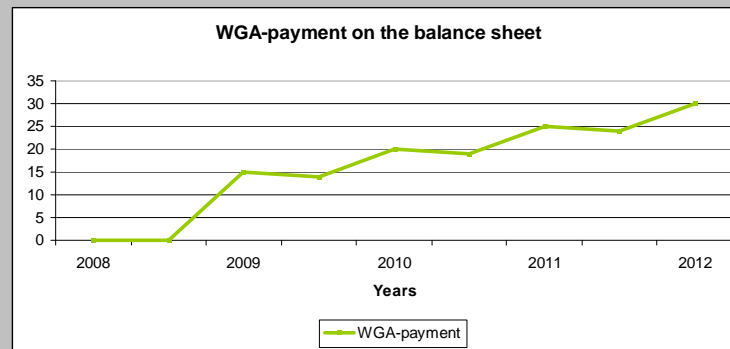


Figure 9: Example WGA-payment on the balance sheet

The company does not have any liabilities regarding the WGA-payment before 2007. The first employees will receive their WGA-payment in 2009. Therefore the company has to allocate the present value of the future payables on the balance sheet for the employees in 2009 (for a period of 10 years). After the allocation this amount slightly decreases because the employer has to pay the WGA-payment of the employees that a WGA-payment at that moment. This is shown in figure 7. After 2009 the amount of payables slightly declines and then increases in 2010. In 2010 we determine the new WGA-payments for the employees that receive a WGA-payment and allocated that present value of the future payables on the balance sheet (this is approximately 0.24% of the salary costs when the salary costs will state the same). This amount has to be allocated on top of the amount that is allocated for 2009. We made the assumption for the allocation of the WGA-payment for the years after 2010. The WGA-payment is forecasted on the assumption that the number of employees that will receive a WGA-payment will state the same. Therefore a slight decline of employees within the company will not affect the WGA-payments that the company has to pay. This means that the WGA allocation on the balance sheet in all our forecast scenarios will be the same.

The pension payments to the employees do not have to be allocated on the balance sheet. The companies in the light engineering industry are linked to an industry pension fund and they only have the responsibility to pay the premium to the fund. Therefore companies do not have to allocate the pension payment on the balance. The same holds for the company used in our forecasting example. In addition the termination benefits have to be allocated on the balance sheet. To allocate these benefits to the balance sheet the company has to have a plan to dismiss employees which can not be withdrawn. We can not predict this chance because we do not know how many employees were dismissed in the past. Therefore we will not take this into account.

7.3 Application on Company W – a case study

In this section we show the effects of the (HR) practices on the income statement of Company W. Company W is active within the metal industry and will be used as a fictive company in this thesis to show the effects within our scenario forecasting model. Firstly we describe the main characteristics of the company. These numbers will affect the forecast of the company and therefore have to be described. Secondly we give four

different forecasting scenarios of the workforce of the company to give an indication of different effects. These scenarios will affect the younger as well as the older employees within the metal industry. In the case studies we did not determine a difference between the rate of absenteeism and labour productivity of younger and older employees. During the case studies we found that the companies did not see a (large) difference between the rate of absenteeism and labour productivity of older and younger employees. Besides that, HR practices are not only implemented for younger or older employees but for all employees. Therefore we show the effect of the HR practices on the total workforce.

7.3.1 Company W

Company W is a company that has been active within the metal industry for a long period. Based on three years of historical data we make our forecast. We discriminate four different function groups within the company. The four function groups are: the production employees (the employees who are developing the main product), the supporting staff these employees work in the supporting departments (e.g. the sale and R&D department), the management staff and trainees. In each function group the employees are divided into groups depending on their salary. As a result we can determine the transitions of the employees from one group to another group. These results are used to make our Markov matrices³⁸. These transitions influence not only the changes in function within the company but also the number of employees that will flow in the company and the number of employees that flow out the company. In table 11 a summary the historical data of company W is shown.

	2005	2006	2007
Production employees	180	182	203
Supporting staff	83	79	71
Management staff	15	13	11
Trainees	3	8	0
Total workforce	281	282	285

FTE %	96%	96%	95%
Absenteeism %	7.6%	6.7%	6.0%
Average age	42	42	43

Table 11: Historical data number of employees Company W

The historical data shows that the company has slightly grown in the last couple of years. The number of management employees decreased slightly and the number of trainees dropped to zero. The average rate of absenteeism of the company changed from almost 8 % in 2005 to 6% in 2007. What caused this decrease is unknown. The labour productivity that we used is €80,000.- based on the average labour productivity within the metal industry (Onderneming, 2009). The average age of the employees is 42 years in 2007. In each forecast we show the figures of 2007 to show the growth or slack in costs and benefits. The historical data however show that the number of employees increased slightly in the last couple of years. Besides that we can see that the number of trainees is 0 in 2007. The characteristics of the employees that flow in to the company are determined by the characteristics of the employees that flow in to the company in 2007. Because this number is 0 and employees from other function groups do not flow in to the trainee function group the number of trainees in our forecast stays 0. The Markov matrix continues the trend of the last come of years, because the number of trainees decline in

³⁸ We used the four function groups in our matrix because the total number of functions within the company is divided in approximately 70 different function groups. This number this to high to use in our matrices, therefore is alternative is chosen.

2007 compared to 2006 there are no trainees in 2008.

We use four different scenarios to show the possibilities of our model. We show the effect of the employee-related costs and effects of HR practices on the income statement and balance sheet. These figures depend on the number of employees in our forecast and therefore we will show in a summary the changes in the workforce. In scenario 1 we start with the assumption that Company W will not hire employees. Companies can face problem because they can not hire employees or because their sales decrease and therefore they can decide to not hire any employees for a certain period. Therefore we will show what kind of effect not hiring employees will have on their workforce volume and on their financial statement. These effects are shown in scenario 1. In scenario 2, 3 and 4 we do not change the turnover rate of the company (which means that the inflow and outflow will occur based on historical data). We will first show scenario 1 and 2 and then compare both these scenarios to get an indication of this effect. Scenario 2 is our starting point that will be used to show the impact of HR practices on the financial statement of companies. These are shown in scenario 3 and 4.

To determine the employees that leave the company we used the retirement age of 62 years. There is a transitional arrangement whereby the employees can retire before their 65th year. Until 2010 employees will retire by their 60.7 years. Employees will retire by the age of 61 in 2010 and for the years after 2010 the retirement age will move up with two months each year. These aspects are taken into account in this forecast.

7.3.2 Scenario 1

In this scenario we make a forecast of the financial figures of the company. We do not change the normal outflow of the company but interfere with the inflow rate of the company. The inflow will be zero. When no employees will enter the company this will have an impact on the size and the average characteristics of the company.

	2007	2008	2009	2010	2011	2012
Production employees	203	199	195	192	188	184
Supporting staff	71	64	57	51	46	42
Management staff	11	10	8	7	6	6
Trainees	0	0	0	0	0	0
Total workforce	285	272	261	250	240	231
FTE %	95%	95%	95%	96%	96%	96%
Absenteeism %	6.0%	6.0%	6.0%	5.9%	5.9%	5.9%
Average age	43	44	45	46	47	48

Table 12: Forecast scenario 1 number of employees in different function groups

Table 12 shows that the number of employees will decline within the company. The numbers of employees that flow out of the company are in all the function groups in the same proportion. Furthermore the average age of the employees are increasing³⁹. This indicates that the number of employees that will reach their retirement age is increasing. This can cause problems for the company because there will be less employees that can replace these employees. The total number of employees is dramatically decreasing. The company has to be aware of the fact that they are losing know-how within the company. If the employees that leave the company can not pass their knowledge on to employees that will replace them, their know-how will be lost. In addition, a decrease in the number of employees will have a negative effect on the total productivity of this company.

³⁹ In appendix 3 we included an age distribution over the years for scenario 1.

Besides that a decrease in the number of employees can have a positive effect⁴⁰ on the labour costs employers have to make. These costs are show in table 13.

