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MASTER

Enhancing engagement in a time pressured context

the role of task, individual and social resources on employee engagement

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Award date:
2011

Link to publication

Enhancing engagement in a time pressured context. The role of task, individual and social resources on employee engagement.

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In partial fulfillment of the requirements for the degree of

Master of Science in Innovation Management

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Subject headings: Time pressure, engagement, individual effectiveness, performance, feedback, autonomy, goal clarity, self-efficacy, pacing style, promotion focus, prevention focus, social support, temporal leadership.

Acknowledgements

With this section I would like to thank the persons that have helped me with bringing my master thesis at Philips to a success.

Firstly, I would like to thank my TU/e coach Josette Gevers. She was my primary supervisor in this project. She has inspired me to choose for this subject and has guided me through the needed steps to graduate. She has always helped me with issues I was facing and her extensive base of knowledge in the research area of this thesis has helped me to get good insight in how to cope with this master thesis. Secondly, I am thankful to Eva Demerouti. She has been my second supervisor. Thirdly I would like to thank Wiecher van Vugt, my supervisor at Philips Lighting Controls. He has explained me the business unit Controls. He told me about the work context and helped me to easily find my way within Philips Lighting. His support was very helpful and helped guiding me through the master thesis project. I am grateful to him for offering me the possibility to conduct my master thesis project at Philips Lighting.

Finally I would like to thank:
- ❖ My parents for all the ways in which they have supported me. I am grateful to them that I have had the opportunity to educate myself. They have always supported me during my study and encouraged me to get the best out of myself.
- ❖ My girlfriend Lina Damsma for her support and heart loving warmth.
- ❖ All persons from the TU/e that have educated and/or helped me during my study.
- ❖ My future employer Optiver for hiring me even before I started with this thesis.
- ❖ The government for their efforts to let me study.
- ❖ Myself

S.P.J.A. Hubens
February 2011

Summary

These days it is very important for companies to be innovative and have short product development cycles. Continuously developing new products is the way to keep up with or to stay ahead of the competition. Due to these circumstances it is quite unavoidable to work not under time pressure as the deadlines are strict and short termed (Rastegary and Landy, 1993). It is important to stay performing well when facing different levels of time pressure. The employees of a company are often the most important drivers for success or failure, it seems to be important that they are motivated and dedicated to the work they do (Schaufeli et al, 2002). Therefore engagement could be an important factor to focus on. Engagement is described as a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption (Schaufeli et al, 2002). *Vigor* refers to high levels of energy and mental resilience during the work and the willingness to invest effort in one's work. *Dedication* refers to a sense of significance, enthusiasm, inspiration and challenge. *Absorption* is characterized by being totally concentrated and happily engrossed in one's work, whereby time passes quickly and one has difficulties with detaching oneself from work (Bakker et al, 2005). In this thesis I try to find out whether perceived time pressure is related to individual effectiveness and if engagement has an influence on this relationship. If engagement has this influence, it is important for organizations to manage time pressure and engagement simultaneously. This thesis also aimed at finding out the causes of different levels of engagement by means of doing research to resources (task, individual and social) that possibly help to manage employee engagement. Moreover the influence of engagement on individual effectiveness is measured. When companies know which resources help to increase engagement, they are more able to manage employee engagement. I conducted my research by means of a survey at the department Controls within Philips Lighting.

An important aim was to identify possible resources that could have an influence on employee engagement because it is believed that there are such resources that have an influence on the engagement of the employee (Schaufeli et al, 2002). I selected three different kinds of resources to focus on: task related resources, individual related resources and social resources. I examined the influences of the task resources feedback, job autonomy and the goal clarity on employee engagement. I also examined whether the following individual resources had an influence on employee engagement: the self-efficacy of an employee, the way an employee divides his or her effort over time (pacing style) and whether employees have a focus for challenge and risks (promotion focus) or have a focus for controversy and risk avoidance (prevention focus). Lastly I examined two social resources, namely, social support (from co-workers and supervisor measured separately) and temporal leadership.

The study results were gathered via quantitative analyses. The analyses were done on data that were gathered trough surveys. After doing the quantitative analyses I proposed recommendations that especially could help Philips to manage engagement more specifically. To ensure that the recommendations were realistic I spoke with some of the employees of Philips about the recommendations I had in mind and what their view was on the results I found.

This thesis tried to find answers on the following four research questions:

1) *How is perceived time pressure related to individual effectiveness?*
2) *How does engagement influence individual effectiveness?*
3) *How does engagement influence the relationship between time pressure and individual effectiveness?*
4) *How do individual, task, and social resources influence employee engagement?*

1. Regarding the first question it was found that there was no direct influence of perceived time pressure on individual effectiveness, except for the aspect creativity.
2. Regarding the second question it was found that engagement had a significant positive influence on individual effectiveness and on each of the components of individual effectiveness separately. So employees who were more engaged at work on average were more effective in their performance.
3. Regarding the third question there was not found a moderating influence of engagement on the relationship between time pressure and individual effectiveness. This means that the influence of perceived time pressure on individual effectiveness was not depending on the level of engagement.
4. Regarding the fourth question, there were found several resources that had a positive influence on employee engagement. Employees who received more effective feedback scored higher on engagement and employees who had more freedom in their work and thus were empowered by higher levels in the organization showed increased levels of engagement. Employees also showed higher levels of engagement when the goals in the project were clear and specific. The main implications that followed from these findings:

- Feedback: most important is to try to always give feedback at the task level instead of the personal level and to improve on the willingness of employees to come up with own ideas for project and organizational improvement. Giving compliments where possible is also important while giving feedback.

- Job autonomy: the most important threats to job autonomy that need attention are the threats that managers do not want to give freedom to their employees, that there are not enough resources allocated to let the employees be free about their work and that the employees themselves cannot deal properly with empowerment at the workplace.

- Goal clarity: keep the goal clarity as high as it is or even higher by letting employees make clear to each other what the goals of the project are so that there are no misunderstandings.

There was also found an individual resource that showed a positive influence on the engagement of the employees. Promotion focus and prevention focus were found to be positively related to employee engagement.

- Promotion and prevention focus: the main implication that was proposed in this thesis on this topic was to try to balance the two focuses in each of the project teams.

Besides these important task resources there were found positive influences of the social resources social support from co-workers and temporal leadership. This means that when employees are socially supported by co-workers and receive structured, synchronized and well allocated work from their manager or supervisor, the employee will reach higher engagement levels. The following implications were done.

- Social support: making a statement to the employees that giving emotional support, especially in situations where employees are under enduring high time pressure, can be very helpful.

- Temporal leadership: using more built-in contingencies in the form of slack time in projects. Also examine what the effects of extra slack time are on the financial objectives.

The implications regarding feedback, temporal leadership and social support are the most important ones. On these variables the most improvement is possible and realistic.

Future research should especially look at two important fields of study. Firstly, future research should examine the resources that could explain why some employees perform well under time pressure and some perform not so well. So there is a need to find out which resources or variables moderate the effect of perceived time pressure on individual effectiveness. Secondly, future research should look at more resources that possibly have an influence on employee engagement. The ultimate goal is to come up with an integrating framework of (all) variables that influence engagement to be even better able to manage engagement. In those research areas it would be interesting to see also results on team levels to be able to understand the influence of team dynamics on founded relationships. This thesis focused only on the individual level. Future research should also try to involve as much as possible participants to reach a high statistical power.

Contents

1.   Introduction

Due to high customer demands, companies and their employees are often faced with high levels of time pressure, mostly caused by shortened development times and strict deadlines. Hence, modern work organizations view time as a scarce and valuable resource that must be managed effectively (Rastegary and Landy, 1993). It is very difficult to be creative under time pressure and a lack of creativity can have huge negative effects on the performance of individual employees, which in turn could lead to negative effects on company revenues (Pearsall et al, 2009). It is interesting to examine how companies might help employees in dealing with time pressure in order to keep them motivated and effective.

Prior research (Pearsall et al, 2009) has shown that some employees that perceive high levels of time pressure perform well and some perform poorly. Given these differences in employee responses to time pressure, there is a need for understanding of the relationship between time pressure and individual performance. It is interesting to look at the direct relationship between those two variables because in the innovative world of these days time pressure is becoming more and more a concern of organizations. Organizations are rapidly changing while their performance must be maintained or increased to beat competition.

In most companies the employees are the core drivers of success or failure. Organizations benefit of motivated and dedicated employees (Schaufeli et al, 2002). Therefore, engagement may be an important factor regarding this relationship. Engagement is described as a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption (Schaufeli et al, 2002). *Vigor* refers to high levels of energy and mental resilience during the work and the willingness to invest effort in one's work. *Dedication* refers to a sense of significance, enthusiasm, inspiration and challenge. *Absorption* is characterized by being totally concentrated and happily engrossed in one's work, whereby time passes quickly and one has difficulties with detaching oneself from work (Bakker et al, 2005). It is assumed that engagement is an important factor for individual performance. Particularly the dedication dimension of engagement, which involves elements of intrinsic motivation, enjoyment, effort, and challenge (Bakker et al, 2005), is expected to be of positive importance for the individual performance when it comes to dealing with deadlines and the associated time pressure because it motivates the employee to deal with the challenge of the deadline. So it can be expected that engagement is really important for dealing with high task demands such as high time pressure. Engagement could be the key that keeps or increases the level of individual effectiveness when dealing with those high demands.

This thesis was conducted at Philips Controls. The main goal of the research for Philips was to reveal to Philips which factors could be influencing the engagement of the employees. Theory suggests that there might be individual, task and social resources that could have an influence on the engagement of employees (Bakker et al, 2005). The research in this thesis will examine the influence of each of these resources in relation to engagement and the ability of employees to deal with high time pressure in their daily activities.

This thesis primarily consists of a weekly survey study aiming at tapping the relationships between various variables over a longer period of time. Additionally, I have conducted short interviews with

employees to get insight into the context at Philips, to become familiar with that context, and to attain feedback regarding the results of the study and the implications of these findings.

In sum, the purpose of the present study can be formulated as follows:

The purpose of my master thesis is to examine the relationship between perceived time pressure and individual effectiveness. In particularly I will look at the influence of employee engagement on this relationship and on individual effectiveness. Moreover I will examine various resources that influence employee engagement.

2.   Problem statement and Research Questions

2.1   Problem statement

Within the context of Philips, engagement surveys conducted by Philips Controls have shown that there are decreasing levels of engagement of the employees in 2009 compared to 2008. The engagement level in 2009 was quite low. This could possibly have to do with the recent reorganisations at Philips Lighting. The aim of this thesis was to find out the importance of time pressure for individual effectiveness, the importance of engagement for individual effectiveness, which resources can cause high and low levels of engagement and how to deal with resources that influence engagement.

2.2   Engagement at Philips Controls

The research project was held at Philips. Royal Philips Electronics of the Netherlands is a diversified Health and Well-being company, focused on improving people's lives through timely innovations. As a world leader in healthcare, lifestyle and lighting, Philips integrates technologies and design into people-centric solutions, based on fundamental customer insights and the brand promise of "sense and simplicity" (www.philips.com, December 2010).

Headquartered in the Netherlands, Philips employs approximately 116,000 employees in more than 60 countries worldwide. With sales of EUR 23 billion in 2009, the company is a market leader in cardiac care, acute care and home healthcare, energy efficient lighting solutions and new lighting applications, as well as lifestyle products for personal well-being and pleasure with strong leadership positions in flat TV, male shaving and grooming, portable entertainment and oral healthcare (www.philips.com, December 2010).

Global footprint

Philips is a global leader across its healthcare, lighting and lifestyle portfolio.

- ➢ The largest home healthcare company, being number one in: Monitoring systems, Automated External Defibrillators, Cardiac Ultrasound, and Cardiovascular X-ray.
- ➢ The number one in lamps in Europe, Latin America and Asia Pacific and number two in North America; in Automotive lighting, we are leading in Europe, Latin America, Japan and Asia Pacific.
- ➢ The number one in the electric shavers and male grooming category globally.
- ➢ One of the leading flat-TV brands globally.

(www.philips.com, December 2010)

Philips lighting

To be specific, the thesis was held at Philips Lighting, GBU – Controls. Philips lighting is the global leader in lighting. The lighting sector of Philips is dedicated to introducing innovative end-user-driven and energy-efficient solutions and applications for lighting, based on a thorough understanding of the customer needs, both in public and private context. Philips Lighting is a leading provider of solutions and applications for both professional and consumer markets. Philips addresses lighting needs in a full range of environments – indoors (homes, shops, offices, schools, hotels, factories, and hospitals) as well as

outdoors (public places, residential areas and sports arenas). Philips also meets people's needs on the road, by providing safe lighting in traffic (car lighting and street lighting). "With the new lighting technologies, such as LED technology, and the increasing demand for energy efficient solutions, Philips will continue shaping the future with groundbreaking new lighting applications" (www.philips.com, December 2010).

GBU – Controls

The business unit Controls has around fifty employees. Within Controls there are software employees (architects, engineers and testers, around 70%), employees engaged in hardware, mechanics (around 20%) and software testers (around 10%). The goals of the business unit of Controls are developing solutions for lighting, for example for streetlight applications.

The sales of the business unit Controls are increasing rapidly. In 2010 there was compared to 2009 up to date around 30% more sales. The objectives are high and imply that there is still space for growth. Most sales are done in North-America while the rest of the revenues are generated in Europe and Asia.

2.3   Job Demands-Resources Model

The JD-R model proposes that working conditions can be categorized into two broad categories, job demands and job resources. Job demands refer to those physical, social or organizational parts of the job that demand sustained physical or mental effort and are therefore associated with certain physiological and psychological costs. Resources refer to those physical, social or organizational parts of the job that may do one of the following: (a) be functional in achieving goals at work; (b) reduce job demands; (c) stimulate the growth and development of the employee (Demerouti et al, 2001).
In the present thesis the JD-R model is used to explain why the level of engagement at Philips in 2009 was quite low. Following the JD-R model this could be caused by a lack of resources that are influencing engagement. This thesis is based on the theoretical assumptions of the Job Demands-Resources model (JD-R). This model presumes that, individual performance (effectiveness) depends not only on the job demands but also on the job resources that are available for the employee (Meijman and Mulder, 1998). The Job Demands-Resources model also explains that job demands are the psychological, social, or organizational aspects of the job that may turn into job stressors when meeting those demands requires high effort from which the employee has not adequately recovered (Meijman & Mulder, 1998). As can be seen in the definition above, resources are the means that the employees can use to fulfil their tasks and do their job.
Research on the Job Demands-Resource model has shown that engagement plays an important role in the relationship between job demands, resources, and individual effectiveness (Jones and Demetriou, 2008). When the job demands are higher it is more difficult for employees to cope with them and if there are not enough resources this will have a negative effect on the employee's engagement, which in turn will decrease the individual effectiveness (Jones and Demetriou, 2008). Hence, it is important for employees to have enough resources to be able to deal with high job demands such as high time pressure. Therefore, the present study examines the effects of task, individual and social resources on employee engagement and employees' ability to be effective under high levels of time pressure.