	2007	2008	2009	2010	2011	2012
Salaries and Premiums	€ 8,665,938	€ 8,472,615	€ 8,273,016	€ 8,024,641	€ 7,805,012	€ 7,609,707
Costs of absenteeism	€ 777,373	€ 759,550	€ 740,072	€ 715,872	€ 694,265	€ 675,025
Costs of additional leave	€ 342,077	€ 329,598	€ 318,709	€ 309,141	€ 300,680	€ 293,156
Pension costs	€ 1,638,926	€ 1,577,035	€ 1,523,141	€ 1,475,889	€ 1,434,199	€ 1,397,210
HR costs	€ -	€ -	€ -	€ -	€ -	€ -
Total costs	€ 11,424,314	€ 11,138,797	€ 10,854,938	€ 10,525,542	€ 10,234,156	€ 9,975,098
Total costs 5 years						€ 52,728,531
Total LP	€ 21,745,360	€ 21,211,573	€ 20,731,383	€ 20,296,587	€ 19,900,647	€ 19,538,353
Total LP 5 years						€ 101,678,542
Based on FTE	2007	2008	2009	2010	2011	2012
Salaries and Premiums	€ 30,407	€ 31,109	€ 31,720	€ 32,069	€ 32,459	€ 32,888
Costs of absenteeism	€ 2,728	€ 2,789	€ 2,838	€ 2,861	€ 2,887	€ 2,917
Costs of additional leave	€ 1,200	€ 1,210	€ 1,222	€ 1,235	€ 1,250	€ 1,267
Pension costs	€ 5,751	€ 5,790	€ 5,840	€ 5,898	€ 5,965	€ 6,039
HR costs	€ -	€ -	€ -	€ -	€ -	€ -
Total average costs	€ 40,085	€ 40,899	€ 41,619	€ 42,063	€ 42,562	€ 43,111
Average LP	€ 76,300	€ 77,884	€ 79,486	€ 81,111	€ 82,763	€ 84,442
Balance sheet /WIA	€ -	€ -	€ 81,823	€ 85,148	€ 95,746	€ 106,490

Table 13: Income statement Scenario 1

In table 13 we determined the financial forecast based on the assumptions above. First we denoted the total costs and benefit of the employees and second the costs and benefits on individual basis. The total labour productivity of the employees is denoted by LP. One can see that the figures of the total labour productivity of the employees are slightly increasing. This can be attributed to the growth rate we applied on these figures. There are no HR costs included in scenario 1, because we did not implement additional HR practice within the company. While the total labour costs are slight declining while the allocation on the balance sheet is increasing. This can be assigned to the increasing amount of WGA-payments in the future. If we compare the total costs over 5 years with the total LP over 5 year will can see that we can see that the total costs of the company is 50% of the Labour productivity.

7.3.2 Scenario 2

In this scenario we apply the same assumptions as in Scenario 1. But now the inflow rate will be forecasted in the same way we found in the historical data.

	2007	2008	2009	2010	2011	2012
Production employees	203	221	239	257	276	295
Supporting staff	71	64	57	52	47	43
Management staff	11	10	8	7	6	6
Trainees	0	0	0	0	0	0
Total workforce	285	294	304	316	329	344
FTE %	95%	96%	96%	96%	96%	97%
Absenteeism %	6.0%	5.7%	5.4%	5.2%	5.1%	5.0%
Average age	43	44	44	45	45	45

Table 14: Forecast scenario 2 number of employees in different function groups

In the table above the number of employees for each function group is shown⁴¹. One can

⁴⁰ However this decrease can have a negative impact on the company when the economy is improving. This will mean that the sales growth and the company will need more technique skilled employees.

⁴¹ In appendix 4 we show a table that shows the development of the workforce using a wider format.

indicate that the decline of employees in the supporting departments is shown. The employees in the production department on the other hand are increasing. The total number of employees within the company will increase. The number of employees that are hired during the years that are determined based on the growth in the historical data. The same growth within the workforce is will continue. We can see that the rate of absenteeism of the company is slightly decreasing. The rate of absenteeism of each employee is slightly transferred to the average rate of absenteeism of the company. This is a fixed number therefore if no employees will leave the company or will flow in to the company the average rate of absenteeism will stay the same. But now the rate of absenteeism of the company is declining⁴². We can explain this by two approaches. First, the employees that flow in the company have received the characteristics of other employees that start working in the company in 2007. If these employees have a lower rate of absenteeism this will mean that employees that flow into the company will automatically also have a lower rate of absenteeism. This will eventually decrease the average rate of absenteeism of the company. Our second explanation is that the employees that leave the company have a higher rate of absenteeism and when they leave the company, the average rate of absenteeism can drop. But, what effect do these outcomes have on the financial figures of the company? In table 15 we show the financial statement that is linked to scenario 2.

	2007	2008	2009	2010	2011	2012
Salaries and Premiums	€ 8,665,938	€ 9,163,759	€ 9,638,944	€ 10,044,178	€ 10,562,511	€ 11,080,775
Costs of absenteeism	€ 777,373	€ 778,901	€ 775,951	€ 786,540	€ 806,467	€ 826,599
Costs of additional leave	€ 342,077	€ 357,426	€ 374,384	€ 392,603	€ 416,653	€ 441,801
Pension costs	€ 1,638,926	€ 1,708,187	€ 1,780,447	€ 1,853,492	€ 1,948,583	€ 2,042,342
HR costs	€ -	€ -	€ -	€ -	€ -	€ -
Total costs	€ 11,424,314	€ 12,008,272	€ 12,569,726	€ 13,076,813	€ 13,734,215	€ 14,391,517
Total costs 5 years						€ 65,780,543
Total LP	€ 21,745,360	€ 22,925,173	€ 24,153,071	€ 25,499,130	€ 27,132,206	€ 28,975,068
Total LP 5 years						€ 128,684,648
BASED ON FTE	2007	2008	2009	2010	2011	2012
Salaries and Premiums	€ 30,407	€ 31,132	€ 31,656	€ 31,767	€ 32,077	€ 32,238
Costs of absenteeism	€ 2,728	€ 2,646	€ 2,548	€ 2,488	€ 2,449	€ 2,405
Costs of additional leave	€ 1,200	€ 1,214	€ 1,230	€ 1,242	€ 1,265	€ 1,285
Pension costs	€ 5,751	€ 5,803	€ 5,847	€ 5,862	€ 5,918	€ 5,942
HR costs	€ -	€ -	€ -	€ -	€ -	€ -
Total average costs	€ 40,085	€ 40,796	€ 41,282	€ 41,358	€ 41,709	€ 41,870
Average LP	€ 76,300	€ 77,884	€ 79,324	€ 80,646	€ 82,397	€ 84,299
Balance sheet /WIA	€ -	€ -	€ 81,823	€ 85,148	€ 95,746	€ 106,490

Table 15: Income statement Scenario 2

The number of employees in the company is slightly increasing and therefore the employee-related costs are increasing. The figures of 2007 are shown to compare the historical data with our forecast.

If we compare scenario 1 with scenario 2 we can identify a difference in the total costs of company and difference in labour productivity of employees. The total labour productivity of the two scenarios differs enormous. In scenario 1 the total labour productivity over the 5 years is approximately 102 million euros and in scenario 2 is amount is approximately 129 million. Not hiring employees will have a negative effect on the labour productivity. But the company has to make sure that they can sale the products that they developed. Besides that the total labour costs has to be taken into

account. When we compare the average labour costs we see a difference. This difference can be explained by two different aspects. First, the average age of the company is higher in scenario 1. This can affect the salary costs that the company has to make, because on average older employees earn more than younger employees. When we compare the average salary costs we can see that our statement is correct. Second, we explained that the average rate of absenteeism of employees declining in scenario 2. In scenario 1 this is not the case. Therefore the costs of absenteeism in Scenario 2 are lower.

7.3.3 Scenario 3

One of the main goals of this master thesis was to determine the effects of the different HR practices on the labour productivity. In this scenario we show what kind of effect a HR practice could have on the labour productivity. In this scenario we make the following assumptions. In chapter 1 we described the results of a research of Delmotte et al. (2006). They found that each increase of HR intensity can affect the labour productivity in average with approximately 12%. We assumed that this company can realise the same increase by investing in one HR practice. Because we do not know what kind of investment companies have made to realise this increase therefore will we use 6%. We use is figure to show that kind of effect a HR practice can have on the labour productivity of the employees. The costs that have to be allocated on the income statement are as follows determined. The OOM foundation gives employees the opportunity to train themselves. They give each employee a budget of €2,000.- per two year to use for training. We make the assumption that employees in the metal industry need to be trained each year for €1,000.- to keep heir labour productivity on the same level. This amount is offered by the OOM foundation. We assume that when employers will invest an additional €1,000.- per employee this can increase their labour productivity. We assume that this investment will realise the 6% increase of labour productivity.