2.4   Research questions

Referring back to the in the introduction mentioned importance of engagement on the relationship between time pressure and individual effectiveness, and understanding the important role of resources as influencers of engagement, the research questions are as follows:

1 *How is perceived time pressure related to individual effectiveness?*
2 *How does engagement influence individual effectiveness?*
3 *How does engagement influence the relationship between time pressure and individual effectiveness?*
4 *How do individual, task, and social resources influence employee engagement?*

2.5   Resources

Recalling the definitions of resources: resources refer to those physical, social or organizational parts of the job that may do one of the following: (a) be functional in achieving goals at work; (b) reduce job demands; (c) stimulate the growth and development of the employee (Demerouti et al, 2001).

Richter and Hacker (1998) split resources into two categories: external resources such as organizational and social resources, and internal resources such as cognitive features and action patterns. In this thesis I will examine three kinds of resources. I will examine external resources like task resources and social resources and I will examine the internal resources, namely, individual resources. This is in particularly to examine the fourth research question.

I will examine the individual resources self efficacy, pacing style and promotion- and prevention focus. Self-efficacy was found to enable employees to remain putting high levels of effort in tasks, even under levels of stress (Nordqvist et al, 2004). So it was found that self-efficacy *keeps* the level of effort high, but it is not proved that self-efficacy can also actually *increase* the level of effort that employees put in their work. So it is not proved that it can increase the engagement of the employee. Pacing style is about how employees divide their effort and time over a certain period (Blount and Janicik, 2002). In the highly dynamic and fast paced setting in which organizations function these days, time pressure is an important issue to cope with and pacing style could possibly explain employee engagement in this setting. The thesis moreover will be examining the promotion versus prevention focus of employees because projects at Philips often lead to challenging situations and therefore it is interesting to see whether employees that have a promotion focus deal differently, and feel differently in terms of engagement, with challenging situations than employees with a prevention focus who aim at doing the job without taking much risk (Wallace and Chen, 2006).

Moreover I will examine the task resources feedback, autonomy and goal clarity. Feedback helps employees to let them cope with the work demands and is found to avoid that employees reach the state of burnout Bakker et al (2005). Job autonomy is thought to be helping in coping with job demands, because it allows employees to decide for their own how to deal with work and when and how to respond to job demands (Bakker & Demerouti, 2007). Job autonomy could have an influence on the motivation element of engagement. Empowered employees often reach higher levels of quality, because they can decide on their work floor based knowledge how things can be done best. Often this results in better quality performance than when the managers decide on the work-floor best practices (Evans, 2005). This is an important reason

for the choice to look at autonomy as a job resource, because according to Evans (2005) empowerment is an important tool that can be used to reach high quality output, even under high job demands. Locke and Latham (1984) explain that clear goals provide directions for employees and increase motivational forces and goal commitment to achieve goals. Goal clarity is included as a task resource in my research.

Lastly, I will also examine two social resources; social support and temporal leadership. Social support is positively related to mental health and reduces stress which could help making employees more engaged in their work (Landerman, et al, 1989). Temporal leadership is positively related to team performance (Mohammed and Nadkarni, in press) and hence could be expected that it is also positively related to individual performance/effectiveness. Engagement could possibly explain why in Mohammed and Nadkarni's study (in press) the performance improved from temporal leadership.

The research model that is presented in Figure 1 makes clear which relationships are being examined in this thesis. An important relationship is the one between perceived time pressure and individual effectiveness. It is not totally clear how this direct relationship between time pressure and individual effectiveness is. According to Nordqvist (2004) the relationship depends on the resources that are available. The model shows that the influence of engagement on the relationship between perceived time pressure and individual effectiveness will be examined. Moreover, one can see in the model that there are some task, individual and social resources that could have an influence on the engagement of the employee and thus will also be examined. If there will be found effects of resources on employee engagement this will mean in practice that those resources can be used to somehow manage employee engagement.

The model in Figure 1 shows a dotted line around the topics of engagement and the resources. This is the main focus for Philips. As already mentioned in this report, Philips Lighting Controls acknowledges the importance and is very interested in knowing how to increase and manage the levels of engagement within the department.

Job demands
- Perceived time pressure

Research
Question 1

Individual effectiveness
- Creativity
- Quality of work
- Efficiency

Research
Question 3

Engagement
- Vigor
- Dedication
- Absorption

Research
Question 2

Focus for Philips

Research
Question 4

Task Resources
- Feedback
- Task goal clarity
- Task autonomy
Individual resources
- Self-efficacy
- Promotion / Prevention
- Pacing style
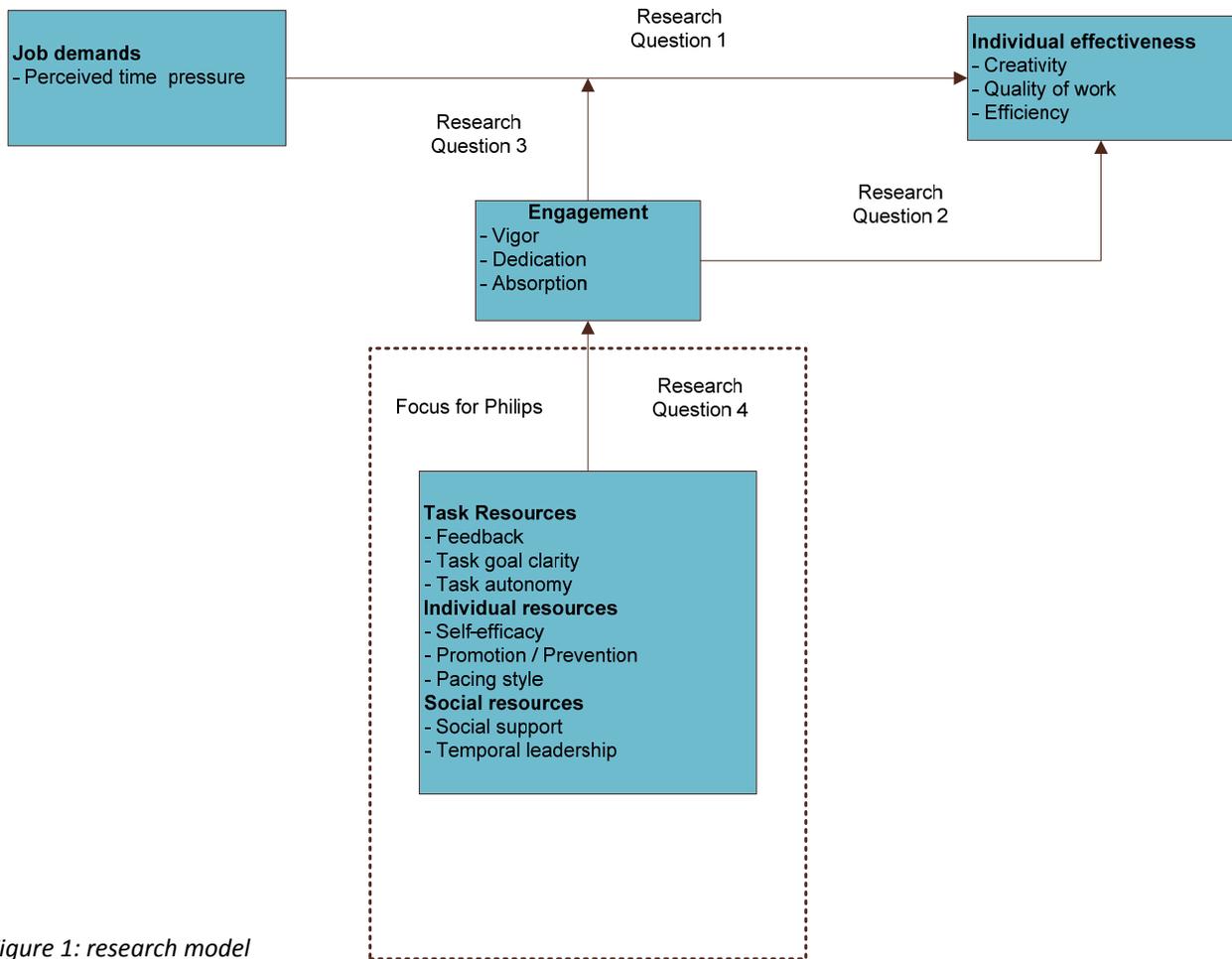Social resources
- Social support
- Temporal leadership

Figure 1: research model

3.   Theoretical background and hypotheses

In the following parts of this section, each of the components of the research model will be explained and the relationships between those components will be discussed.

Individual effectiveness

In innovative settings, like the one that is researched here at Philips, creativity, quality of work and efficiency are of high importance (Foltz and Akridge, 2007). According to Amabile (1997), individual creativity can be simply defined as the production of novel, useful ideas in any realm of human activity, from science, to arts, to education, to business, to everyday life. The ideas must not only be novel, but also applicable in the real world. The individual effectiveness aspect quality of work focuses on the quality of work that the employee delivers in the project. Quality excellence is extremely important for companies. Doing the job right the first time is always the most cost friendly way of working (Evans, 2005). There exists a need for creativity to let companies be competitive. A demand is that the company's innovations need to bring qualitative excellent products and services to the market in order to keep the customer retention rate as high as possible (Evans, 2005). Employees and organizations that are efficient are able to keep the costs low and avoid overwork and rework (Evans, 2005). In a crisis, like the recent economical crisis, it is extremely important to be efficient and avoid any waste in the company processes.

Important for this research is to find out whether perceived time pressure can have a positive influence on all three dimensions (creativity, quality, efficiency) at the same time. For example, the possibility to reach high creativity levels when there is (high) perceived time pressure and the quality and efficiency levels are high might be small. Because when time is limited and the efficiency and quality are high, there might be no 'free' time left to generate ideas and to be creative in the work setting.

Perceived time pressure

Time pressure is defined as the relative difference between the amount of available time and the amount of time required to resolve a decision task (Nordqvist, 2004). Logically, time pressure intensifies as the required time increasingly exceeds the available time (Nordqvist, 2004). Perceived time pressure is thought to be dynamic over time and is intensified as the deadline approaches, especially when learning a new task (Rastegary and Landy, 1993). Perceived time pressure is subjective, e.g. different persons can feel different levels of time pressure at the same point in time in the same project (Goodie et al, 2004). In the context of the department Philips Controls most employees work in sprint projects; every four weeks a part of a project is finished. Because this master thesis will examine employees during four weeks, the thesis can have a great chance to find different levels of perceived time pressure in those weeks because at the end of a sprint (project) the time pressure is expected to be higher than at the beginning.

At Philips Controls there are in most of the projects moderate to sometimes high levels of time pressure. Projects have strict deadlines. I will now try to explain what is found in literature about time pressure and what I expect regarding possible effects of perceived time pressure on individual effectiveness. Absence of time pressure can lead to attention straying to activities outside the project, or to

indifference (Nordqvist, 2004), whereas high time pressure can engender a loss of enthusiasm and an inability to act. Furthermore, very high levels of time pressure produce stress which can lead to a burnout (Nordqvist, 2004). From the previous statement one can conclude that it is not healthy for the performance of an individual to have to deal with (extremely) high levels of time pressure. However, Goodie and Crooks (2004) found that in a study with experiments that were about making fast decisions, time pressure did not impair performance and even improved performance in some situations. Pearsall et al (2009) found that employees in challenging situations respond to a challenge stressor like time pressure by adopting problem solving approaches which can be beneficial for the effectiveness.

Overall, it is not (totally) clear how time pressure is directly related to individual performance. But it can be expected that in challenging situations, like in the innovative rapidly changing business of today, it is beneficial for the performance to have higher levels of perceived time pressure because it could be that employees in these situations adopt problem solving approaches and achieve higher levels of performance (Pearsall et al, 2009).

Hypothesis 1: *Time pressure positively influences the individual effectiveness of an employee.*

Engagement is, as already mentioned, described as a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption (Schaufeli et al, 2002). *Vigor* refers to high levels of energy and mental resilience while working and the willingness to invest effort in one's work. *Dedication* refers to a sense of significance, enthusiasm, inspiration and challenge. *Absorption* is characterized by being totally concentrated and happily engrossed in one's work, whereby time passes quickly and one has difficulties with detaching oneself from work (Bakker et al, 2005).

The role of engagement in time pressured environments

In particular the dedication dimension of engagement, which involves elements of intrinsic motivation, enjoyment, effort, and challenge (Bakker et al, 2005), is expected to be positively influencing the individual performance of employees. Because when employees are more motivated to do their work, they put more effort in the task and like to be challenged. This all causes that they will do their tasks better and thus perform more effective.

Hypothesis 2: *Engagement is positively directly related to the individual effectiveness of the employee.*

Engagement can be expected to have an influence on the relationship between perceived time pressure and individual effectiveness. According to Schaufeli et al (2002), the elements of engagement, vigor, dedication and absorption are crucial for employees for being able to deal with challenges and stressors.

Perceived time pressure can, especially in cases of higher levels of time pressure, been seen as a kind of stressor or challenge to deal with. Because of that, engagement could play an important role in this thesis. When employees are better able to deal with a stressor or challenge like perceived time pressure, this could positively influence the individual effectiveness that those employees will reach.

> **Hypothesis 3:** *Engagement moderates the relationship between time pressure and individual effectiveness in such a way that engagement strengthens the positive relationship between time pressure and individual effectiveness.*

Relationship between resources and engagement

Referring back to the JD-R model, available resources could explain differences in employee engagement. This section will explain the chosen resources and the possible effects they have at employee engagement. As earlier mentioned, I will examine the task resources task autonomy, task feedback and goal clarity. Moreover the individual resources self-efficacy, promotion and prevention focus and pacing style. Lastly I will examine the social resources social support and temporal leadership.

I expect that resources in general will have a positive influence on employee engagement. This expectation is derived from the definition of resources given by Demerouti et al (2001): resources refer to those physical, social or organizational parts of the job that may do one of the following: (a) be functional in achieving goals at work; (b) reduce job demands; (c) stimulate the growth and development of the employee.

I expect that engagement levels will increase because resources make it possible to do the job and achieve the goals. This will make employees more delighted and motivated at work because they have means that help them achieving the work goals.

When employees are empowered with control over processes wherever they did not have control earlier, the motivation and satisfaction improves (Kappelman and Prybutok, 1995). Empowerment increases employees' feelings of fulfilment and this motivates people to put high levels of energy in the job (Kappelman and Prybutok, 1995). An increase in levels of energy can be headed under the vigor element of engagement. Together with an increase in motivation (dedication element of engagement), this research helps to make the assumption that engagement will benefit a lot when employees have higher levels of empowerment and thus job autonomy.

> **Hypothesis 4:** *Task autonomy will be positively related to the engagement of an employee; when employees have more autonomy in their work this will be beneficial for the engagement of those employees.*

Task feedback is an instrument to evaluate and inform an employee on how well he or she is performing a task. Task feedback is a very important part of many organizational interventions because it can, when the feedback is constructive, steer the employees and herewith the organization in a good direction (DeNisi and Kluger, 2000). Feedback will help that employees feel more committed and intrinsically motivated in the project; because they have more the feeling they are valuable when they get feedback. This could increase their level of effort and intrinsic motivation which could mean that it has a positive effect on engagement (Jones and Demetriou, 2007).

> **Hypothesis 5:** *Feedback will be positively related to the engagement of an employee; employees who receive more feedback will be more engaged.*

Generally speaking, goal clarity is about the extent to which the job has clear, specific established performance goals (Schnake et al, 1984). Task autonomy or job autonomy refers to the felt ability to determine the nature of the task or problem and to arrive at a course of action (Wang & Netemeyer, 2002). Goal clarity is proved to be positively related to intrinsic motivation and job satisfaction. Intrinsic motivation can be seen as a part of vigor (dedication) (Schnake et al, 1986). Other research (Kohli, 1985) offers similar findings; role clarity is positively related to intrinsic motivation, job satisfaction and self esteem. That is why it can be assumed that when an employee knows what is expected from him or her, the engagement of that employee will increase.

Hypothesis 6: Goal clarity will be positively related to the engagement of an employee, such that when the goals are perceived as clear this will be beneficial for the engagement of the employee.

Now I will introduce the individual resources that are under examination. These introductions will be followed by possible effects of the individual resources on engagement. Self-efficacy refers to one's beliefs in his or her ability to reach a goal which is a crucial element in success-related behaviour (Bandura, 1997; Betz and Hackett, 1981). How employees perceive their personal efficacy influences when and how they will initiate coping behaviour in stressful situations and the effort and persistence they apply when initial coping fails (Bandura, 1997). Tai (2006) has found that self-efficacy has a positive influence on motivation. According to Bandura, efficacy beliefs contribute to motivation in three ways; they influence the challenges people pursue, the effort they expend and the perseverance in the face of obstacles. This helps to assume that self-efficacy will increase the engagement of the employee because it increases the motivation, challenge and effort of the employee.

Hypothesis 7: Self-efficacy will be positively related to the engagement of the employee, such that higher levels of self-efficacy are beneficial for the employee engagement.

A promotion or prevention focus can help explain how employees cope with challenging situations (Wallace and Chen, 2006). Time pressure often leads to challenging situations and therefore it is interesting to see how employees that have a promotion focus deal differently with the challenging situation than employees with prevention focus. A promotion focus is characterized by an eagerness focus or concern for accomplishing greater quantity of work more quickly. A prevention focus is characterized by a vigilance focus or concern for adhering to work-related rules, responsibilities, and regulations. When employees have a promotion focus, they view the goal of performing well on their jobs as something like a 'gain'. They believe that performing well on the job will allow them to actualize their job and career potential. Employees that are in a prevention focus view the same goal as performing well as a 'non-loss'. In that they believe that performing well would allow them to meet more basic safety and financial needs and avoid negative outcomes (Wallace and Chen, 2006). Promotion focused employees like to have challenges (Wallace and Chen, 2006). It can be expected that those who go for the challenge, put more effort and passion in their work and this will increase their level of engagement directly. While prevention focused employees who avoid risks and take the easy way don't want to face challenges and problems (Wallace and Chen, 2006) and thus will be less engaged because they are expected to be less intrinsically motivated and less passionate.

Brockner and Higgins (2001) argue that When people are promotion focused they attempt to bring their actual selves into alignment with their ideal selves (standards reflecting wishes and aspirations). When people are prevention focused they attempt to bring their actual selves into alignment with their ought selves (standards reflecting duties and obligations). An important difference between promotion and prevention focused employees is how they cope with outcomes at work. Employees that are promotion focused emphasize the attainment of positive outcomes. The more that promotion focused employees bring themselves into alignment with their ideal selves, the more they experience the pleasure of a gain or the pain of a non-gain in case they do not achieve a certain goal. Prevention focuses employees emphasize the avoidance of negative outcomes. The more that prevention focused persons bring themselves into alignment with their ought selves, the more they experience the pleasure of a non-loss and if they fail the more they experience the pain of a loss (Brockner and Higgins).

So besides the previous reason derived from Wallace and Chen (2006) that promotion focus employees put more effort and passion in their work, I derive another reason from Brockner and Higgins (2001). As mentioned, promotion focused employees experience pleasure of gains (successes) and pain of non-gains (failures) and prevention focused employees experience the pleasure of a non-loss (successes) and the pain of a loss (failures). I expect promotion focus to be positively related to engagement because employees with a promotion focus experience more delighted and positive feelings when having successes and less negative and painful feelings when having failures. This reasoning leads to the expectation that I expect prevention focused to be negatively related to engagement.

Hypothesis 8: A promotion focus will be positively related to the engagement of the employee, while a prevention focus will be negatively related to the engagement of the employee.

An employee's pacing style describes how an employee divides his or her effort over time and can be used as a basis to compare how the division of work over time can influence employee engagement (Blount and Janicik, 2002). Blount and Janicik (2002) argue that pacing styles capture the anticipated momentum and flow regarding how events will unfold, and the value placed on how time should be allocated in task execution. Gevers et al (2006) suggested three main pacing styles. The deadline action style is when one prefers that the most of the work is completed just before time runs out. The steady action style is a style in which the employees divide their time and efforts equally over time and there is a U-shaped style in which efforts are high in the beginning and at the end of a project (Gevers et al, 2006). I make the assumption that when employees have a U-shaped action style they will reach higher levels of engagement because I assume that they face challenges with putting more effort in the tasks when it is needed. I expect that when employees have a steady or deadline action style, they will have lower levels of engagement compared to the ones who have a U-shaped action style. I expect that employees with an action and steady style have problems with changing the effort constantly in a project. Especially in innovative projects like at Philips, it is important to be able to change efforts during project phases in order to succeed on the project or task. Moreover, U-shaped style individuals adopt a more planned approach by starting early to determine how long a task will take (Gevers et al, 2010). The projects at Philips are scheduled strictly and high efficiency is needed for those projects to be finished before the due date. Therefore it is important to start working intensive early and use a planning

approach. Start working intensively in early phases of the project could have positive effects on the commitment and therefore engagement of employees in these projects.

> **Hypothesis 9:** An U-shaped pacing style will be positively related to the engagement of the employee, while a steady and deadline action style will be negatively related to the engagement of the employee.

There is some disagreement about how social support should be defined (Kowalsky, 1997). Shumaker and Brownell (1994) define social support as "an exchange of resources between at least two individuals and perceived by the provider or the recipient to be intended to enhance the well-being of the recipient" (p 13). Based on this definition, the outcome is assumed to be positive by at least one of the participants in the exchange. Many of the definitions of social support are broad. Like the definition given by Cohen and Syme (1995). They argue that social support contains the resources provided by other persons. Based on this definition, social support could have positive or negative effects for the recipient. This thesis will look at the perceived social support that is given by the co-workers and supervisor to an employee. The perceived social support is a measure of support satisfaction and availability. Nordqvist et al (2004) found that social support positively influences goal fulfilment and job satisfaction. It can be assumed that when employees are satisfied with their job, they are more dedicated to it and thus will reach higher levels of engagement than when employees are not satisfied with their job. Moreover, it was found by Wise and Stake (2002) that at higher levels of perceived social support, higher levels of dual expectations were associated with increased feelings of well-being. At lower levels of social support, higher levels of dual expectations were associated with decreased feelings of well-being. The previous finding gives more justification to the expectation that social support influences engagement, because social support can have positive effects on well-being. I expect that when employees have higher levels of well-being, they have higher levels of energy and mental resilience (vigor) which means they will have higher levels of engagement.

> **Hypothesis 10:** Social support will be positively related to the engagement of the employee, such that more social support (from co-workers and from the supervisor) will be beneficial for the engagement of the employee.

Temporal leadership is defined as leader behaviours that aid in structuring, coordinating, and managing the pacing of task accomplishment within a team. Temporal leadership is a form of social support that helps the subordinates in dealing with the 'temporal' aspects of their work. The aspects of temporal leadership are scheduling, synchronizing and allocating temporal resources (Mohammed and Nadkarni, in press). In this thesis I will look at the perceived temporal leadership measured at the individual level.

Temporal leadership is found to have a direct influence on team performance (Mohammed and Nadkarni, in press). It can thus be assumed that temporal leadership also has a direct influence on the individual effectiveness. It could be possible that engagement can explain this influence because when there is satisfying temporal leadership it could be the case that employees become more dedicated when the supervisor creates trough scheduling, synchronizing and allocating temporal resources (such as spare time) a less stressful and more clear environment. In turn this could inspire the employees to put high levels of effort in the task and to feel engrossed in their work.

Hypothesis 11: Temporal leadership will be positively related to the engagement of the employee, such that when there are high levels of temporal leadership this will be beneficial for the engagement of the employee.

4.   The Present Study

The study reported here will make use of a weekly diary study that will examine employees during four weeks. Every week there will be measurements of the perceived time pressure, individual performance and the level of engagement. All the resources will be measured only once since they are considered to be rather stable during the four weeks of measurements.

I made use of a weekly diary study because I was not able to let a large group of employees participate in the research and moreover:

- A diary study like this keeps the variability low. Because the participants are followed during four weeks, most of the characteristics of the participants are constant. This causes that the validity of the research will be higher than in case all variables were only measured once.
- Gives the possibility to eventually examine time related effects.
- Gives the possibility to do (complex) statistics with the use of fewer participants.

A disadvantage is that the analysis becomes more difficult and that some participants will not participate at each measurement point.

Positioning of the thesis

Figure 2 shows the regulative cycle (Van Strien, 1986). Van Strien has developed the regulative cycle that aims at intervening into practice by making a plan in which the focus is on solving an individual problem in particular circumstances. This cycle will be used for the positioning of this thesis. The cycle starts with the identification of the problem. In my research the problem can be seen as the problem of how to manage engagement and identifying the role of engagement in the time pressure – individual effectiveness relationship. The research questions are derived from this problem. In the second phase of the cycle the problem is diagnosed. In this thesis this means that I have done literature research to engagement and the possibly related variables and that I have developed hypotheses. These hypotheses will be statistically tested with analyses on weekly surveys. The third phase is the plan of action. The plan of action in this thesis consists of the recommendations that I will propose after doing the analysis of the problem. The first three phases of the regulative cycle are characterized as the 'thinking' parts of the cycle. The last two phases of the cycle are characterized as phases wherein the implementation of the problem is centralized. The fourth phase is the implementation phase. In this phase, the recommendations will be implemented. In the fifth phase the implementation of the actions is evaluated (Van Strien, 1986). This thesis, however, does not include the practical implementation of the recommendations and on the evaluation of the performed actions. Those last two phases of the cycle are up to Philips to focus on.
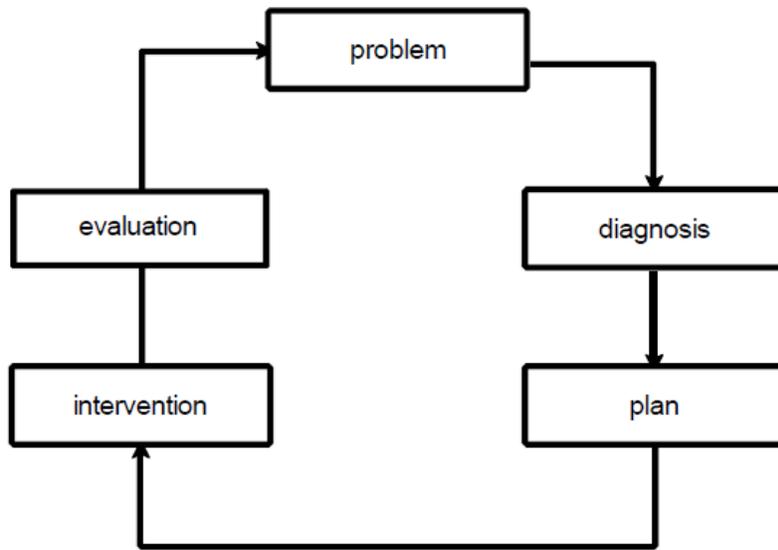
Figure 2: regulative cycle

5.   Methods (Quantitative)

The research mode and hypotheses were tested by means of a survey study. Details about the research design are provided here.

5.1   Procedures

This study uses the concept of repeated measures. During four weeks, employees of Controls filled in surveys; each week one survey. The use of repeated measures increases the reliability, primarily because time pressure and individual effectiveness may change over time and the role of engagement can thus be tested at different times with different values of time pressure and individual effectiveness.

The research consisted of four surveys. The first survey consisted of questions that measured the values on all the variables of this study; perceived time pressure, individual effectiveness, engagement, and all the task-, individual-, and social resources. During the second, third and fourth (last) survey, only the variables that were expected to be varying over time were measured. Figure 3 gives a schematic overview of all the variables that were under study in this research, including information on how often they were measured. All the variables were measured on a 5-point Likert scale.

The survey research was introduced to most of the employees by the use of a briefing during the monthly department meeting. The briefing introduced the thesis, the objectives of the thesis and a description of the survey research and its confidentiality. Besides the briefing, all participants received an email that they were selected to participate in the survey and the email contained also a short description of the thesis and the survey including confidentiality issues. The surveys were always handed over personally and every day after handing out I checked whether they were filled out or not. On average most of the surveys were already filled in within two days after handing them out. The data that resulted from the surveys were entered by hand in SPSS. All the data were double checked to prevent making mistakes.

5.2   Participants

Within the business unit Controls there were 32 participants selected to participate in the survey research. The participants that were selected are mainly employees who work in so called sprints. Most of them work in sprints of 4 weeks, while there were also employees working in sprints of 3 weeks and even one employee worked in sprints of 2 weeks. The sprint duration was used as a control variable. It could be expected that there are differences in perceived time pressure between employees who work in sprints and employees who do not work in sprints. Employees who work in sprints have short deadlines every week and this could put a continuous time pressure on them. In contrast, employees who work not in sprints but in projects with deadlines that are far away could be expected to perceive low time pressure during a long time and higher time pressure when the due date comes quite close. But on average it can be expected that employees, whether working in sprints or not, experience the same level of perceived time pressure. Those employees who work in sprints need to achieve a milestone in each sprint, for example the development of a certain product feature. At the deadline of each milestone, a certain feature of a product or a task needs to be finished. A project is built out of a

large set of sprints. Each sprint can be seen as a project itself and it thus can be expected that during a sprint of three or four weeks, a variable like perceived time pressure will vary. That is the reason that the survey research examined a lot of employees who work in sprints.