	2007	2008	2009	2010	2011	2012
Salaries and Premiums	€ 8,665,938	€ 9,163,759	€ 9,638,944	€ 10,044,178	€ 10,562,511	€ 11,080,775
Costs of absenteeism	€ 777,373	€ 778,901	€ 775,951	€ 786,540	€ 806,467	€ 826,599
Costs of additional leave	€ 342,077	€ 357,426	€ 374,384	€ 392,603	€ 416,653	€ 441,801
Pension costs	€ 1,638,926	€ 1,708,187	€ 1,780,447	€ 1,853,492	€ 1,948,583	€ 2,042,342
HR costs	€ -	€ 294,349	€ 304,486	€ 316,184	€ 329,285	€ 343,716
Total costs	€ 11,424,314	€ 12,302,622	€ 12,874,212	€ 13,392,997	€ 14,063,500	€ 14,735,233
Total costs 5 years						€ 67,368,564
Total LP	€ 21,745,360	€ 24,300,683	€ 25,602,256	€ 27,029,078	€ 28,760,138	€ 30,713,572
Total LP 5 years						€ 136,405,727
BASED ON FTE						
Salaries and Premiums	€ 30,407	€ 31,132	€ 31,656	€ 31,767	€ 32,077	€ 32,238
Costs of absenteeism	€ 2,728	€ 2,646	€ 2,548	€ 2,488	€ 2,449	€ 2,405
Costs of additional leave	€ 1,200	€ 1,214	€ 1,230	€ 1,242	€ 1,265	€ 1,285
Pension costs	€ 5,751	€ 5,803	€ 5,847	€ 5,862	€ 5,918	€ 5,942
HR costs	€ -	€ 1,000	€ 1,000	€ 1,000	€ 1,000	€ 1,000
Total average costs	€ 40,085	€ 41,796	€ 42,282	€ 42,358	€ 42,709	€ 42,870
Average LP	€ 76,300	€ 82,557	€ 84,083	€ 85,485	€ 87,341	€ 89,357
Balance sheet /WIA	€ -	€ -	€ 81,823	€ 85,148	€ 95,746	€ 106,490

Table 16: Income statement Scenario 3

In the table 16 is shown what the effects are of the HR practices on the labour

productivity. These effects are directly shown on the income statement. The labour productivity of employees is increased more compared to the labour productivity mentioned in scenario 2. 2007 concerns historical data therefore we did not allocate the addition HR costs of €1000.- p.p. for that year. Over a period of five years an investment of €5000.- p.p. (five times €1000.- p.p.) will realise an increase in labour productivity of €7,839.- p.p. (Average LP scenario 2 -3 = €84,299.-€92,138.-). We make the assumption that an investment in HR practices has linear relationship with the increase of labour productivity. Therefore we can determine the breakeven point of this invest of €1000.- p.p. We use the following formula to determine the breakeven point for one year:

$$\frac{HR_{costs}^t}{LP^t} = \Delta LP^t \% = \frac{294,349^1}{22,925,173^1} \approx 1.28^1\%$$

HR_{costs}^t denotes the HR costs for the total company in 2008 and LP^t denotes the amount of labour productivity before the implementation of the HR practices in 2008. Therefore we used the total labour productivity mentioned in scenario 2 for the 2008. The $LP^t\%$ denotes the increase in labour productivity that as to be realised to return their investment. When the company can realise an increase in labour productivity of 1.18% by investing €1000.- p.p. their investment will be payback within one year. For the years after 2008 this percentage will slightly differ because the labour productivity and HR costs change slightly over the years.

7.3.4 Scenario 4

Another goal of this research is to determine the effects of HR practices on the rate of absenteeism of employees. To show what kind of effect a decrease of rate of absenteeism can have on the labour productivity of employees we developed a scenario for our forecasting model. Furthermore, in the case studies mentions in chapter 5 we found that within two of the four companies the supervisors are actively involved with absent employees. Within these companies they realised a decrease in the rate of absenteeism of their employees. Therefore we assume what investing in one HR manager will realise a decrease in the rate of absenteeism of employees. The rate of absenteeism within one of the cases studies (Company Z) decreased in one year from 5.2% December 2007 to 2.4% in December 2008. We assume that decrease is realised in a linear relationship within the two years. This means that the rate of absenteeism of this company decreased with 36% in one year. This is very high. In Company D this decrease from 2007 until 2008 is approximately 15%. The HR manager of Company Z stated that the supervisors were trained to be actively involved with absent employees after the HR manager started working within the company in May 2007. We make the assumption that the rate of absenteeism of the company will decrease with 15% once-off when the company will hire one additional HR manager to be actively involved with absent employees. We chose this percentage because not many companies can realise a decrease of 36% in one year. Information outcome the rate of absenteeism of the other companies is unknown. The costs are one annual salary of €47,000.- a year. We use the average salary of the HR managers in Company W as an indication.

In table 17 we show the effect of a decrease in rate of absenteeism before and after the HR manager has stated working in the company.

	2007	2008	2009	2010	2011	2012
Absenteeism % before	6.0%	5.7%	5.4%	5.2%	5.1%	5.0%
Absenteeism % after	6.0%	4.8%	4.6%	4.4%	4.3%	4.2%

Table 17: Absenteeism scenario 4

We can see that the rate of absenteeism changed slightly. But that kind of effect has a decrease in the absenteeism rate on the income statement? Table 18 shows the total costs have the HR manager was hired to decreased the rate of absenteeism within the company.

	2007	2008	2009	2010	2011	2012
Salaries and Premiums	€ 8,665,938	€ 9,163,759	€ 9,638,944	€ 10,044,178	€ 10,562,511	€ 11,080,775
Costs of absenteeism	€ 777,373	€ 662,065	€ 659,558	€ 668,559	€ 685,497	€ 702,609
Costs of additional leave	€ 342,077	€ 357,426	€ 374,384	€ 392,603	€ 416,653	€ 441,801
Pension costs	€ 1,638,926	€ 1,708,187	€ 1,780,447	€ 1,853,492	€ 1,948,583	€ 2,042,342
HR costs	€ -	€ 47,000	€ 47,000	€ 47,000	€ 47,000	€ 47,000
Total costs	€ 11,424,314	€ 11,938,437	€ 12,500,333	€ 13,005,832	€ 13,660,245	€ 14,314,527
Total costs 5 years						€ 65,419,375
Total LP	€ 21,745,360	€ 22,925,173	€ 24,153,071	€ 25,499,130	€ 27,132,206	€ 28,975,068
Total LP 5 years						€ 128,684,648
BASED ON FTE	2007	2008	2009	2010	2011	2012
Salaries and Premiums	€ 30,407	€ 31,132	€ 31,656	€ 31,767	€ 32,077	€ 32,238
Costs of absenteeism	€ 2,737	€ 2,249	€ 2,230	€ 2,177	€ 2,143	€ 2,104
Costs of additional leave	€ 1,200	€ 1,214	€ 1,214	€ 1,214	€ 1,214	€ 1,214
Pension costs	€ 5,751	€ 5,803	€ 5,847	€ 5,862	€ 5,918	€ 5,942
HR costs	€ -	€ 160	€ 154	€ 149	€ 143	€ 137
Total average costs	€ 40,095	€ 40,559	€ 41,102	€ 41,168	€ 41,495	€ 41,635
Average LP	€ 76,300	€ 77,884	€ 79,324	€ 80,646	€ 82,397	€ 84,299
Balance sheet /WIA	€ -	€ -	€ 81,823	€ 85,148	€ 95,746	€ 106,490

Table 18: Income statement Scenario 4

If we compare the costs of absenteeism in table 18 with the absent costs in scenario 2 we can make a comparison. First, we can determine that a decrease of the rate of absenteeism with 12.5% affects the total absent costs with approximately €116,836.- each year (costs of absenteeism for scenario 2 - 4 in 2008 = €778,901 - €662,065.-). Second, if we only compare the costs per employee, we can claim that the effect of the HR practice on individual bases only shows a decrease of €397.- pp. each year (costs of absenteeism for scenario 2 - 4 in 2008 = €2,646.- - €2,249.-). The payback time of the investment on a HR practice can give an indication on which point a company can decide to invest in this HR practice or not. The breakeven point of this scenario is determined as follow:

$$\frac{HR_{costs}^t}{AC^t} = \Delta A^t \% = \frac{47,000}{778,901} = 6.01\%$$

The HR_{costs}^t denotes the HR costs for the total company in 2008 and AC^t denotes for the amount of absent costs before the implementation of the HR practices. Therefore we used the total absent costs mentioned in scenario 2. The A^t denotes the decrease in rate of absenteeism that has to be accomplished to make no loss. When the company can realise a decrease of 4.5% by investing in one HR manager their investment will be returned in one year. For the years after 2008, this percentage will slightly differ because the absent costs are decreasing.

7.3.5 Comparison

If we compare the four different scenarios we can determine what kind of investment this company can make to increase the labour productivity and decrease the absenteeism costs

of their employees. First, in scenario 1 the number of employees decreases more than in scenario 2. If this company wants to have the same number of employees as shown in scenario 2 the company will grow vast. To accomplish this, the company has to invest more in their recruitment and selection policies to hire more employees. These costs are not included in this forecasting model. In addition, the scenarios shown in scenario 3 and 4 indicate that when companies can realise the returns shown in the scenarios they will be profitable. We do not know in which amount the numbers used in our scenarios are realistic, but we tried to justify our choices. In the following table is shown which scenario will realise the highest added value for the company.

Scenario 3	2007	2008	2009	2010	2011	2012
Total costs	€ 11,424,314	€ 12,277,705	€ 12,849,241	€ 13,366,806	€ 14,035,973	€ 14,708,439
Total LP	€ 21,745,360	€ 24,300,683	€ 25,602,256	€ 27,029,078	€ 28,760,138	€ 30,713,572
Difference	€ 10,321,046	€ 12,022,979	€ 12,753,014	€ 13,662,272	€ 14,724,165	€ 16,005,133
Scenario 4	2007	2008	2009	2010	2011	2012
Total costs	€ 11,424,314	€ 11,938,437	€ 12,500,333	€ 13,005,832	€ 13,660,245	€ 14,314,527
Total LP	€ 21,745,360	€ 22,925,173	€ 24,153,071	€ 25,499,130	€ 27,132,206	€ 28,975,068
Difference	€ 10,321,046	€ 10,986,736	€ 11,652,738	€ 12,493,298	€ 13,471,961	€ 14,660,541
Difference 3 - 4	€ -	€ 1,036,243	€ 1,100,277	€ 1,168,974	€ 1,252,204	€ 1,344,592

Table 19: Difference of added value per employee for Scenario 3 to Scenario 4

Table 19 gives the indication what kind of added values (described in the scenarios) will be realised in the future by investing in HR practices. Investing in an increase of labour productivity will in this case result in a higher added value than investing in a HR practice to decrease the rate of absenteeism.

7.4 Conclusion

In our forecasting we showed what kind of effect HR practices can have on the financial statement of a company. We have shown what kind of impact hiring new employees can have on the company characteristics. We distinguished the effect on the income statement and the effect on the balance sheet. The impact of the practices on the income statement for company W is large. The total labour costs are a half of the total labour productivity of the company that we used in our scenarios. The salary costs are the highest item on the income statement, approximately 85% of the total labour costs are salary costs. The pension payments that companies pay have a smaller effect on the total costs. Approximately 14% of the total costs are pension costs. The average rate of absenteeism of the company in our scenarios is 6%. The 6% rate of absenteeism has an impact of 7% on the total labour costs. A decrease of 15% will decrease the rate of absenteeism to 5% and will lead to a decrease in costs of absenteeism of 15%. If this can be realised it can have a positive impact.

In our scenario the WGA-payments have a small effect on the balance sheet because the number of employees that will receive a WGA-payment is small. Therefore it will not have an impact on the total amount allocated on the balance sheet of a company. Other benefits or costs that can/must be allocated on the balance sheet depends on the practices the company offer to their employees. Therefore we did not allocate other practices on the balance sheet. In the next chapter we will give the overall conclusion of this thesis.

8. Conclusion and Future research

In this chapter we will give the overall conclusion of this thesis. We will answer the sub questions and discuss our findings.

8.1 Conclusion

The aim of this master thesis is to develop a (financial) forecast model that describes the effects of different HR practices which can help companies retain and attract new employees. We investigated the effects of HR practices on the (financial) performance of companies in the metal industry. We only investigate the effects on the productivity and the financial statement of those companies. Our research question is: *What is the impact of practices that can be used with respect to the ageing workforce on both the financial performance of SME companies in the metal industry?* Our focus is on older employees within the metal industry.

We identified practices on three different levels. On macroeconomic level we identified WIA and VPL. On mesoeconomic level the employer organisations and unions implement practices to face the ageing workforce problems. Within CAO agreement they recorded that employers have to offer employees a minimum of one day training, that older employees receive additional leave days, that older employees are not obliged to work shifts and that employees can receive an EVC-test on in each 5 years. On microeconomic level we identified five different HR practices: recruitment and selection policy, training, job design policies, policies to fight absenteeism and management policies.

We used case studies to determine the effect of these practices. The results of these case studies indicate that the four companies are actively trying to implement practices that are suitable for their company and the employees. The outcomes of these case studies give an indication of the HR practices within these companies. We found that companies have or will be going to implement HR practices that are not mentioned in our theoretical study. Besides that we determined why companies implement HR practices. In the four case studies this does not always has to do with the labour productivity of the employees or their rate of absenteeism.

This study shows that it is difficult for HR manager, supervisors or work council member to determine the effect of for example training on the labour productivity of employees. Our empirical study confirmed that there is a positive relationship between the HR practices and labour productivity and the rate of absenteeism (according to the four case studies). One remark that has to be made is that the effect of HR practices on company performances dependent on motivation and commitment of the employees. When employees are not willing to use a certain kind of practice and the HR practice is implemented within the company is can have an opposite effect. We can state that HR practices have a positive effect on labour productivity and rate of absenteeism. Unfortunately we cannot quantify these effects with the outcomes we found in this empirical research. But this study gives handles that can further investigated in a new study.

Finally, we combined all our *findings in a financial forecasting model*. We determined that the impact of practices on the income statement of a company depends on the labour

productivity, salary, rate of absenteeism, pension arrangement and the age of the employees. We developed a forecasting model that predicts (using Markov matrixes) the expected changes within a workforce. We determined for each individual employees the probabilities that he/she will leave the company and linked these probabilities to the costs and benefits of each employees. These outcomes made it possible to forecast the effects of employees related costs and benefits on the income statement and balance sheet.

The labour productivity of the employees determines the benefits that the company can receive from the employees. Within each company the amount differs. The salary of the employees is one of the biggest items that are allocated on the income statement. These costs depend on the function of the employees and the year that the employees work by the industry. The rate of absenteeism of the employees affects the absent costs of the company. Depending on the height of this rate the labour costs will be higher. The pension payments of employees are allocated on the income statement. The pension payments are approximately 12% of the salary costs the metal industry. The age of the employees can affect the number of additional leave days they receive and therefore means that the companies has to make additional costs to replace these employees.

The effect of the (HR) practices on the balance sheet depends on the characteristics of employees within each company. Future pension payments do not have to be allocated on the balance sheet. The effect of the WGA-payment on the balance sheet is different for each company. Depending on the number of employees that receive a WGA-payment one has to determine what the present value of the future payables are. Companies that are Public listed have to allocate these costs on the balance sheet. Non-public listed companies are not obliged to do this. In addition, the salary, premium etc. have to be located on the balance sheet only for the period that they are liabilities or expenses. This means that the company has to allocate the salary payment on the balance sheet from the moment that the employees worked but did not receive a payment or when the company has paid the employees but the employee did not rendered the related service.

In conclusion, the impact of (HR) practices on the financial performance of companies has to be determined for each company individually. Each company will have other characteristics that will affect future costs and benefits. The forecast of these figures can give companies inside information about these future costs and benefits.

8.2 Implications of this research

The attempt of this research was to determine the effect of HR practices, which can be implemented within companies to fight the ageing workforce problems, on the financial performance of companies in the metal industry. To determine the financial performance we will first determined the effects of HR practices on labour productivity and the determined effect of HR practices on the financial statement of companies.

Two main problems arose during this research. First, our goal was to determine the effect on the labour productivity by using a web-survey. This method could not been applied and therefore we approached companies by phone. Due to low response we changed the research method to case studies. We therefore spoke with different companies in the metal industry and tried to contact unions and employer organisations. Unfortunately we could not interview the unions and employer organisations of this industry. Luckily four companies were willing to participate on the case studies. As a result we could not quantitative the effects of the HR practices on the financial

performance of companies in the metal industry. But we could get an indication of the HR practices implemented within those companies. The second problem arose when we wanted to indicate the companies that we wanted to use in our research. Our aim was to determine the effects of one sub-group within the metal industry, but by a lack of good classification we faced problems. The sub-sectors used in the CAO do not correspond with the codes used by the Chamber of Commerce (Kamer van Koophandel, KvK). Therefore we could not classify which company belonged to a sub-sector.

This research gives an overview of the effects of several HR practices within four companies. By interviewing two or three employees within the companies we received an overall view of the effect of HR practices. All employees indicated that it was difficult to determine what effects HR practices have within their company.

As many researchers tried to determine the effects of HR practices on the financial performance of companies, our search was on the same topic. Many researches indicate that it is difficult to determine the effect of HR practices on the financial performance of company. Different researchers tried to determine the direct relationship between the HR practices and firm performance. They denote that it is difficult to determine the effects intervening variables, e.g., motivation. According to Boselie (2002): *“Most research on HRM and performance is quantitative, focused on the existence of (significant, causal) relationships and the magnitude of the effects. To better understand underlying processes that moderate/mediate the relationship between HRM and performance there is a need for qualitative research* (p. 150). Therefore, we use a qualitative method to make a contribution to the scientific field of HRM and to determine the effect of different HR practices that can be implemented to fight the ageing workforce problems in the metal industry. In this research we again show that it is very difficult to determine the effect of the individual HR practices without the intervention of other variables. But we gave an indication of the HR practices used within these companies and their effect on employees.

8.3 Evaluation on the forecasting model

A forecasting model predicts the future based on historical data. Our forecasting model is developed to forecast the effect of practices on the financial statement of a company. Based on historical data this model gives a reliable estimation of the future developments of the company (assuming that the economic does not fluctuate). The model is still in its infancy. But this model gives companies the possibility to see the future development of the workforce and their employees. This model has an individual approach which entails that it determines the development of every employee individually. Linking the financial costs and benefits to these employees gives companies the possibility to predict forecasts and benefits. These decisions can have help employers to take measures and plan for example, the number of employees they will need in the future. Now this kind of information can help companies to make strategic choices.

Besides to advantages of this model we have to make some critical comments. First, the reliability of the model is only guaranteed when the number of employees within the company is large enough. Besides that, we will need a large amount of data of each company and information about the employees. For many company it is difficult to hand a large number of historical data, because this kind of information is not always documented. Besides that companies are not always willing to make an effort to provide external companies this kind of information. Furthermore, it is very difficult to sell this

product to companies because companies can have difficulties seeing the added value of this product. Furthermore this financial model makes the assumption that the company will make the same slack or growth as they did in the historical data. The changes within the economy and their effect on the company are not taken into account. This forecasting model gives the possibility to take these effects into account. But that means that we first have to determine what kind of effect changes in the economy will have. Therefore more scientific research has to be done.