Participants that filled in at least three surveys were maintained in the data. I ended up with 29 participants. The average response rate was 94 percent (first week 91%, second week 100%, third week 84% and the fourth week 100%). By selecting participants I have looked to employees that work in different teams so that there is a higher probability to find differences in the task and social environment. And I have included employees with different functions to try to have a variety in individual resources. Of the participants, 96.9% (31) were male and 3.1% (1) was female. The ages of the respondents were between 25 and 59 years with an average of 39.6 years old. 24 participants (75%) were working in sprints. Most of the respondents were software engineers, software testers or software and system architects. All respondents were working full time or nearly full time (around 0.8 ft). Three of the employees had a project leading function.

5.3   Measurements

In Figure 3 one can see which variables were measured during the research and the variables that were measured weekly (in all four surveys) are indicated as 'WEEKLY'.

The Cronbach Alphas of the variables are used to determine whether the items of the variable measure the same construct. Cronbach Alpha measures the reliability of the variable. A Cronbach Alpha higher than 0.65 is reasonable, and higher than 0.70 is considered as good (Nunnally and Bernstein, 1994) The constructs deadline style (0.48) and steady style (0.16) showed very low Cronbach Alphas that could not be remedied. Those measurements on pacing style were thus not reliable. Of the pacing styles, only the U-shape measurements were reliable. This meant that I could not do any further analysis on the pacing styles steady style and deadline action style. Besides pacing style, all other variables showed at least a reasonable Cronbach Alpha coefficient.
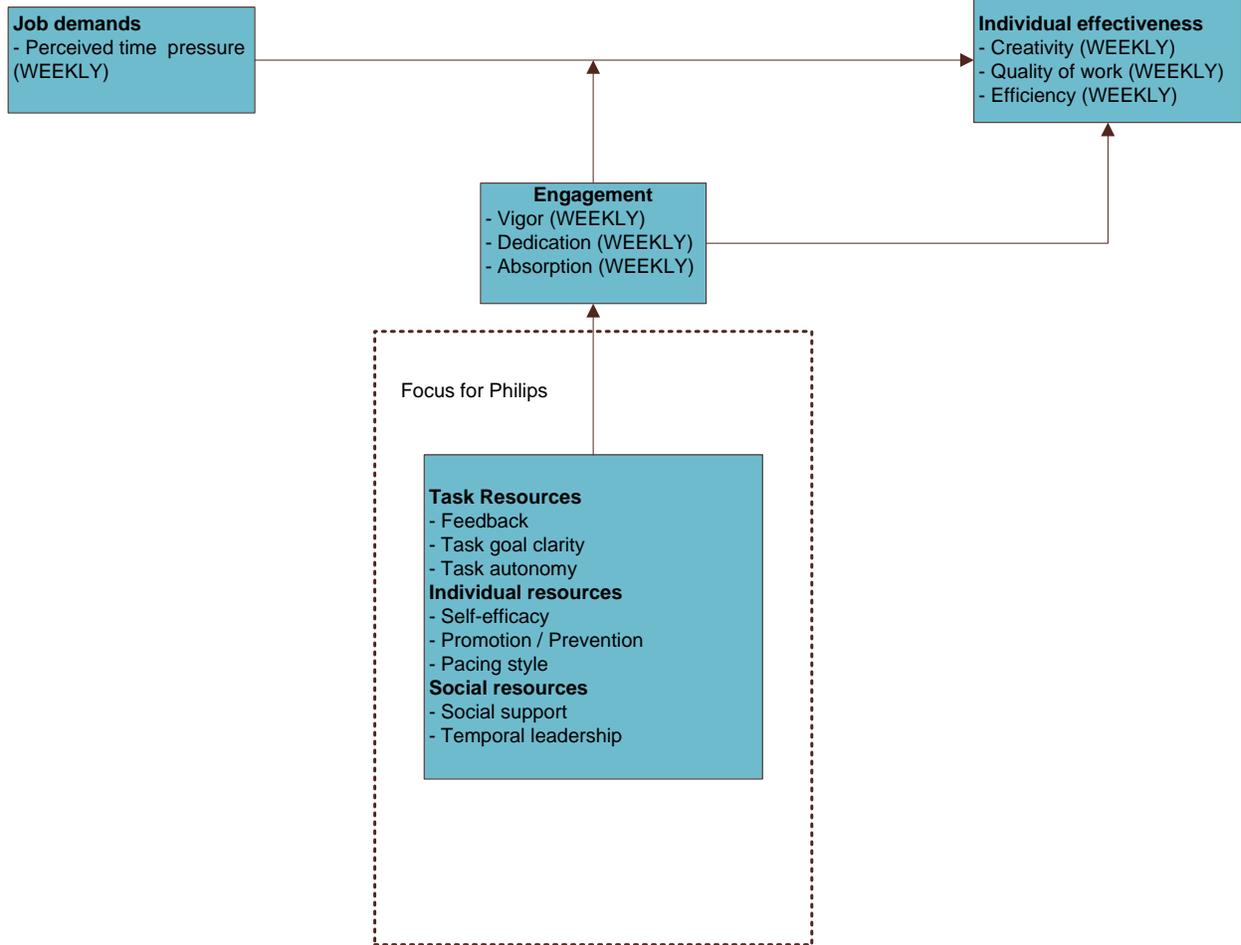
Figure 3: research model with notice of the variables that are measured weekly

5.3.1 Initial questionnaire

Resources

The resources measured in this research are expected to be relatively stable over the four weeks of measurement. Individual resources are related to employee characteristics that are relatively stable over time. Self-efficacy is about the belief in one's ability and will not change easily, except if there are occurrences of huge discrepancies between beliefs and results (Bandura, 1997). The pacing style of an employee can be assumed to not change in short time because it is the personal style of dividing effort over time and thus can be considered as a characteristic of the person. The same assumption holds for the promotion/prevention focus of the employee. The task resources will also not differ over time when management does not make radical interruptions regarding feedback, goals or autonomy rules. It can be assumed that those resources will not change in a short period of only four weeks. The social resources

social support and temporal leadership are also assumed to be not changing much, at least not over a period of four weeks (see Figure 3).

Task resources

Task Feedback

Jaworski and Kohli (1991) developed a set of items that measures different kinds of feedback. I took the most important items for my research from the list. I took two items for positive output feedback, two for negative output feedback, two for positive behavioral feedback, and two for negative behavioral feedback. The scale is an eight item Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). An example of an item is "When my manager thinks my performance is good, he provides me with positive feedback". The Cronbach Alpha of the variable feedback in this study was 0.94 which is very good.

Goal clarity

Locke and Latham developed a 53-item goal setting measure (Locke and Latham, 1984). Goal clarity is also measured in this goal setting measure. Goal clarity contains items describing the clarity of the goals and the prioritization of those goals. The scale is a four item Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). An example of an item is "I understand exactly what I am supposed to do on my job". The Cronbach Alpha of the variable goal clarity in this study was 0.75 which is satisfactory.

Task autonomy

Task autonomy was measured with Spreitzer's (1995) three-item scale. Spreitzer (1995) used the idea that self-determination reflects autonomy in the initiation and continuation of work behaviours and processes such that examples are making decisions about work methods, pace, and effort. His scale is a three item 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). An example of an item is "I can decide on my own how to go about doing my work". The Cronbach Alpha of the variable autonomy in this study was 0.87 which is very good.

Individual resources

Self-efficacy

Chen et al (2001) use the definition that self-efficacy is the belief in one's capabilities to mobilize the motivation, cognitive sources, and also the courses of action needed to meet given situational demands. Self-efficacy is measured by a by Chen et al (2001) validated scale. The scale is an eight item 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). An example of an item is "I will be able to achieve most of the goals that I have set for myself". The Cronbach Alpha of the variable self-efficacy in this study was 0.65 which is not very good but sufficient to do analyses with.

Promotion/prevention

The promotion/prevention focus of the employees was measured by using the scale of Wallace and Chen (2006). When employees are striving to accomplish tasks they may use a promotion strategy which is characterized by an eagerness focus or concern for accomplishing greater quantity of work more quickly, or using a so called prevention strategy, characterized by a vigilance focus or concern for adhering to work-related rules, responsibilities, and regulations (Wallace et al, 2006). The scale of Wallace et al (2006) is a six item 5-point Likert scale ranging from 1 (never) to 5 (constantly) and is using promotion and prevention focused items. An example of a promotion focus item is "Getting my work done no matter what". An example of a prevention focus item is "Following the rules and regulations". Employees are asked to rate how often they focus on certain thoughts and activities stated in the items of the scale. The Cronbach Alpha of the variable promotion focus in this study was 0.69 and of prevention focus was 0.66. Both Cronbach Alphas are not excellent but are sufficient to do analyses with.

Pacing style

Pacing style reflects how individuals distribute their effort over time in working toward deadlines (Gevers et al, 2006). The scale that is used to measure the pacing style of the employees is the developed scale by Gevers et al (2010, in press). The scale is a 9 nine item 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). An example of an item from the scale is "I do most of the work in a relatively short time before the deadline". The Cronbach Alpha of the variables deadline style, steady style and U-shape style were respectively 0.48, 0.16 and 0.83. The first two Cronbach Alphas are too low. With these variables I cannot do further analyses. The Cronbach Alpha of the variable U-shape style is good.

Social resources

Social support

Social support will be assessed by using items of the scale of Shinn et al (1989). Shinn et al (1989) use a 5-point Likert scale with a range from 1 (never) to 5 (always). There are eight items to measure perceived social support from the supervisor and there are eight items to measure perceived social support from the co-workers. An example of an item is: "My supervisor (or co-workers) listen(s) to my problems". The Cronbach Alpha of the scale of social support co-workers was 0.80 which is good and the Cronbach Alpha the scale of social support supervisor was 0.67 which is sufficient.

Temporal leadership

Temporal leadership was assessed by using items of the scale of Mohammed and Nadkarni (in press). A 5-point Likert scale will be used with a range is from 1 (not at all) to 5 (to a great extent). An example of an item is "To what extent does your project leader urge you to finish subtasks on time?" The Cronbach Alpha of the variable temporal leadership in this study was 0.90 which is very good.

5.3.2 Weekly questionnaires

Perceived time pressure

Perceived time pressure was measured by using the scale of Bolino et al (2005). Bolino uses the concept of role overload. "Role overload describes situations in which employees feel that there are too many responsibilities or activities expected of them in light of the time available, their abilities, and other constraints" (Bolino et al, 2005). Reading this definition, one can expect that perceived time pressure has a lot to do with role overload, in both concepts there are high levels when employees perceive that they have to do too much work. The scale of Bolino et al (2005) is a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The scale consists of four items. An example of an item is "Last week, the amount of work I was expected to do was too great". The scale in the research of Bolino et al (2005) had a Cronbach Alpha of 0.84. The Cronbach Alpha of the variable perceived time pressure in this study was 0.90 which is very good.

Individual effectiveness

The dependent variable in this research proposal is the individual effectiveness. The individual effectiveness will be measured at all four measurement points by means of three concepts: creativity, quality and efficiency.

Individual creativity

The amount of production of novel, appropriate ideas in any realm of human activity (Amabile, 1997). Individual creativity will be measured using the scale of Miron et al (2004). Miron et al (2004) use the definition of Amabile (1997). The scale of Miron et al (2004) originally was a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). I adapted it to a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The scale consists of four items. An example of an item is "Last week I had a lot of creative ideas". The Cronbach Alpha of the variable creativity in this study was 0.84 which can be considered as good.

Quality of work

The quality of the work that the employee delivers in the project (Evans, 2005).

Quality was measured by using three items of the scale of Roe et al (2000) ant two items of the scale of Van Sas (2009). Both scales used a 5-point Likert scale to assess individual quality of work. The scale ranges from 1 (strongly disagree) to 5 (strongly agree). An example of an item is "Compared to the requirements, I obtained good results this week". The Cronbach Alpha of the variable quality in this study was 0.67 which is sufficient for further analyses.

Efficiency

Employees who are able to keep the costs low and avoid overwork and rework are called efficient employees (Evans, 2005). I developed a scale for this research to measure efficiency, consisting of three

items. The scale I made is a 5 point Likert-scale with three items. The scale ranges from 1 (strongly disagree) to 5 (strongly agree). The items are: "I have made good progress last week", "I worked efficiently last week", and "I got a lot of work done last week", . The Cronbach Alpha of the variable efficiency in this study was 0.81 which is good.

Engagement

Engagement was assessed at each measurement point using the developed scales of Schaufeli et al (2002). There are three items for vigor, three for dedication and three for absorption. Schaufeli et al (2002) originally used a 7-point Likert scale. I adapted it to a 5-point Likert scale. All the items were measured on a 5-point Likert scale ranging from 1 (never) to 5 (always). An example of an item of vigor is "I felt bursting with energy at my job last week". An example of an item of dedication is "My job inspired me last week". An example of an item of absorption is "I felt happy when I was working intensely last week". The scale in the research of Shaufeli et al (2002) had an overall Cronbach Alpha of 0.92 which is very high. The overall Cronbach Alpha of the variable engagement in this study was 0.86 which is very good.

5.4   Handling of data

Data were screened for irregular entries and missing values. In the end there were 29 participants left in the data set. For each item and variable in the dataset there were no more than 5% missing data.

The missing data that were found are ignorable; there is no reason to assume that they have to do with the technique (survey) of data gathering that is used. With respect to missing values, there are some rules of thumb: variables with as little as 15% missing data are candidates for deletion, but higher levels of missing data (20% to 30%) can often be remedied. All items in this thesis miss less than 15% data, so there is no need to skip certain items. When variables miss less than 5% one can use any accepted imputation method. I used the EM input estimation to fill in the missing data. The EM method is an iterative two-stage method (the E and M stages) in which the E stage makes the best possible estimates of the missing data and the M stage then makes estimates of the parameters (means, standard deviations, or correlations) assuming the missing data were replaced (Hair et al, 2005).

I also used this method to replace the missing data for the employees who missed one survey; for example for replacing the missing data for employees who did not fill in the fourth survey because they were on holiday. There were only four participants who did not fill in one week of questions.

5.5   Data analyses for hypothesis testing

Hypotheses tests

This study looks at relationships between stable and instable variables and between instable and instable variables. As explained in the survey lay-out, there is weekly generated (in all four surveys) data and also generally generated data (in only the first survey). This thesis is concerned about relationships between weekly data (weekly variables) and between weekly data (weekly variables) and general data

(general variables). Hierarchical Linear Modeling (HLM) was used to analyze the data in order to find the hypothesized relationships.