8.4. Future research

We will indicate three possibilities for future research to get a better perception on the effects of HR practices on the ageing workforce problems. This future research has to be done to determine the effect of HR practices on the financial statement.

First, one of the goals of this thesis was to determine the effects of HR practices on labour productivity and the rate of absenteeism of a company. We did not answer this question during this research. To determine the effects of the HR practices on labour productivity of employees, we recommend using a different method. To get a better understanding of the effects of HR practices on labour productivity Mercer can use two different methods. These are:

1. A cross-sectional design can be adapted by using a large-scale web-survey. This method has some constraints. For example, companies must be willing to participate in that research. In our research only a few companies were willing to hand in information about their sales and costs of production and therefore we had problems to receive an adequate response. This problem can be solved by collaborating with unions or an employer organisation. These organisations have more inside information and can help the researcher receive more information from the companies.
2. The researcher can use a longitudinal research in with the same companies are approached more than once, to measure the effects of HR practices on employees. If a company implements a HR practice after the first measurement, an effect could be observed during the second measurement. Or the researcher can use historical data with information from before and after HR practices were implemented within the company. This way MERCER can indicate what effects have occurred in the past by implementing HR practices. This approach is hardly workable, because it will take a longer period to receive the data and not all companies save their historical data.

Second, the financial figures in our forecasting model are dependent on the inflow and outflow of employees within the workforce. The effects of HR practices on the inflow rate and outflow rate have to be determined to make this model more accurate. By doing so, the company can anticipate on changes within their workforce and implement measures to prevent problems that can occur within their workforce in the future. In chapter 3 we mentioned HR practices that can also influenced the inflow and outflow rate of company. But these practices are selected based on their effect on older employees. Vis (2000) stated for example that older employees are less motivated by a monetary reward than younger employees. Older employees are more motivated by a good balance between work and private life. Therefore, they prefer rewards like extra leave days. If we focus on entire workforce more HR practices can be implemented in this model and by determining the effect on inflow and outflow of employees the forecasting model will be more dynamic.

Third, in our model we calculated labour productivity in a way that results in labour productivity is the same for each employee. To get a better perception of the added value of the employees, one can use a different added value for each employee. This can be realised by determining the difference in labour productivity between different age categories or between different function categories within the company. One of the companies within our case studies stated that the labour productivity of employees who almost reach their retirement age is slightly lower than other employees. Within other companies this effect is not observed. By determining this effect one can better estimate future costs and benefits and therefore we indicate that future research is needed to determine this effect.

In the field of HRM there is still enough to study regarding the relationship between HR practice and performance. We think that we have contributed a number of useful insights in this field.

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Appendix 1 Survey

The characteristics of the companies that are used to select our target group are: the location of the companies, the KvK code of the company and whether the companies are customers of Mercer or not.

The location of the company All companies in the Netherlands are obliged to be registered at the KvK according to the law “Handelsregisterwet”. Therefore we used a program that included all companies that are registered at the KvK. The total number of companies that are active in the total in the whole metal industry is 1022 (50 - 250 employees⁴³). Second, we assumed that the location of the company has an impact on labour market conditions. We selected companies that are located in the provinces: Gelderland, Noord-Holland, Zuid-Holland and Utrecht.

The Kvk code Certain codes used by the KvK to categorize the companies within the metal industry are selected, based on the description of the sub-sector “metal working firms”. This sub-sector is chosen based on the assumption that this sub-sector has the most companies that are active the light engineering industry in The Netherlands. The sub-sectors used in the CAO do not correspond with the codes used by the KvK. Therefore the first, 20 companies were selected based on the assumption that those companies should belong to the metal working industry. The other 43 companies are selected by the KvK codes they belong to.

The CAO subdivisions do not correspond with the KvK codes used in this research, therefore the companies approached during this research are not only companies that use the CAO of the light engineering industry. Some companies are part of the large-scale metalworking and electrical industry which has its own CAO. Because all companies that are selected are part of the metal industry, we assumed that their activities are comparable and therefore we will not look at the different sub-sectors they belong to. The numbers of companies that are active in the different sub-sectors are shown in table 1. One comment has to be made and that is that older employees who are working in a company that is active in the large-scale metalworking and electrical industry will receive almost twice as much extra leave days than employees within the light engineering industry (CAO large-scale metalworking and electrical industry, 2008).

<i>Sub-sector</i>	<i>Number</i>	<i>Percentage</i>
Metalektro	6	50%
Metal working firms	6	50%
<i>Total</i>	<i>12</i>	<i>100%</i>

Table 1. The sub-sector and amount of companies, based on CAO regulations

No customers. Companies that are a customer of MERCER were not approached. This choice is made, because MERCER has a policy that prohibits approaching customers of MERCER to participate in a survey more than once a year. Therefore those companies are removed from the list.

Procedure

We determined which companies fit the description above by using the tool “reach”. A

⁴³ Those figures are determined by a program “reach”.

program called “M-drive” was used to determine which companies belong to MERCER’s customer group. The “reach” tool made it possible to select company specific information like: company size, the phone number, websites and location. All the companies that fit the conditions above are approached by phone. In addition, the following procedures were used when the companies were approached.

Competent to answer the questions In most cases the HR manager was registered in the data file of the KvK. If that information was available the HR manager was directly approached. If no HR manager was registered we asked for the HR manager. We assumed that the survey questions could be best answered by the HR manager because most questions are HRM related. When the HR manager promised to collaborate, the survey was e-mailed to the HR manager and we stated that the researcher would contact the HR manager a week later to evaluate the survey.

Willingness to answer To increase the response rate, the companies were told that they would receive the results of the survey.

Follow-up call A week after the first call, the follow-up call was planned. We had two reasons for this. First it was used as a tool to increase the response rate. It was a reminder for the companies. Second, the survey was evaluated with the companies to get a first impression of the reactions of the companies.

Measurement

We used independent, dependent variables and control variables to determine the effects of the labour productivity and the rate of absenteeism within the companies.

The independent variables are HR practices: recruitment and selection, training, job design, absenteeism, leave arrangements and management. The independent variables were measured based on the instruments that companies have implemented in their company. The practices that are used to determine the effects of these independent variables are defined in paragraph 5.3.

The dependent variables used in this research are the labour productivity and the rate of absenteeism of the employees. Labour productivity was measured by: dividing the number of employees within the company and the amount of FTEs by the amount of sales of 2007.

The control variables The research design of this study controls for a lot of issues (e.g. to the productivity of the company and the inflow of the company). The age of the company, the age of the employees (divided in sub groups) and the amount of employees are important control variables. First, companies that are in the rapidly growth stage of the existence can have a stronger need for employees and therefore implement more HR practices within the company. The growth stage of a company is mostly between first 1.5 year until 5 years of their existence (Leach & Melicher, 2006). Second, the age of the employees within the company can influence the need for HR practices for older employees and the need to attract new (young) employees. In addition to that, companies with that have employed a lot of older employees can have a lower labour productivity than companies with a lot of young employees. Third, companies that employ have less employees may have implemented less HR practices.

Reliability and Validity for this research: First, before the metal industry is approached to participate in the survey, the survey was checked by 4 different people who have different

educational backgrounds. Comments were made to improve the survey and made it understandable for all people. One employee of Mercer specialized in HRM gave the comment to define specific terms in the survey. Second, external validity and construct validity of this research are threatened by the low number of units (companies). This will influence the generalisation of the outcomes of this research in a negative way. This way we tried to use a method to make sure that this research is reliable and valid.

Appendix 2 Interviewguides

Bedrijven zetten (HR) beleidsmaatregelen in met een bepaald doel. Ik richt mij op twee doelen het verlagen van het ziekteverzuimpercentage en het verhogen van de arbeidsproductiviteit en dit wil ik in kosten en opbrengsten proberen uit te drukken. Er zullen gesprekken worden gevoerd met drie sleutelfiguren in de organisatie betreffende het personeelsbeleid. Aan de hand van deze drie gesprekken zal bepaald worden wat de succesfactoren zijn om (oudere) medewerkers te behouden. De gesprekken zullen worden gevoerd met de HR manager (bepaalt het beleid), de lijnmanager/direct leidinggevende (is de drager van het personeelsbeleid en heeft direct contact met medewerkers) en de OR (is vertegenwoordiger van de medewerkers en kan een hele andere kijk hebben op het HRM beleid). De vragen zijn gericht op reeds ingevoerde maatregelen, op maatregelen waarvan men verwacht dat deze effect zullen hebben de arbeidsproductiviteit en het verzuimpercentage en op de randvoorwaarden die hiermee gepaard gaan.

HR manager:

Tijdens dit gesprek wil ik achterhalen met welk doel bepaalde HRM maatregelen zijn ingevoerd en welk effect deze maatregelen daadwerkelijk hebben. Wij zullen op deze wijze bepalen welke maatregelen in de ogen van de HR manager het grootste effect hebben op de arbeidsproductiviteit en ziekteverzuim.