Hierarchical linear modeling (HLM) is in the academic world also known as multi-level analysis. HLM is a more complex and advanced form of simple and multiple linear regression. HLM allows variance in outcome variables to be analyzed at multiple hierarchical levels. This is in contrary to simple and multiple linear regression. In the latter two regression types all effects are modeled to occur at a single level. HLM is appropriate for use with nested data like in repeated measures surveys (Deadrick et al, 1997).

The conducted steps in each of the HLM analyses are as follows (Hair et al, 2005):

1. Calculating a null model. Firstly a null model is estimated. In the null model there are no independent variables and it can also be called the baseline model. The next models, which will include (an) independent variable(s) will be compared against the null model. The goodness of fit will be estimated with the so called -2LL, which means minus two times the log likelihood value. One can evaluate models by looking at the change in -2LL and then determining whether the change in -2LL is significant or not.
2. Calculating a proposed model. This model can be called model 1. It includes the independent variable to be tested in the model. This model gives also a -2LL score. If the model becomes better than the null model, the -2LL will be lower. The analysis will also examine whether there is a significant contribution of the inserted variable. All hypotheses in this master thesis predict a direction. When a direction is tested, an alpha value of 0.10 is required. An alpha value lower than 0.10 will be considered as marginally significant, while an alpha value lower than 0.05 will be considered as significant.
3. Assessing the -2LL difference. This step will result in a conclusion whether the models differ or not and whether there is a significant improvement of the proposed model over the null model or not. A Chi-square test will make clear whether there is a significant -2LL difference between the two models.

HLM modeling is easy to use for analyzing direct relationships and also for analyzing a moderator relationship. For example for modeling the possible moderating influence of engagement on the relationship between time pressure and individual effectiveness, HLM can also be used. Firstly one makes a baseline model (null model), after that one makes model 1 (for example with the independent variable time pressure), then model 2 (with the independent variables time pressure and engagement), and at last one makes model 3 (with the independent variables time pressure and engagement and with the interaction term time pressure * engagement). For the moderating role of engagement to be proven, it is needed that the model with the interaction term (model 3) shows a significant improvement over model 2.

Figure 4 shows how the HLM models differ from each other. Model 2 and Model 3 are used to analyze the moderating effect of employee engagement as stated in hypothesis 3.
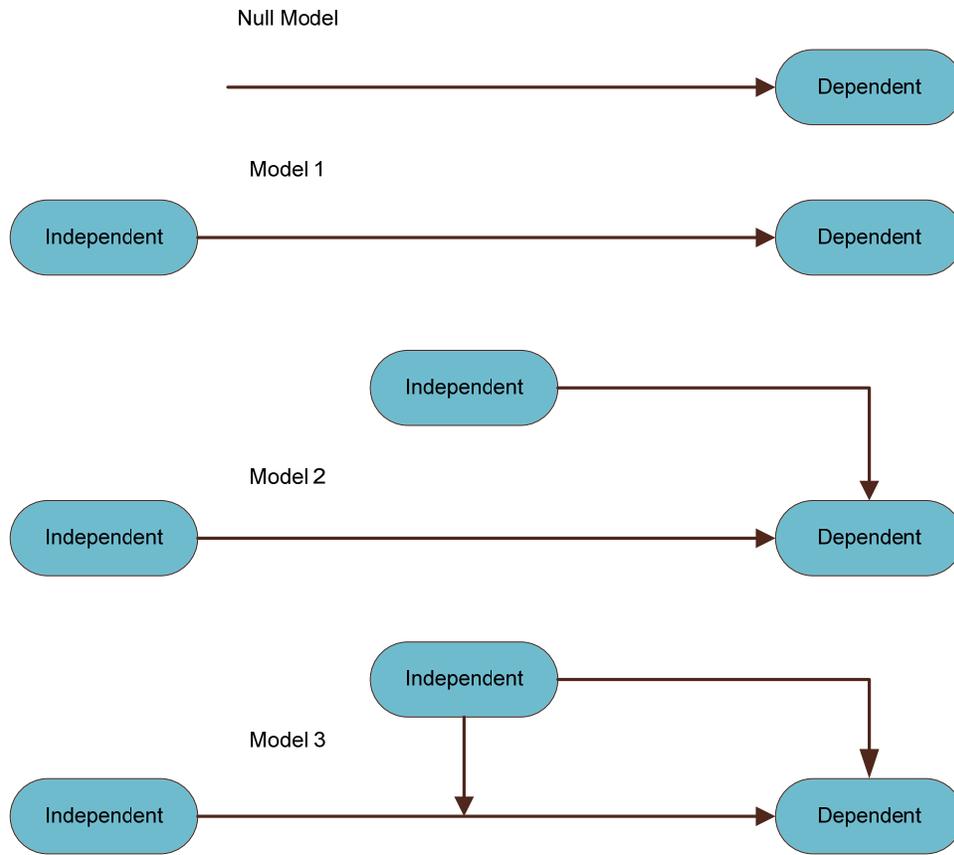
Null Model

Model 1

Model 2

Model 3

Figure 4: HLM models

6.   Results

Table 1 shows the descriptive statistics and correlations of the measured variables. The most important information captured in the table are the variables with their means and standard deviations and the correlations between all variables. Important to observe is that employees on average experience moderate levels of time pressure (m = 2.97) and workload (m = 2.75). The performance, as perceived by respondents, is on average moderate to high (m = 3.42). The components quality (m = 3.63) and efficiency (m = 3.61) of performance score quite high while the performance component creativity shows a lower score (m = 3.02). Employees score moderate to high (m = 3.40) on engagement. Other things that are noticeable are that goal clarity, job autonomy, self efficacy and prevention focus have quite high scores.

Looking at Table 1, I can identify:

- ❖ Engagement correlates with a lot of variables. Engagement is related to the independent variable perceived time pressure, but also to the overall individual effectiveness and to all dimensions of this individual effectiveness, namely creativity, quality and
- ❖ Both social support measures do negatively correlate with individual effectiveness.

Variable	N	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1 Age	29	39.86	9.00	1.00																
2 Time pressure	116	2.97	0.77	-0.13	1.00															
3 Creativity	116	3.02	0.61	-0.01	0.17	1.00														
4 Quality	116	3.63	0.34	.42*	0.06	.46**	1.00													
5 Efficiency	116	3.61	0.60	-0.10	-0.01	.51**	.56**	1.00												
6 Individual effectiveness	116	3.42	0.43	0.10	0.07	.83**	.75**	.85**	1.00											
7 Engagement	116	3.40	0.54	-0.14	.30**	.58**	.28**	.46**	.56**	1.00										
8 Feedback	29	3.05	0.63	-0.28	0.14	-0.01	-0.17	-0.03	-0.05	.19*	1.00									
9 Goal clarity	29	3.80	0.56	-0.10	-0.01	0.09	-.19*	0.02	-0.01	0.16	-0.09	1.00								
10 Autonomy	29	4.00	0.68	0.27	-0.08	0.09	-0.07	-0.17	-0.06	.24*	-0.15	0.08	1.00							
11 Self-efficacy	29	3.86	0.29	0.09	0.01	.20*	0.18	.31**	.29**	0.06	0.09	-0.13	-0.09	1.00						
12 Promotion focus	29	3.39	0.51	-0.29	0.07	0.11	0.03	.23*	0.17	0.17	0.07	.24**	0.07	.44**	1.00					
13 Prevention focus	29	3.61	0.38	-0.13	0.12	0.03	-.19*	-0.13	-0.10	.19*	.20*	.44**	.34**	0.06	.59**	1.00				
14 U-shape	29	2.37	0.69	0.02	0.03	0.08	0.06	-0.04	0.03	0.04	-.22*	0.17	.31**	-.41**	-0.14	0.12	1.00			
15 Social support co-workers	29	3.42	0.45	-.52**	0.01	-0.09	-.26**	-0.14	-.19*	0.17	0.06	.27**	0.17	-.58**	0.10	.26**	0.15	1.00		
16 Social support supervisor	29	3.16	0.54	-0.26	-.22*	-.18*	-.26**	-0.13	-.20*	0.02	.33**	.40**	.24**	-.29**	0.09	.36**	0.06	.45**	1.00	
17 Temporal leadership	29	2.70	0.86	-.49**	0.07	.22*	-0.16	0.09	0.09	.25**	.52**	0.09	-0.18	-0.09	0.01	0.13	-.23*	.28**	.19*	1.00

Table 1: descriptives and correlations of the measured variables

*   significant on the alpha 0.05 level

**   significant on the alpha 0.01 level

This section will give the results on the stated hypotheses. For each expected relationship the chapter will show the results of the HLM analysis and conclude whether the hypothesis is supported or not.

Time pressure – individual effectiveness

Hypothesis 1 predicted that time pressure has a positive influence on the individual effectiveness of the employee. Individual effectiveness is measured as the combination of the aspects creativity, quality and efficiency. The null model is the model with only the dependent variable individual effectiveness in it. Model 1 includes also the independent variable time pressure. Model 1 showed no significant improvement over the null model (Δ-2LL = 0.49, not significant). This result means that there is no support for the assumption that time pressure predicts individual effectiveness. Hypothesis 1 is not supported. Perceived time pressure was also tested on the individual effectiveness aspects separately and it was found that time pressure only had a marginal significant effect on creativity (E = 0.14, SD = 0.07, P<0.10). Moreover, I found that time pressure (E = 0.21, SD = 0.06, P<0.05) had a significant positive influence on employee engagement.

Engagement – individual effectiveness

In the previous results one could already see that the model where besides time pressure engagement was also included as independent variable was significantly better than the model where only time pressure was included as independent variable. To measure the influence of engagement on individual effectiveness we need to compare the null model (same null model as used in the previous analyses; model only includes the dependent variable individual effectiveness) against model 1 which in this case includes the dependent variable individual effectiveness and the independent variable engagement. Model 1 shows a significant improvement over the null model (Δ-2LL = 46.45, P<0.001). Engagement was positively related to individual effectiveness (E = 0.46, SD = 0.06, P<0.001). This means that engagement had a significant positive influence on the individual effectiveness of the employee.

Engagement on dimensions of performance. Hypothesis 2 proved that engagement had a large positive significant effect on the individual effectiveness of the employee. Additional analysis showed that engagement had a highly significant influence on all three components of individual effectiveness; creativity (E = 0.67, SD = 0.08, P<0.001) quality (E = 0.19, SD = 0.06, P<0.05) and efficiency (E = 0.51, SD = 0.09, P<0.001).

Engagement on relationship Time pressure – Individual effectiveness

Hypothesis 3 predicted that engagement would have a moderating role on the relationship between time pressure and individual effectiveness, such that engagement would strengthen the relationship between time pressure and individual effectiveness. To test the interaction effect of time pressure with engagement on individual effectiveness I use two extra models. Besides the null model and model 1 of the results above I also make a model 2, containing of the independent variables time pressure and engagement. Model 3 then contained of both independent variables time pressure and engagement and their interaction term. Model 2 showed a significant improvement over model 1 (Δ-2LL = 47.42, P<0.001), indicating that the added variable engagement explains a significant amount of variance in the

model. However, model 3 does not show a significant improvement over model 2 (Δ-2LL = 0.95, not significant). This means that engagement does not moderate the relationship between time pressure and individual effectiveness.

Influence of the task resources on engagement

Autonomy – engagement

Hypothesis 4 predicted that job autonomy will have a positive relationship on the engagement of the employee. Indeed model 1 which included the independent variable autonomy showed a significant improvement over the null model (Δ-2LL = 6.68, P<0.05). Autonomy was significantly positively related to engagement (E = 0.19, SD = 0.07, P<0.05).

Feedback – engagement

Hypothesis 5 predicted that feedback will have a positive influence on the engagement of the employee. Model 1, which included the independent variable feedback and the dependent variable engagement showed a significant improvement over the null model (Δ-2LL = 4.07, P<0.05). So feedback was positively related to the engagement of the employee (E = 0.16, SD = 0.08, P<0.05).

Goal clarity – engagement

Hypothesis 6 suggested that goal clarity would increase the engagement of the employee; it thus expected a positive influence of goal clarity on the engagement. Model 1, which included the independent variable goal clarity did not show a clear improvement over the null model (Δ-2LL = 3.11, P<0.10). Goal clarity (E = 0.16, SD = 0.09, P<0.10) has a marginal significant influence. So hypothesis 6 is supported on the basis of alpha < 0.10.

Influence of the individual resources on engagement

Self-efficacy – engagement

In hypothesis 7 the assumption is made that self-efficacy will have a positive influence on the engagement of the employee. This relationship was not found to be significant in this research. Model 1 found no significant improvement over the null model (Δ-2LL = 0.37, n.s.). Self-efficacy has no direct positive influence on the engagement of the employee (E = 0.10, SD = 0.17, n.s.).

Promotion and prevention focus – engagement

Hypothesis 8a assumed that a promotion focus of the employee would increase the engagement of the employee. Model 1 showed marginally significant improvement over the null model (Δ-2LL = 3.32, P<0.10). A promotion focus has marginal positive influence on the employee engagement (E = 0.18, SD = 0.10, P<0.10). So this means that hypothesis 8a is supported with alpha < 0.10.

On the other hand, hypothesis 8b assumed that a prevention focus has a negative influence on the engagement of the employee. This research showed the opposite direction to be significant; namely

that when employees have a prevention focus they will have higher engagement levels instead of lower engagement levels. Model 1 showed a significant improvement over the null model (Δ-2LL = 4.11, P<0.05). The prevention focus positively influences the engagement of the employee (E = 0.26, SD = 0.13, P<0.05). This does not support the hypothesis, but it shows the opposite to be significantly true.

Pacing style – engagement

The hypothesis 9a, 9b and 9c are about pacing styles. Hypothesis 9a assumes that a U-shaped style has a positive influence on the engagement and hypothesis 9b and 9c respectively assume that a steady style and a deadline style have a negative influence on the engagement. The HLM modeling shows that regarding the U-shape style model 1 shows not a significant improvement over the null model (Δ-2LL = 0.15, n.s.). So the U-shape style does not have a significant influence on the engagement of the employee (E = 0.03, SD = 0.07, n.s.).

Hypothesis 9b and 9c cannot be tested because the measurements on the steady pacing style and the deadline pacing style were not reliable; these variables showed very low Cronbach Alphas.

Influence of the individual resources on engagement

Social support – engagement

Hypothesis 10a suggested that when employees receive higher levels of social support from their co-workers, this in turn will lead to higher levels of engagement. In this case Model 1 with the independent variable social support co-workers included did give a marginal significant improvement (Δ-2LL = 3.22, P<0.10) and (E = 0.20, SD = 0.11, P<0.10). Therefore we can see that the hypothesis 10a is supported with alpha < 0.10.

Hypothesis 10b suggested that when employees receive higher levels of social support from their supervisor(s), this will in turn increase employee engagement. In contrary to this hypothesis, Model 1 did not show a significant improvement over the null model. There is no influence of social support from the supervisor(s) on the engagement of the employee (E = 0.06, SD = 0.11, P<0.10).

Temporal leadership – engagement

Hypothesis 11 suggested that when the supervisor shows temporal leadership, this means showing leadership behaviors leader that aid in structuring, coordinating, and managing the pacing of task accomplishment within a team, this will have a positive influence on the engagement of the employee. Model 1 showed a significant improvement over the null model (Δ-2LL = 7.58, P<0.05). One can thus conclude that temporal leadership has a positive influence on the engagement of the employee (E = 0.16, SD = 0.06, P<0.05).

Additional analyses

Besides testing the hypotheses I have done some additional analysis in order to find possible remarkable other relationships between the various variables. The most important analysis is included in this section.

Moderating influence resources on time pressure – engagement. As an additional analysis I also tested possible moderating influences of all resources on the relationship between time pressure and engagement. The only moderation effect that was found was the negative marginal moderating effect of autonomy on the relationship between time pressure and engagement (E = -0.14, SD = 0.07, P<0.10).

In Table 2 one can see a summary of the results in terms of a list of the hypotheses with including the result on them. Time pressure has no direct influence on individual effectiveness. This relationship is not moderated by engagement. Though, engagement has a direct positive influence on individual effectiveness. Regarding the resources, autonomy, feedback, prevention and temporal leadership all have a positive highly significant influence on engagement. Moreover, goal clarity, promotion focus and social support co-workers have a marginally significant influence on employee engagement. There is no influence of self-efficacy, U-shape style and social support supervisor found on employee engagement. Table 2 shows that the steady style and deadline action style were not testable. In this thesis this means that I could not do analyses with those variables because the variables were not reliable (Cronbach Alpha below 0.60). I wrote 'opposite' in the table to mention that I expected a negative relationship between prevention focus and individual effectiveness instead of the proved positive relationship. The estimate ß indicates the size of the effect; i.e. how much the dependent variable will change when the independent variable changes 1 point. The standard deviation (SD) is also shown in Table 2.

In Figure 5 one can see the variables in bold to be significantly positively influencing engagement and the variables not in bold be marginally significantly positively influencing employee engagement.

| Independent	Dependent	Moderator	Estimate (ß)	SD	Hypothesis	Result
Time pressure	Individual eff.				1	Not supported
Engagement	Individual eff.		0.46	0.06	2	Supported
Time pressure	Individual eff.	Engagement			3	Not supported
Autonomy	Engagement		0.19	0.07	4	Supported
Feedback	Engagement		0.16	0.08	5	Supported
Goal Clarity	Engagement		0.16	0.09	6	Marginal
Self-efficacy	Engagement				7	Not supported
Promotion	Engagement		0.18	0.10	8a	Marginal
Prevention	Engagement		0.26	0.13	8b	Opposite
U-shaped	Engagement		0.03	0.07	9a	Not supported
Steady	Engagement		not available	not available	9b	Not testable
Deadline	Engagement		not available	not available	9c	Not testable
Social support co-workers	Engagement		0.20	0.11	10a	Marginal
Social support supervisor	Engagement		0.06	0.11	10b	Not supported
Temporal leadership	Engagement		0.16	0.06	11	Supported

Table 2: The results on the hypotheses
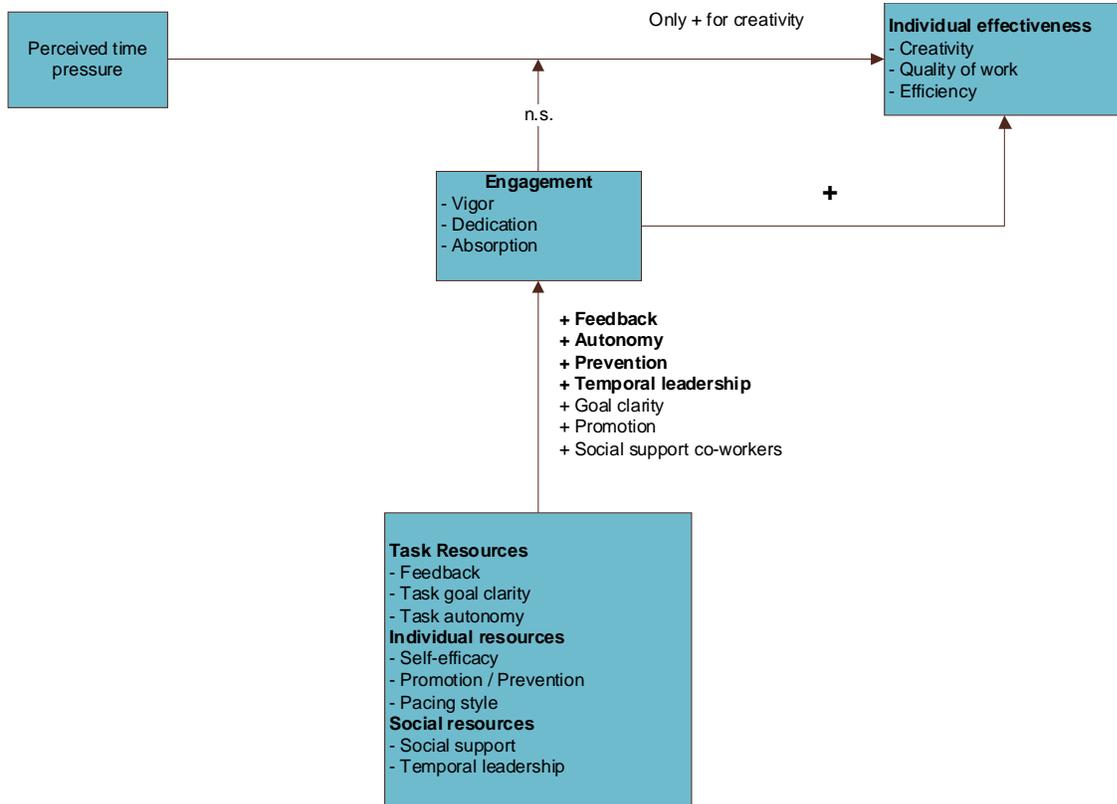
Figure 5: the effects of the variables on each other. In bold are the highly significant influences (P<0.05). The other influences are marginally significant (P<0.10).

7.   EES survey of Philips

The section will take a look at the yearly engagement survey (EES) of Philips. Philips uses a yearly engagement survey (EES) to measure the level of engagement within the company. In this chapter I will compare the academic way of measuring engagement with the way in which Philips does measure engagement. This survey has 48 questions and is given to all the Philips employees once a year to fill in. First, this section will explain the annual Engagement Survey in more detail.

7.1   Annual Employee Engagement Survey (EES)

 "We use the annual Engagement Survey to measure and monitor engagement at Philips by obtaining insights into issues confronting people in their daily work lives, so that people's needs remain at the heart of everything we do. Every employee on the Philips payroll receives individual username and password to the web-based or paper-based survey generated by our global survey partner Kenexa. Employees are asked to provide anonymous feedback on 48 items covering topics such as leadership, employment experience, involvement and inclusion, communication, market-centricity, sense and simplicity, sustainability, etc" (www.philips.com).
 "Using this survey, we derive the Employee Engagement Index (EEI), the single measure of the overall level of employee engagement at Philips - a combination of perceptions and attitudes related to employee satisfaction, loyalty, referral and pride. The EEI allows us to benchmark ourselves against the best-performing companies worldwide and our own historical data. To enable us to establish comparisons with Philips KPIs and historical scores, employee engagement in 2010 will be reported as it was last year with two indices, one with and one without the pride concept" (www.philips.com).

7.2   Importance for Philips

Engagement seems to be a construct that is important and becomes even more important for Philips. Philips states (PowerPoint Jef Pauwels, 2010):

- We are sharpening our thinking on engagement at Philips
- We are adapting our reporting based on this thinking
- We are introducing possibilities for faster and more focused action planning and support for managers and HR.
- We are continuing to protect the integrity of the engagement survey process.

Moreover they mention that they rely on four drivers of engagement, which are universally recognized and respected according to Philips. Those four drivers of engagement are (PowerPoint Jef Pauwels, 2010):

- ➢ Trust and confidence
- ➢ Growth and development
- ➢ Work and balance
- ➢ Recognition and respect

7.3 The EES survey scale

The EES is a 48 item Likert scale for measuring engagement and it's drivers and all questions can be answered on a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). See Appendix D for the EES questions.

Philips uses the EES to find the level of engagement and to improve or maintain this level. EES results are by managers used to see how their department is doing on engagement. For the engagement drivers on which the department scores low, so called deep dives are conducted that need to result in actions to be taken in order to increase the level on those items. So, the EES is not only measuring engagement but also the drivers of engagement. It is measuring the drivers that are indicated by Kenexa (Report Kenexa, 2010). After the construct engagement is measured with three questions, other questions are used to describe the drivers of engagement. Moreover there are some general questions about the environment at Philips covering items such as sense and simplicity, market centricity, innovation, sustainability and people and leadership.

Engagement is measured by one question about the job satisfaction at Philips, one question about the commitment to Philips and one question about the advocacy to Philips. Nine items were found to be most likely influencing employee engagement in the department GBU – Controls. Those nine items come from either the universal engagement drivers or the Philips priorities. The nine items are as follows (Report Kenexa, 2010):

1. I am seriously considering to leave Philips within the next 12 months
2. The leadership of Philips has communicated a vision of the future that motivates me
3. I trust the leadership of Philips
4. I feel there is a promising future for me at Philips
5. My job makes good use of my talents and abilities
6. In my department, sense and simplicity is a driver in what we do
7. I am encouraged to come up with new and better ways of doing things
8. My manager helps me understand how my work links to the overall business goals
9. My manager has made a personal investment in my growth and development

7.4 Compare definitions of engagement

The EES is according to Philips very important to let the spirit "health and well-being" grow as part of the company's culture.

The definition of engagement that is used by Philips:
"*the extent to which employees are motivated to contribute to organizational success, and are willing to apply discretionary effort to accomplishing tasks important to the achievement of organizational goals*".

The academic definition of engagement that I use:
"*Engagement is described as a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption (Schaufeli et al, 2002). Vigor refers to high levels of energy and mental resilience while working and the willingness to invest effort in one's work. Dedication refers to a sense of*

significance, enthusiasm, inspiration and challenge. Absorption is characterized by being totally concentrated and happily engrossed in one's work, whereby time passes quickly and one has difficulties with detaching oneself from work" (Bakker et al, 2005).

Breaking down the definition of engagement that Philips uses into sub aspects gives the following two constructs:

- Motivation
- Willing to apply discretionary effort in order to be of as much as value as possible for the organization

The aspect of the definition from Philips about willingness to invest discretionary effort can be headed under the academic engagement aspect vigor. The motivation aspect of the definition of Philips can be headed under the academic aspect dedication of engagement. The main difference is that the academic definition of engagement contains the element of absorption. Absorption, as mentioned, is characterized by being totally concentrated and happily engrossed in one's work, whereby time passes quickly and one has difficulties with detaching oneself from work (Bakker et al, 2005). The conclusion is that the two definitions are quite similar; the academic definition is just defined more carefully and in more detail.

For this thesis a goal was to compare the results of the EES 2011 with my measures. Because it was not possible for me, due to confidentiality issues, to get detailed information from Kenexa about which construct exactly is measured by each item, I was limited in statistics for the comparison between EES and my survey.

In the next sections I will report on what the value of the EES survey is for the present thesis. Although the definitions of engagement that are used by EES and by me are quite similar, the survey items are far from similar. Because of this it is not wise to try to compare the EES scores with the scores of my thesis. Therefore, I will look at the nine items in the EES survey that according to Philips correlate the most with engagement. I will especially look at the questions that scored low values. Then I am able to determine on which areas, according to EES, Philips Controls can possibly still improve or build on. By determining these areas I will also take into account the results I found in this thesis and my own opinion.

7.5   Scores on engagement and the nine drivers of engagement

All scores are gathered from the EES Report of 2010 (Report Kenexa, 2010). Employees score high on engagement (Figure 6). 76% scores favorable or highly favorable on engagement. Only 1% is highly unfavorable and only 11% is unfavorable.
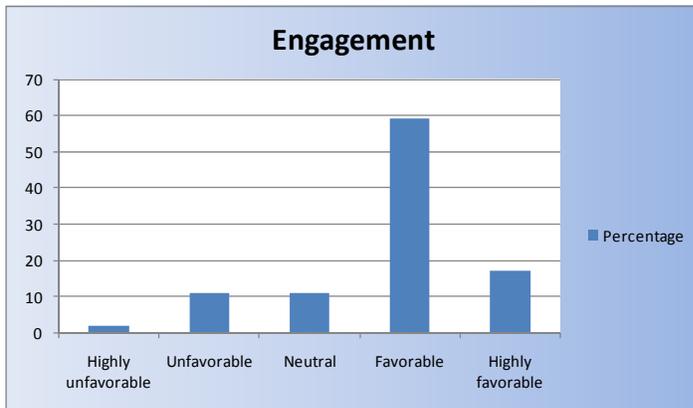
Figure 6: EES score on engagement

Regarding the nine engagement drivers, the highest score is on not leaving the company. Employees seem to be satisfied at Philips and do not have the need to leave this company. The other scores are all not too much different from each other. It is wise to look now at the percent of unfavorable opinions on those other engagement influencers.