Organisatie

Om een duidelijk beeld te krijgen van de organisatie is het van belang om inzicht te krijgen in de organisatie structuur. Daarnaast is het van belang om te achterhalen welke opleiding en functies/taken de medewerkers hebben. Deze aspecten kunnen het HR beleid beïnvloeden, omdat wellicht bepaalde maatregelen niet ingevoerd kunnen worden of geen/weinig effect zullen hebben op de medewerkers. Daarom zullen wij dit gedeelte ook uitlichten.

Vragen	Aandachtgebieden
Op welke manier is de organisatie structuur opgebouwd?	Verschillende lagen tussen de medewerkers Platte organisatie structuur.
Waarom zijn er meer fulltime medewerkers dan parttime medewerkers?	Zijn de functies minder geschikt voor parttime werk.
Welk opleidingsniveau hebben de medewerkers die hier werkzaam zijn over het algemeen?	Mavo, ...
Wat voor werkzaamheden voeren de medewerkers uit?	Verschil in functies, taken, lopende band werk, individueel of groepsverband.

Instroom en uitstroom

Vervolgens is het van belang om te achterhalen in hoeverre de organisatie de arbeidsmarkt krapte voelt, omdat dit effect kan hebben op het HR beleid. Het is daarom van belang om te vragen of de organisatie openstaande vacatures heeft en waarom medewerkers het bedrijf verlaten.

Vragen	Aandachtgebieden
Ondervinden jullie momenteel (meer) problemen om de vacatures op te vullen?	Hoe lang staan deze open? Is dit normaal?

<p>Hebben jullie momenteel openstaande vacatures?</p> <p>Wat zijn de redenen van uitstroom?</p> <p>Is er aan de hand van exit gesprekken achterhaald waarom medewerkers vertrekken?</p>	<p>Ontslag of eigen wil</p> <p>Welke factoren spelen hier een rol bij? Hoe gaat jullie om met deze informatie?</p>
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Werving en selectie

Het wervingsbeleid is van grote invloed op de kracht van de onderneming om nieuwe medewerkers aan te trekken. In het theoretisch deel hebben wij aangegeven, dat bedrijven die een proactieve houding aannemen bij het werven van nieuwe medewerkers, meer medewerkers zullen aantrekken.

<i>Vragen</i>	<i>Aandachtgebieden</i>
Zijn jullie meer kanalen gaan hanteren om meer medewerkers aan te trekken?	Advertenties, uitzendbureaus (voor ouderen) Internet, onderwijsinstellingen, beurzen, etc. Heeft dit invloed gehad op de instroom? Welke kosten komen hier bij kijken?
Is er een werving- en selectieplan?	Wat houdt dit in? Wordt deze geëvalueerd?

Training

Tijdens de enquête is achterhaald hoeveel tijd en geld er is geïnvesteerd in de medewerkers betreffende scholing. Tevens is achterhaald of bedrijven oudere medewerkers de mogelijkheid bieden om geschoold te worden en welke faciliteiten er aangeboden worden om dit te optimaliseren. Wij zullen nu achterhalen waarom de organisatie bepaalde keuzes heeft gemaakt betreffende training, door te achterhalen waarom zij ouderen trainen en hoe zij bepalen wie er worden getraind.

<i>Vragen</i>	<i>Aandachtsgebieden</i>
Welke trainingsmogelijkheden worden er aangeboden?	On- the-job, off-the-job, specifiek algemeen, etc. Heeft dit effect op de arbeidsproductiviteit van medewerkers?
Op welke manier bepalen jullie wie er wordt getraind?	Is dit meer dan er in de CAO wordt vermeld. Een keer in de zoveel jaar of... is dit elk jaar verschillend en waarom niet meer of minder.
Welke afweging wordt er gemaakt bij het bepalen van de trainingsuren? En welke afweging wordt er gemaakt bij het bepalen van de scholingskosten?	
Waarom hebben jullie de keus gemaakt om oudere medewerkers wel of niet te trainen?	Zien jullie een bepaald effect op de AP bij oudere medewerkers die worden getraind? En welk soort training heeft hier het meeste effect op? % 0-10 = gering 10-50%= matig

	50 en meer= sterk
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Job design

Binnen bepaalde branches is het niet altijd mogelijk om bepaalde HR maatregelen aan te bieden. Daarom zullen wij eerst achterhalen welke maatregelen ingevoerd zouden kunnen worden in de organisatie. Vervolgens zullen wij achterhalen waarom bedrijven bepaalde maatregelen wel en niet hebben ingevoerd en welk effect deze maatregelen hebben. Job design maatregelen kunnen voor (oudere) medewerkers mogelijkheden bieden om werkzaam te kunnen blijven in de organisatie. Daarnaast kan het invloed hebben op het ziekteverzuimpercentage en de arbeidsproductiviteit van medewerkers. Dit omdat het medewerkers kan stimuleren om efficiënter te werken en met plezier te werken.

<i>Vragen</i>	<i>Aandachtgebieden</i>
Welke job design maatregelen <i>zijn er ingevoerd</i> om welke reden?	Zoals: werkrotatie, demotie, taakverrijking, taakverbreding. Heeft dit een effect op het ziekteverzuimpercentage? (voor en na invoeren). En werkt het daadwerkelijk of ontbreken er factoren?
Welke job design <i>zouden kunnen</i> worden ingevoerd in de organisatie?	Werkrotatie, werkverbreding, etc.
Hoe reageren medewerkers op de beleidsmaatregelen?	En blijkt dat ook in uw organisatie? Hoe wordt dit ervaren door de medewerkers (daling van respect)?
Is volgens u demotie een middel om medewerkers langer in dienst te houden?	En blijven zij daadwerkelijk langer in dienst?

Verlof

Het bieden van extra verlofdagen aan oudere medewerkers kan het ziekteverzuimpercentage verminderen en het behoud van medewerkers bevorderen. Ook in de CAO zijn afspraken gemaakt betreffende extra verlofdagen voor ouderen. Daarnaast zijn er verschillende mogelijkheden om meer verlofdagen te sparen in de organisatie (levensloop, aan en verkoop van verlofdagen etc). Om dat zij ons richten op oudere medewerkers zullen wij alleen ingaan op de extra verlof dagen ouderen ontvangen.

<i>Vragen</i>	<i>Aandachtsgebieden</i>
Hoe kijken jullie tegen de extra verlofdagen van oudere aan?	Heeft het effect op het ziekteverzuim % en AP?

Ziekteverzuimbeleid

Organisaties kunnen er voor kiezen om bepaalde maatregelen in te voeren om het ziekteverzuimpercentage te verminderen. Uit de enquête is gebleken dat bedrijven bepaalde maatregelen wel of niet hebben ingevoerd maar de vraag *waarom* is wederom niet beantwoord. Ten eerste is er gevraagd waarom bepaalde maatregelen wel of niet zijn ingevoerd. Daarnaast is het van belang om meer inzicht te krijgen met betrekking tot hoe het ziekteverzuimpercentage is samengesteld. Zijn er veel langdurige zieken en hoe komt dit; is het ziekteverzuim percentage van oudere medewerkers veel hoger dan jongeren? Is het hoge ziekteverzuimpercentage te verklaren door deze twee aspecten of ontbreken er maatregelen in

de organisatie?

<i>Vragen</i>	<i>Aandachtsgebieden</i>
<p>Hebben jullie een ziekteverzuimbeleid? Waarom zijn er bepaalde maatregelen met betrekking tot het ziekteverzuim ingevoerd?</p> <p>Is dit de afgelopen 2 jaar gewijzigd?</p> <p>Is het ziekteverzuimpercentage van oudere medewerkers hoger dan jongere medewerkers?</p> <p>Zijn er medewerkers die langdurige ziek zijn?</p> <p>Hebben direct leidinggevenden contact met zieke medewerkers?</p>	<p>Ergonomische werkomgeving, hulpmiddelen, gezonde voeding, lichamelijke inspanning en voorlichtingen. Medische keuringen om risico's te bepalen.</p> <p>Zo ja welke aanpassingen hebben jullie gedaan? En is het ziekteverzuimpercentage hierdoor hoger of lager dan voorheen?</p> <p>En welke omstandigheden spelen hier een rol bij?</p> <p>Welke omstandigheden spelen hier een rol bij?</p> <p>Heeft dit een effect op het ziekteverzuim %?</p>

Management

Het lager management van de organisatie heeft direct contact met de medewerkers en daarnaast zijn er management instrumenten die in kunnen spelen op de behoeften van de medewerkers. In de enquête is gevraagd of het management als voorbeeld fungeert om een positief beeld ten opzichte van oudere medewerkers te creëren. Maar in hoeverre is er een stereotype beeld ten opzichte van oudere medewerkers in de organisatie? Hier zullen wij dan ook verder op ingaan. Wij zullen hier vragen waarom bepaalde instrumenten zijn ingevoerd, wat er uit voortkomt en wat het effect is. Daarnaast, is er uit de literatuur naar voren gekomen dat organisaties waarbij leidinggevenden direct contact hebben met zieke medewerkers een lager ziekteverzuimpercentage hebben dan organisaties waar dat niet het geval is. Daarom zullen wij ook naar dit effect vragen.