Figure 7 provides an overview of the EES results on drivers with relatively low scores. The figure shows that:

- The lowest score is on the opinion that sense and simplicity is a driver in what we do. 38 percent is unfavorable on this one and 5 percent even highly unfavorable (Figure 7a).
- 10 percent is unfavorable and even 5 percent highly unfavorable regarding trust in the leadership of Philips (Figure 7b)
- 14 percent is unfavorable about that management helps to understand how the work is linked to the overall business goals (Figure 7c).
- 10 percent is unfavorable about that there is a promising future for him or her at Philips (Figure 7d).
- 10 percent unfavorable about that leadership has communicated a motivating vision for the future (Figure 7e).
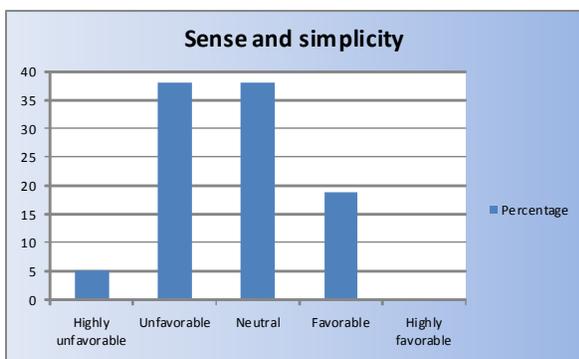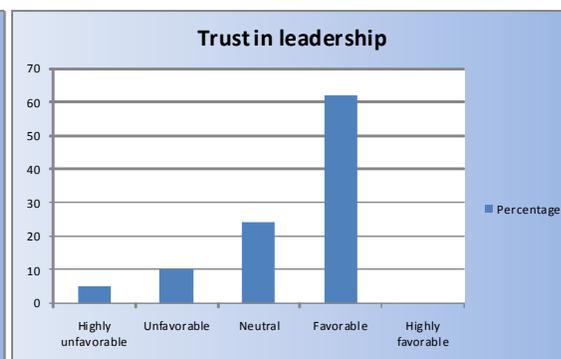

Figure 7a: EES score on sense and simplicity

Figure 7b: EES score on trust in leadership
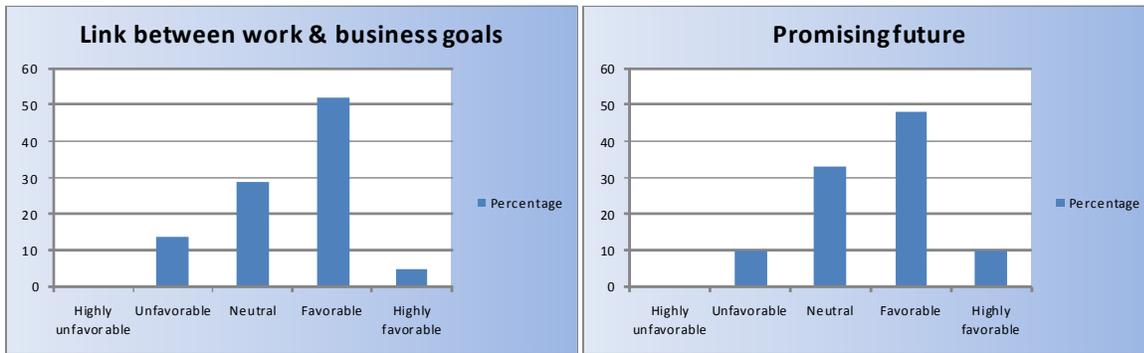
Figure 7c: EES score on link between work & business goal   *Figure 7d: EES score on promising future*
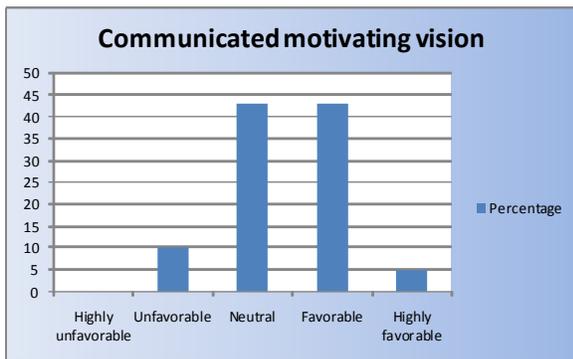
Figure 7e: EES score on link communicated motivating vision

7.6   Conclusion

From the above it is clear that also according to scores on the EES, engagement levels of 2010 are quite good with 76% favorable or highly favorable. For the results in the graphs above, Philips could decide themselves what to do with it. I can see that there is some space for improvement. Nevertheless, I have not conducted the EES survey and have not the detailed data so I cannot give a reliable conclusion on the EES scores.

8.   Discussion

This part of the thesis focuses on the results of the quantitative analysis presented in the results section. This chapter will moreover also elaborate on the contributions and limitations of this research.

Within Philips Controls most employees work in sprints on projects. There is a strong pressure on speed of innovation within Philips. For example, the time to market of products and development cycles become shorter and shorter. Within Philips, as in most companies, the employees are the most valuable assets. If the employees perform, Philips is able to perform too. With this thesis I looked primarily at the relation between perceived time pressure and individual effectiveness, at the influence of engagement on the relationship between perceived time pressure and individual effectiveness and most important for Philips at the variables that have influences on employee engagement.

The research questions were as follows:

1) *How is perceived time pressure related to individual effectiveness?*
2) *How does engagement influence individual effectiveness?*
3) *How does engagement influence the relationship between time pressure and individual effectiveness?*
4) *How do individual, task, and social resources influence employee engagement?*

The first research question can be answered with the finding that time pressure is only to a small extent related to individual effectiveness. The only relationship between time pressure and individual effectiveness that was found was the positive influence of perceived time pressure on creativity. There was no direct influence found of perceived time pressure on the overall individual effectiveness. A very important finding was that the results showed that engagement had a significant positive influence on individual effectiveness and on each of the components of individual effectiveness (second research question). So employees who have higher levels of engagement on average perform better than employees with lower levels of engagement. Contrary to the expectations, engagement did not prove to be a moderator on the relationship between perceived time pressure and individual effectiveness (third research question). Known that engagement is important for individual effectiveness, important results were that resources were found that are related to employee engagement (fourth research question). The task resources feedback and autonomy showed a highly significant positive influence on engagement and goal clarity a marginal significant positive influence. The individual resources that had a positive influence on engagement were promotion focus (marginally) and prevention focus (highly significant). Of the social resources, social support from co-workers (marginally) and temporal leadership (highly significant) were positively related to employee engagement.

Only creativity influences by perceived time pressure

For Philips it was important to understand how employees react to different levels of perceived time pressure. The absence of a direct effect on the overall performance could mean that there are other resources that explain why some employees perform well and some perform worse under certain levels

of time pressure. Moreover it could be the case that in innovative environments like at Philips, where time pressure is always part of the job, individual effectiveness is not influenced by time pressure. Maybe time pressure influences individual effectiveness in other work settings. The goal of this thesis was to look whether engagement influenced the relationship between time pressure and individual effectiveness. As mentioned, engagement had no moderating influence. A possible explanation for this can be that individual characteristics, other than the ones used in this research, are possible moderators on the relationship between perceived time pressure and individual effectiveness. It is also possible that engagement can moderate the relationship between perceived time pressure and individual effectiveness when individual effectiveness was measured differently. For example if individual effectiveness was measured more on productivity instead of quality, creativity or efficiency. For Philips it is interesting to know that when time pressure goes up this has a positive influence on the creativity of the employees. Of course, one needs to be careful with high to very high levels of time pressure (Nordqvist, 2004). The present thesis could not measure the effect of very high levels of time pressure on performance. The time pressure at Philips was on a moderate level (3.0) which can be seen as somehow remarkable because most of the employees are always under some time pressure because they are working with short and strict deadlines. But employees could be used to deadlines which could avoid high perceived time pressure.

Engagement as a core value

Philips considers engagement as a key driver in the organization. This thesis confirms the importance of engagement. According to the results, engagement is of positive importance for the overall individual effectiveness and for each of the components of individual effectiveness separately. When employees are more engaged at work they will on average be more creative. For an innovative company like Philips, creativity is a constraint to have success. New products have to be developed and thus new ideas need to be generated. Engaged employees are important for those aims. This research shows that engaged employees deliver also higher quality of work and they work more efficiently. Especially in these days the importance for innovative companies to excel lies in developing and producing high quality products that are new, have competitive prices and have short times to market.

Managing engagement

The most important deliverable of this thesis for Philips was to show how engagement is influenced by the examined resources. This research identified a number of important resources that positively influences engagement.

Task resources related to engagement

Employees who are more autonomous are more engaged in their work. This could be explained by the findings of Kappelman and Prybutok (1995) that higher levels of empowerment positively influence the motivation of the employee because they decide how to deal with the challenges which helps them to stay motivated. It could also be true that because the employees have more freedom to decide how to go about the work, this turns into being more dedicated to the work because they more or less created

their own work. This could also lead to higher levels of energy and concentration to do well at the task. Freedom at work is thus important for the employees at Philips.

Second, effective feedback proved to be an important prerequisite for engagement. In line with Locke and Latham (1984) is that they state that employees who receive effective feedback understand better how to perform effective and which strategies and tactics can be used in the work. The consequence is that employees put more effort in their work because they are motivated to deal with the received feedback. Because the motivation of the employee becomes higher, engagement does too.

Third, goal clarity also seemed to be an important prerequisite for engagement. For this positive effect of goal clarity on engagement the same reasoning as for feedback holds; when the goals become clearer and employees understand what they have to achieve, they will become more motivated to put more effort in the task which elevates the engagement. As Locke and Latham suggest, setting goals often also means setting deadlines. These deadlines provide directions for employees and increase motivational forces. It could be the case that more goal clarity leads to more goal commitment which in turn increases the efforts that employees put into work.

Individual resources related to engagement

Besides the important task resources, there were also some individual resources that had an impact on engagement. The present thesis has shown that a prevention focus and a promotion focus have a positive influence on the engagement of the employee. They both have a direct positive influence on the engagement of the employee. Remarkable though, is that prevention focus lowers the individual effectiveness, while a promotion focus increases the individual effectiveness. A possible explanation for this finding is provided by Wallace and Chen (2006) who state that promotion focus and prevention focused employees are both dedicated to their work but are dedicated to a different focus. Promotion focused employees are dedicated to reach a high productivity, while prevention focus employees are dedicated meet project requirements without taking too much risk. Relating the findings to Philips, it could mean that prevention focused employees do not like taking risks and try to keep the work the same and do not go much out of the usual thinking. Prevention focused employees are often perfectionists and look at the details of the work (Wallace and Chen, 2006). Promotion focused employees at Philips are challenged by new ideas, like to be creative and are not afraid of taking risks and thinking "out of the box". Prevention focused individuals are engaged in the perfectionist way of working that does not easily deliver new and better ways to deal with the work and is resulting in maintaining or even decreasing quality levels instead of improving quality by for example trial and error. They act less creative because they try to deal with work in a conservative way. On both focuses, the employees in this research score moderate to high (promotion 3.4 and prevention 3.6). In the managerial implications I will further elaborate on what these scores could mean for Philips.

Social resources related to engagement

Next to important task and individual resources I also found two important effects regarding social resources on engagement. This thesis found that when employees gave each other social support this had a positive influence on the engagement of the employee. Social support is thought to be stimulating

job satisfaction and goal fulfillment (Nordqvist et al, 2004). The aspect of job satisfaction could explain why engagement is being influenced by social support from co-workers. An obvious finding was that social support from the supervisor had no influence on the engagement of the employee. There is no straightforward explanation for this result. However a possible explanation is that the perceived social support basically is determined by the social support from the co-workers and not that much by the social support of the supervisor.

Temporal leadership was found, as in line with the expectations, to be influencing the engagement of employees in a positive way. An explanation that is based on the work of Mohammed and Nadkarni (in press) can be that when the leader or supervisor makes clear which resources can be used during the work, when the deadlines are, how the planning is established, what the project's milestones are and et cetera, the employees will get more dedicated to their work. More dedication means more engagement and will increase the effort of employees that they put in the work tasks.

Unexpected

Some resources did not tie up to the expectation for enhancing engagement. These resources are pacing style and self-efficacy. As mentioned, only the measurement of U-shaped pacing style was reliable enough to do analysis with. Contrary to the expectations, an U-shaped pacing style had no influence on employee engagement. At Philips most teams use a SCRUM approach to schedule activities in the sprints of the projects. The employees follow a strict planning and often they work together on planned activities. It is nearly impossible to give space to your personal pacing style because of the strict and detailed activity planning.

The employees in this research showed that they all believe in their own capabilities (4.0). Nevertheless, self-efficacy was found to be not relevant for the engagement of the employee. This is remarkable because conform the findings of Nordqvist et al (2004) higher levels of self-efficacy will mean that employees are more motivated and persistent in their efforts, because their believe in themselves helps them to perform well. There could be a context related issue here that resulted in a not significant result. This is because the variability in self-efficacy values found in the data is very low (1.25) and all self-efficacy values are between 3.375 and 4.625 (on a scale of 5). Possibly one can see an effect on engagement in a more diverse pool of employees with both high and low self-efficacy levels.

Other remarks

Additional analyses showed that engagement also not moderates the effects between time pressure and each of the dimensions of individual effectiveness; creativity, quality and efficiency. Remarkable is that creativity on average has a significant lower value than quality and efficiency have. It is not clear how this can be explained. A possible explanation is that creativity does not get higher because of a combination of factors: the goal clarity is high and the prevention focus is moderate to high so the employees clearly understand the goals of the project(s) and what to do and they do not like too much uncertainty and risk. Because of these issues employees are not triggered to do their work in an original and uncertain way.

8.1   Theoretical implications

The findings of this study might prove suitable for future research. An important new finding in this research is that engagement proved to be positively influencing individual creativity. Creativity is important in the innovative world of these days and therefore is it relevant to know that engaged employees score higher on creativity.

This thesis in particular aimed at finding factors that influence employee engagement. Some factors are found to be influencing engagement. Further studies should possibly look at more resources that influence engagement in order to create an integrating approach; an approach whereby different variables that are also proven in other studies to be influencing engagement are all examined in one study. In a study like that, it is also more useful to look at moderating and mediating effects between the significant variables. This thesis did not find a moderating role of engagement on the relationship between time pressure and individual effectiveness. Possibly engagement is a mediator in this relationship. Future research should examine this possibility.

Moreover there is still additional research needed to find out how the relationship time pressure – individual effectiveness works. There is no linear direct relationship but future studies might try to prove non linear relationships. Future studies also should look at more resources that could eventually moderate or mediate a relationship between time pressure and individual effectiveness. In this thesis I did research on employees that were divided over lots of different teams. Employees often worked in more than one team at the same time. Therefore I did research on the individual level. It is interesting for future research to also do research on time pressure, engagement and individual effectiveness on the team level. By doing this research one can examine how engagement and time pressure within a team change over time and recommendations could follow on how to manage engagement and time pressure within different teams and departments. Future research should also try to focus on the findings of the present thesis and try to let more people participate in the research so that the statistical power becomes larger which makes the research even more reliable.

8.2   Limitations

Like all other studies, this study also has some limitations. An important issue to mention before explaining the limitations is that the sample size was relatively small with 29 persons. It was enough to do statistically valid research.

An important limitation is that because the sample size was small combined with large number of tests, there is a chance that some relationships might have been significant by chance or not significant by chance. This would be more likely possible for the relationships that only had significance on the 0.10 Alpha level. When relationships were only significant at the 0.10 level I used the classification marginally significant in this thesis. A marginal effect gives a less reliable estimation of the size of the effect. Moreover it would have been better for the research if all variables had scores with a high range. So that I would have also been able to examine influences in situations of very high and very low time pressure and for example in situations where employees have disbelieve in themselves or have not any autonomy.

Because all employees worked in the same department there is a high level of homogeneity. The employees know each other; a lot of them work sometimes together. It can be assumed that because of this there is a possible dependency between all of the employees. This makes it less likely that the range of variables is high and that employees are answering totally different things on the task resources and social resources. And this makes it in turn less likely that large effect sizes are found.