<i>Vragen</i>	<i>Aandachtsgebieden</i>
<p>Wat is uw beeld ten aanzien van de inzetbaarheid van oudere werknemers?</p> <p>In hoeverre volgt het management een managementtraining om medewerkers beter aan te sturen?</p> <p>In hoeverre wordt er gebruik gemaakt van loopbaanplanning voor ouderen?</p> <p>Komt er uit functionering gespreken naar voren dat medewerkers aanpassingen qua werkinrichting etc. nodig hebben?</p>	<p>Indien stereotype beeld: hebben jullie maatregelen ingevoerd om dit beeld te veranderen en wat is daarvan het effect geweest?</p> <p>Welk effect heeft dit?</p> <p>Welke effect heeft dit?</p> <p>Zijn deze maatregelen in uw bedrijf in toe pasbaar?</p>

Worden er (structureel) werkoverleggen ingepland? Zo ja, hoe vaak? Wanneer zijn jullie begonnen met een werkoverleggen in te invoerd? En met welke reden hebben jullie deze keus gemaakt?	In hoeverre heeft het werkoverleg daadwerkelijk effect op de motivatie van medewerkers en LP? En het ziekteverzuim?
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Pensioenleeftijd

De Vut is afgeschaft. Dat betekent dat medewerkers langer moeten doorwerken. Dit kan bepaalde problemen met zich meebrengen. Een van de problemen kan veroorzaakt worden doordat medewerkers in de metaalbranche lichamelijk zwaar worden belast. Het ziekteverzuimpercentage van oudere medewerkers kan hierdoor toenemen, wat de personeelkosten negatief kan beïnvloeden. Tijdens het interview zal gevraagd worden hoe de HR manager hier tegen aan kijkt en of zij hier maatregelen tegen zullen nemen.

Vragen	Aandachtgebied
Hoe wordt er tegen het afschaffen van de VUT aangekeken? Is doorwerken tot 65 mogelijk?	Wat voor effect zal dit hebben op het ziekteverzuim? En willen jullie deze medewerkers dan ook behouden tot hun 65 ^e ?
Welke maatregelen dienen er ingevoerd te worden om het voor medewerkers mogelijk te maken tot hun 65 ^e te blijven werken?	

Dus de succesfactoren zijn.....

Ter afronding van het gesprek zal specifiek gevraagd worden welk HR maatregelen daadwerkelijk effect hebben op de arbeidsproductiviteit en ziekteverzuim. Hierbij zullen ook maatregelen aangegeven kunnen worden die niet zijn ingevoerd in het bedrijf.

Vragen	Aandachtgebieden
Welke maatregelen zijn volgens u het meest effectief om het ziekteverzuimpercentage te verlagen?	Welke randvoorwaarden spelen hier een rol bij?
Welke maatregelen zijn volgens u het meest effectief om de arbeidsproductiviteit te verhogen?	Welke randvoorwaarden spelen hier een bij?

Direct leidinggevende

Het doel van dit gesprek is om te achterhalen in hoeverre HR maatregelen effect hebben op de medewerkers. Dit wordt besproken met de direct leidinggevende omdat de direct leidinggevende meer inzicht kan hebben in de baten en lasten van de HR maatregelen ten opzichten van de HR manager. De HR maatregel werving en selectie zal niet worden besproken met de direct leidinggevende, omdat zij weinig invloed zullen hebben op dit beleid.

Algemene vragen

Wij zullen eerst vragen hoe lang deze medewerker werkzaam is als leidinggevende binnen de organisatie en of de medewerkers doorgestroomd is of daadwerkelijk een management opleiding heeft gevolgd. Deze vragen zullen gesteld worden om de leidinggevende op zijn gemak te stellen.

Vragen	Aandachtgebieden
Hoe lang bent u werkzaam als leidinggevende binnen de organisatie?	
Heeft u een opleiding gevolgd om deze functie te betreden of bent u doorgestoomd naar deze functie?	

Training

De direct leidinggevende zal een beter beeld hebben van de effecten van training. Daarom zullen wij dit bespreken met hem/haar en bekijken of zij hier meer zicht op hebben.

Vragen	Aandachtgebieden
Is het kennisniveau van medewerkers op peil?	Waar blijkt dit uit?
Hebben medewerkers daadwerkelijk baat bij de training die zij krijgen?	Waar blijkt dit uit? Welke effect heeft het op AP? En als het geen nut heeft waar komt dit door? Geven medewerkers aan meer behoefte te hebben aan training?
Indien oudere medewerkers worden getraind: zien zij het nut hiervan in?	Is er een effect te merken te opzichten van de AP?
Wat voor soort training heeft de grootste impact op de (arbeidsproductiviteit van deze) medewerkers?	En wat voor effect heeft dit op de medewerkers in vergelijking met andere trainingen?

Verlof

De vragen die hier worden gesteld zijn dezelfde gesteld zijn aan de HR manager. De direct leidinggevende kan wellicht beter het verschil zien tussen medewerkers die geen extra verlof krijgen en medewerkers die dat wel krijgen. Om het effect van de extra verlofdagen beter in kaart te brengen wordt gevraagd naar dit effect.

Vragen	Aandachtsgebieden
Hoe kijken jullie tegen de extra verlofdagen van oudere aan?	Heeft het effect op het ziekteverzuim % en AP? Is er een verschil zichtbaar bij medewerkers die wel recht hebben op extra verlofdagen ten opzichte van medewerkers die deze dagen niet ontvangen.

Verzuim

De direct leidinggevende kan direct zicht hebben op de baten en de lasten van bepaalde maatregelen op de medewerkers omdat zij dicht bij de medewerkers staat. Daarnaast heeft zij ook meer inzicht op de effecten van de maatregelen. Daarom zal nogmaals naar het effect worden gevraagd.

Vragen	Aandachtsgebieden
Hebben jullie een ziekteverzuimbeleid? Waarom zijn er bepaalde maatregelen met betrekking tot het ziekteverzuim	Ergonomische werkomgeving, hulpmiddelen, gezonde voeding, lichamelijke inspanning en voorlichtingen.

ingevoerd?	Medische keuringen om risico's te bepalen.
Is dit de afgelopen 2 jaar gewijzigd?	Zo ja welke aanpassingen hebben jullie gedaan? En is het ziekteverzuimpercentage hierdoor hoger of lager dan voorheen?
Is het ziekteverzuimpercentage van oudere medewerkers hoger dan jongere medewerkers?	En welke omstandigheden spelen hier een rol bij?
Zijn er medewerkers die langdurige ziek zijn?	Welke omstandigheden spelen hier een rol bij?
Hebben direct leidinggevenden contact met zieke medewerkers?	Heeft dit een effect op het ziekteverzuim %?

Job design

<i>Vragen</i>	<i>Aandachtgebieden</i>
Welke job design maatregelen <i>zijn er ingevoerd</i> om welke reden?	Zoals: werkrotatie, demotie, taakverrijking, taakverbreding. Heeft dit een effect op het ziekteverzuim percentage? (voor en na invoeren). En werkt het daadwerkelijk of ontbreken er factoren?
Welke job design maatregelen <i>zouden kunnen</i> worden ingevoerd in de organisatie?	werkrotatie, werkverbreding, etc.
Hoe reageren medewerkers op de beleidsmaatregelen?	En blijkt dat ook in uw organisatie? Hoe wordt dit ervaren door de medewerkers (daling van respect)?
Is volgens u demotie een middel om medewerkers langer in dienst te houden?	En blijven zij daadwerkelijk langer in dienst?

Management

<i>Vragen</i>	<i>Aandachtgebieden</i>
Zien medewerkers het nut van functioneringsgespreken? Komen er uit functioneringgesprek bepaalde aspecten naar boven waaruit blijkt dat medewerkers baat hebben bij bepaalde maatregelen?	En zijn er aspecten die verholpen kunnen worden door het invoeren van HR beleidsmaatregelen? Welke beleidmaatregelen zijn dit dan?
Hoe wordt er door medewerkers gereageerd op het werkoverleg?	Waar blijkt dat uit? Heeft het een bepaald effect op het ziekteverzuim?
Hoe wordt er door medewerkers gereageerd op de loopbaanplanning?	Waar blijkt dat uit? Heeft het een bepaald effect op het ziekteverzuim?

Dus de succesfactoren zijn.....

Ter afronding van het gesprek zal specifiek gevraagd worden welk HR maatregelen daadwerkelijk effect hebben op de arbeidsproductiviteit en ziekteverzuim. Hierbij zullen ook maatregelen aangegeven kunnen worden die niet zijn ingevoerd in het bedrijf.

Vragen	Aandachtgebieden
Welke maatregelen zijn volgens u het meest effectief om het ziekte verzuimpercentage te verlagen?	Welke randvoorwaarden spelen hier een rol in?
Welke maatregelen zijn volgens u het meest effectief om de arbeidsproductiviteit te verhogen?	Welke randvoorwaarden spelen hier een rol in?

OR:

Het doel van dit gesprek is te achterhalen of bepaalde maatregelen ook daadwerkelijk effect hebben. Hebben medewerkers daadwerkelijk baat bij de HR maatregelen of is het een last voor hen. Om de succesfactoren te bepalen is het van belang om dit aspect mee te nemen in het onderzoek. Daarnaast zal gevraagd worden wat men vindt van enkele maatregelen en of men tevreden is met de maatregelen. Op deze wijze proberen wij te achterhalen of de medewerkers daadwerkelijk baat hebben bij HR maatregelen.

Algemene vragen

Om een beeld te kunnen krijgen van de succesfactoren is het ten eerste van belang om te achterhalen in hoeverre de OR de vrijheid heeft om met initiatieven te komen en hoe medewerkers in de algemene zin tegen het HRM beleid aan kijken.

Vragen	Aandachtgebieden
Welke rol speelt de OR in de organisatie? Kunnen jullie met initiatieven komen?	Wordt hier daadwerkelijk wat mee gedaan?
Hoe kijken medewerkers tegen het HR beleid aan?	

Training

Het trainen van medewerkers kan de inzetbaarheid verbeteren waardoor medewerkers langer in dienst zullen en kunnen blijven. Maar beoordelen medewerkers de training die zij krijgen ook positief? Medewerkers kunnen het als een obstakel zien omdat zij niet de juiste soort training krijgen. Daarom zou hier ook aandacht aan besteed worden.

Vragen	Aandachtgebieden
Hebben medewerkers daadwerkelijk baat bij de training die zij krijgen?	Waar blijkt dit uit? Welk effect heeft het op het AP %? En als het geen nut heeft waar komt dit door? Geven medewerkers aan meer behoefte te hebben aan training?
Indien oudere medewerkers worden getraind. Zien zij het nut hiervan in?	Waar blijkt dit uit?
Krijgen de medewerkers de juiste soort training?	Zoals: functiegericht, informeel, organisatiespecifiek. Waar blijkt dit uit?

Verlof

Oudere medewerkers krijgen meer verlofdagen toegekend om hen te ontzien. Deze maatregelen kunnen effect hebben op het ziekteverzuimpercentage van medewerkers en wellicht positief op de arbeidsproductiviteit. De OR kan hier meer inzicht in hebben.

<i>Vragen</i>	<i>Aandachtgebieden</i>
Hebben oudere medewerkers baat bij de extra verlofdagen die zij toegekend krijgen?	Waar blijkt dit uit? Functioneren zij hierdoor beter? (Ziekteverzuim and LP)

Ziekteverzuimbeleid

In hoeverre zien medewerkers het ziekteverzuimbeleid als een baat of als een last? De organisatie heeft bepaalde maatregelen ingevoerd om de gezondheid van de medewerkers te bevorderen. Zien medewerkers deze maatregelen als een baat of als een last?

<i>Vragen</i>	<i>Aandachtgebieden</i>
Welke maatregelen zijn er op het gebied van ziekteverzuimbeleid binnen jullie organisatie?	
Worden de maatregelen op het gebied van gezondheid gezien als een baat of een last?	Zoals, lichamelijk inspanning etc. Waar blijkt dit uit?
In hoeverre wordt het contact van direct leidinggevenden met zieke medewerkers gezien als een baat?	Waar blijkt dit uit?

Job design

In de voorgaande gesprekken is achterhaald welke maatregelen de organisatie heeft ingevoerd en om welke redenen zij dit heeft gedaan. Maar hebben de medewerkers daadwerkelijk baat bij de job design maatregelen? Daarnaast is het van belang om de effecten in kaart te brengen van deze maatregel.

<i>Vragen</i>	<i>Aandachtgebieden</i>
Hebben jullie daadwerkelijk baat bij de job design maatregelen die zijn ingevoerd door de organisatie?	Zoals <i>werkrotatie, demotie, taakverrijking, taakverbreding</i> . Waar blijkt dit uit?
Zijn er maatregelen ingevoerd die jullie juist zien als een obstakel?	Zoals demotie? Waar blijkt dit uit?
Blijven medewerkers langer in dienst doordat er bepaalde maatregelen zijn ingevoerd?	Welke maatregel heeft hier het meest effect op?

Management

Het management kan allerlei maatregelen invoeren om medewerkers te binden aan de organisatie. Daarnaast kan het management maatregelen implementeren om medewerkers te motiveren. Deze maatregelen dienen wel als nuttig beschouwd te worden door de medewerkers. Daarom zal tevens het nut van de management instrumenten achterhaald worden.

<i>Vragen</i>	<i>Aandachtgebieden</i>

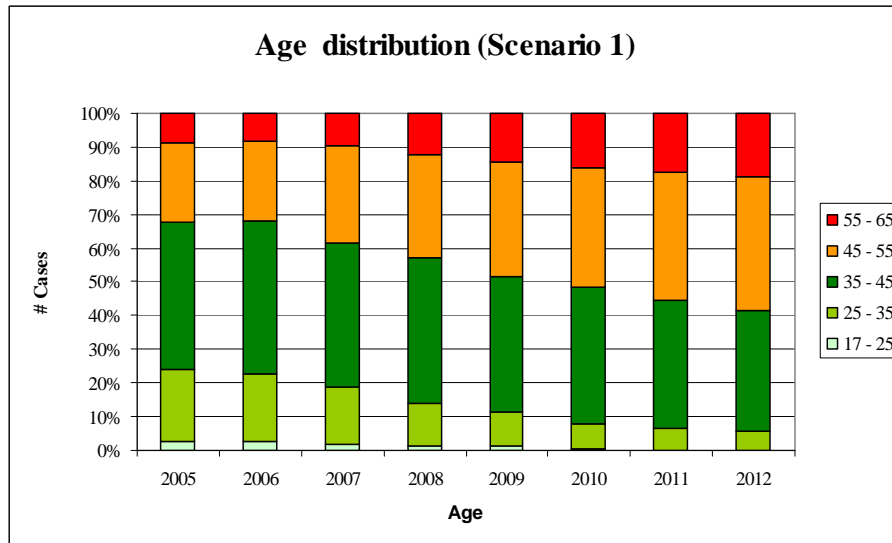
Wordt er voldoende tegemoetgekomen aan de wensen van (oudere) individuele medewerkers?	Zo nee, hoe zou dat beter kunnen zo ja, waar blijkt dit uit?
Zien medewerkers het nut van functioneringsgesprekken in?	<i>Waar blijkt dit uit? En motiveert het medewerkers?</i>
Zien medewerkers het nut van het werkoverleg in?	<i>Waar blijkt dit uit? En motiveert het medewerkers?</i>
Zien medewerkers het nut van loopbaanplanning in?	<i>Waar blijkt dit uit? En motiveert het medewerkers?</i>

Dus de succesfactoren zijn.....

Ter afronding van het gesprek zal specifiek gevraagd worden welk HR maatregelen daadwerkelijk effect hebben op de arbeidsproductiviteit en het ziekteverzuim. Hierbij zullen ook maatregelen aangegeven kunnen worden die niet zijn ingevoerd in het bedrijf.

Vragen	Aandachtgebieden
Welke maatregelen zijn volgens u het meest effectief om het ziekte verzuimpercentage te verlagen?	Welke randvoorwaarden spelen hier een rol in?
Welke maatregelen zijn volgens u het meest effectief om de arbeidsproductiviteit te verlagen?	Welke randvoorwaarden spelen hier een rol in?

Appendix 3 Age distribution



Appendix 4 workforce

Indeling	Salaris classes	2005	2006	2007	2008	2009	2010	2011	2012
Production employees	12500-22000	2	0	0	0	0	0	0	0
	22000-31500	163	163	172	165	159	153	148	143
	31500-41000	13	16	17	18	18	18	18	17
	41000-50500	2	3	6	8	10	12	14	16
	50500-60000	0	0	8	8	8	8	8	8
	Total	180	182	203	199	195	192	188	184
Supporting staff	12500-24000	8	6	4	3	2	2	2	1
	24000-35500	41	37	33	27	23	20	17	15
	35500-47000	20	24	22	22	21	20	18	17
	47000-58500	9	9	9	9	9	9	9	9
	58500-70000	5	3	3	2	2	1	1	1
	Total	83	79	71	64	57	51	46	42
Management staff	52500-74000	7	6	5	4	4	3	3	2
	74000-95500	4	3	4	4	4	3	3	3
	95500-117000	2	2	1	1	1	0	0	0
	117000-138500	0	0	0	0	0	0	0	0
	138500-160000	2	2	1	1	1	0	0	0
	Total	15	13	11	10	8	7	6	6
Trainees	2500-4000	1	2	0	0	0	0	0	0
	4000-5500	2	6	0	0	0	0	0	0
	Total	3	8	0	0	0	0	0	0
Total		281	282	285	272	261	250	240	231