There could be an issue regarding the generalizability of this study. It seems possible to generalize this study to other NPD contexts, but the results may be restricted to the kind of business the company is in. In the software business like here at Philips nearly everyone is male. Only 1 of the 29 participants of my research was female. In other businesses it is often the case that there is a significant part of the employees female. It can be expected that females score a lot differently on certain variables and this could have an influence on relationships found between variables.

Another limitation is that of the type of modeling. In this thesis relationships were tested step by step with the use of analyses in SPSS. The ideal situation would be to test the research model at once instead of testing all the relationships separately. As already mentioned in the theoretical implications, future research should look at an integrating approach of drivers of engagement and should look also at team level to the relationships between various variables. So that future research can also differentiate on teams and see how team dynamics play a role in engagement, perceived time pressure, individual effectiveness and in the relationships between them.

The survey research contained a relatively small sample size (N). Because of this, the statistical analyses had not a very high power. This means that the founded relationships could probably have higher effect sizes than that I have found.

9.   Managerial implications

Until now I have focused on the theoretical research model. I have structured the model and investigated within Philips Controls a group of employees in order to try to find relationships between the variables in the model. I have analyzed the data from the survey investigation, found some interesting results and discussed them in the previous chapter. The managerial implications mainly will be derived from the remarks in the discussion. After developing possible recommendations I have spoken with some employees within Philips Controls to look at the feasibility and quality of my recommendations and to let them think about the results I found and propose recommendations. After that I developed the recommendations that are stated in this chapter. I have also used the chapter about EES to develop some of the recommendations.

The recommendations are divided into two groups. The build-on recommendations are given on the topics on which Philips Controls already scores high and where not much improvement can be reached anymore. But for these topics or variables it is important to keep them at a high level because they have a positive influence on engagement and/or performance. The other group of recommendations has been called the improve recommendations. These recommendations are about the topics or variables on which Philips Controls scores not that high yet; here is much improvement possible. The two groups of recommendations together will help Philips Controls to improve where needed to manage the level of employee engagement. For each variable I first explain what the theory suggest on how to improve on it, then I try to relate the variable to the work place at Philips and then I come up with implications for improvement. For the most important implications the CIMO logic is used. The CIMO logic shows in which context (C) a certain intervention (I) is causing an outcome (O) trough mechanism (M).

How is Philips Controls doing according to this thesis?

In this section I will in short indicate how well Philips Controls is doing on engagement and the drivers of engagement. Philips Controls scores quite good at engagement with a score of 3.4. According to the results it is possible for Controls to further improve the engagement levels. On the variables temporal leadership, feedback, social support and promotion/prevention focus is the most effective improvement possible. This thesis enables Philips better to manage the engagement level by knowing which variables have an influence on employee engagement. In short one can say that Philips Controls is doing quite well on engagement, although by understanding the discussion and the managerial implications below, Philips Controls is better able to manage employee engagement.

9.1   Improvement recommendations

The variables in this section are dealt with in order of importance; from most improvement possible to less improvement possible

Temporal leadership

In this study temporal leadership was found to have a relatively low level (2.70) but proved to be important for engagement; so it is important to stimulate temporal leadership.

To improve temporal leadership there are in general three important issues mentioned in the literature. Firstly, the employees should receive temporal reminders about for example deadlines and appointments (Mohammed and Nadkarni, in press). Secondly, the team must be synchronized so that they all within the team know that they are on the same "track". Synchronizing the team means regulating the flow of the task, improving coordination between team members and adjusting individual work cycles (Mohammed and Nadkarni, in press). Thirdly there must be built-in contingencies times in the project (Mohammed and Nadkarni, in press). After doing some interviews, it seems that at Philips the use of temporal reminders is done in a good way by using SCRUM practices and that the teams are in general well organized and synchronized. Employees mention that there is improvement possible on the area of built-in contingencies. Most of the projects are planned in too short time slots. In the project planning, there is too little time planned in for unforeseen circumstances. There is only accounted for small portions of slack time for sickness and holidays of employees and some rework. It is often the case that only 10% is really planned in for unforeseen circumstances. In reality this seems to be insufficient. According to the employees the slack time would be around at least 30%. The main reason why projects are planned in so tight is a strategic one. At the beginning of a project nobody knows exactly when the project will be finished. It is not an advantage for customers if they hear that they have to wait a long time before the development of a certain project is finished. Moreover Philips tries to do as many projects as possible with the employees they have. This means that the projects need to be scheduled in such a way that it fits with the schedules of the employees. This leads to situations in which projects do not that often expire the due date and that employee time can be used more efficiently. To increase the level of temporal leadership and thus to increase engagement it is needed that there is more contingency time built in the projects, so that more time is planned in for unforeseen occurrences. The importance of more built-in contingencies needs to be stated by managers of higher levels. They moreover need to make sure that projects can be planned in with more contingencies, for example to allocate more resources and budget to projects or to skip some projects if possible. This is easier done than said. Planning in extra slack time causes that it seems that more budget is needed. Philips should examine whether more slack time in the end also leads to financial benefits. A problem that Philips could also face while scheduling with more slack time is to keep the employees working. Philips must avoid that the time pressure decreases too much and that employees get too less to do. I think this will not be a large problem because the employees within Controls often work with the SCRUM method, that optimizes the work flow trough short term reflective cycles. Moreover they work in sprints which means that they have always short termed small goals and deadlines which keep them intensively working.

The main implication is to built in more slack time (I) into projects that have a high degree of uncertainty (C) in order to be better able to (re)schedule activities and synchronize the team (O) through the possibilities of reacting on unexpected occurrences during the project (M).

Feedback

Feedback showed a positive influence on the engagement of the employee. It is thus important to look at the effectiveness of feedback. This is exactly what the article of (DeNisi and Kluger, 2000) is doing.

They argue that it is most important to have feedback that is understood by the employer and that the supervisor gives directions of improvement to the employee.

The level of feedback in the study is not that high (3.05). Feedback must be seen on a general level. Supervisors and managers give their subordinates feedback, but employees also give each other feedback; often on a more informal basis. It would be beneficial if the level of feedback within Controls would further increase. To increase the effectiveness of feedback, as mentioned by DeNisi and Kluger (2000, it is important to think about how to effectively give feedback. In the management article (Kachelski, 2010) some best feedback-giving practices are mentioned. Give task-level motivational feedback, describe poor performances in behavioral terms, focus on specific, controllable behavior, ask employees for improvement suggestions, give negative feedback in private, use effective timing, compare employee performance to standard, not to others and use a feedback script to consistently explain the feedback and indicate the performance. Supervisors and also employees who give (each other) feedback should be aware of the above remarks regarding feedback. Moreover they should have the following issues in mind while giving feedback (Craig, 2008): be clear, emphasize the positive, be sensitive, suggest ways to improve, stay objective. Moreover understand who you are giving feedback to and adapt the feedback style, be precise and provide concrete examples, ensure that you are seen as credible, feedback needs to be directed towards the future with realistic goals.

Interviews in combination with the data analysis showed that there are some items on which the feedback within Philips Controls can be improved. Sometimes feedback is directed too much on the personal level instead of on the task level. Moreover employees sometimes need to be triggered more to come up with improvement suggestions and own ideas. The advice is for everyone who gives feedback to keep the feedback to the task level and to trigger employees to come up with own ideas. It is quite difficult to let employees be participative in idea generation. According to the interviews, it does not work when there are too little possibilities to do that. In that case employees do not feel to be of high importance and do not think that they have much added value. On the other hand, when there are too many opportunities to participate in idea generation, employees get 'tired' of the meeting culture and get overwhelmed by ideas and suggestions by others. Moreover it is important to ask employees in small groups or even in private to share their ideas. When employees are asked to give their opinion in large conferences or meetings they are more resistant to tell what they think and to share ideas they have with others.

Besides the importance for supervisors and managers of ways to give feedback, ways to handle received feedback are mostly important for employees. It is important for employees who receive feedback to separate hearing the feedback and taking action; employees should first listen to the feedback, try to understand it and see feedback as a gift before thinking whether to take appropriate action or not. Many people in general act defensive when they receive feedback because they do not distinguish feedback from action (Blanchard, 1998). When one receives feedback it is important to carefully listen to the sender and do not interrupt him or her when speaking. Seek for examples of the behavior that is at issue and try to understand the feedback. When an employee receives feedback it is not a problem to share his or her feelings with the sender of the feedback. This can lead to a better mutual understanding of the feedback. For employees it is important to stay relaxed when receiving feedback. The one who

receives the feedback is the one who can determine what he or she can do with the feedback and how the behavior can be changed (Porter, 1982).

In the context in which the feedback should be task related (C), one can by giving only task related feedback (I) make the feedback more effective (O). This is caused by the mechanism that when task related feedback is given, employees feel valued and not personally attacked (M).

When employees are asked for their ideas or opinions about certain issues (C), set up a required amount of meetings or appointments with a small group of employees (less than 10 to 15)(I) in order to cause a situation in which employees are willing and dare to give their opinion and discuss their ideas. This is because employees feel more free to give their opinion in a small group (M) and they appreciate it when the meetings occur not too often and not too less (M).

<u>*Social support co-workers*</u>

The social support of co-workers had at Philips Controls an average score of 3.42 which is moderate to high. Nevertheless, it is important to find ways to further improve this level and/or to keep the social support from the co-workers at least at this level because social support positively influences employee engagement.

In the article (Nagurney et al, 2009) it is mentioned that social support consists of three elements, namely emotional, instrumental and informational. Emotional support involves the communication of understanding and concern, instrumental support involves the offer of tangible and concrete aid, and informational support involves the provision of guidance or advice (Helgeson & Cohen, 1996).

In a work environment where employees help each other with task and relationship issues, listen to each other and understand each other, the engagement will benefit. An important issue that is mentioned often by Philips employees is that they are satisfied with the support as it is now. Employees within the business unit Controls are very technical persons and they, on average, do not feel the need to receive high levels of emotional social support. The levels of instrumental and informational support are already high, according to the employees I interviewed. During the interviews it was mentioned that sometimes employees are for a long duration during a project under high levels of time pressure. In those cases it could be beneficial for the employee to receive some extra (emotional) social support, of the kind that other employees show understanding for his or her situation and show their concern for the well-being of that person. It can be useful if management makes a statement in which they make clear that due to the demanding business, employees are sometimes under high time pressure and that this can lead to mental fatigue. And that it is useful if employees also invest time, especially in cases when others have this enduring stress, in the social relationship with their co-workers and in showing understanding of the demanding situation.

To employees who work with co-workers on stressful projects (C), a statement about the usefulness of social support in stressful situations should be made (I), in order to create an environment in which employees besides helping with the work tasks also help each other when employees are in problems

related to enduring stress or private issues (O). The mechanism that causes this is that employees become more aware about the usefulness of social support and will understand the usefulness (M).

<u>*Promotion and prevention focus*</u>

Promotion and prevention focus both have a direct positive influence on the engagement of the employee. An implication that deals with getting employees with higher promotion focuses and higher prevention focus comes down to a selection/hiring implication. Hiring or selecting on highly conscientious employees would be an option. Wallace and Chen (2006) found that conscientiousness is also the best predictor of performance and that conscientious employees regulate their behavior more effectively at work; they are more likely to engage simultaneously in both promotion and prevention strategies, which allow them to better optimize their safety and productivity performance. This has strengthened the claim for using conscientiousness as a valid individual construct on employee selection programs. But it is not the only implication to deal with the promotion and prevention focus. Managers should try to find a balance of focus in the teams on the work floor. For example when there are already a lot of promotional focused employees in a certain team, it would be wise to try to put also some prevention focused employees in the team. A manager should have that in mind while selecting a potential employee and allocating him or her to an existing team. From the interviews I can conclude that Philips is already using balancing principles. That is wise and this report makes this may benefit employee performance.

In functions and projects where both between prevention and promotion focused employees are needed (C), hiring and selecting employees in such a way that the project team is balanced (I) is needed to achieve team compositions that are balanced on risk taking, controversy and challenge (O). This is because diverse employees look at problems and solutions from different viewpoints which will result in a balanced set of ideas and solutions, regarding for example how much risk to take in the decision making, for a problem (M).

9.2   Build-on recommendations

The variables in this section are dealt with in order of importance of maintaining the high level on the variable.

<u>*Job autonomy*</u>

It is important that regarding empowering employees, management not only empowers the employee in deciding how to go about the work, but also provides the opportunities and resources to facilitate employees' learning and competence development so that they are enabled to perform better (Wang & Netemeyer, 2002). Because the freedom to go about how to deal with the work could go hand in hand with the motivation to develop knowledge and professional competence (Wang & Netemeyer, 2002).

Crucial to the effectiveness of empowerment is the need for clear and open communication. Companies with high levels of autonomy usually have the following characteristics. They invest a lot of their time and effort in hiring, to make sure new recruits can handle workplace freedom. Their organizational hierarchy is relatively flat. They set loose guidelines, so workers will know their decision making

parameters. Accountability is paramount, results are more important than process. There is always high-quality performance expected. Openness and strong and rich communication are encouraged. Employee satisfaction is a core value (Finegan, 1993).

Philips is scoring high (4.00) on job autonomy. This means that employees already have a lot of freedom in the work they do. The above stated conditions are all possibly already met at Philips. In the case that the level of autonomy will fall in the future, it is valuable for Philips to be aware of these conditions. Then they could investigate on those conditions and conclude where the problem of a fallen level of autonomy lies. It is important to be sure of the situation and to be proactively. It is therefore relevant to know about the following possible threats that could lower the level of autonomy.

I. Firstly, empowerment represents change, particularly to managers, who may resist relinquishing some of their controls to employees. Try to control if there are resistance problems during projects and make clear what level of autonomy is expected from the employees and teams. (Woodell, 2009).

II. Secondly, empowerment takes time, and management may not invest the resources and commitment required to ensure the success of the empowerment. If the department or part of it wants to change the level of the autonomy, make clear that the goal is reachable by making a planning and allocating enough resources to the managers and employees to be able to adjust to the planning (Woodell, 2009).

III. Thirdly, it could also be the case that the employees resist empowerment because they are used to follow orders, not collaborate or accept greater responsibilities (Woodell, 2009). Make sure that you hire the employees also on basis of their 'autonomy skills'; are they capable of dealing with different levels of freedom.

Resulting from the interviews, employees agreed with the above threats and they agreed that Philips Controls needs to be aware of those threats and try to avoid any situation that can hurt the freedom that employees have.

In the high autonomy environment as it is now (C), evaluation of possible threats of autonomy as mentioned above (I), will cause that through monitoring whether there will exist weaknesses regarding autonomy and determining whether the threats are realistic (M) ensure that Philips is able to manage the autonomy level in the organization (O).

Self efficacy

The levels of self-efficacy within the business unit Controls are already quite high (3.86). Self-efficacy is a personal construct. It is important to keep that one high because it has a positive influence on the individual effectiveness of the employee. In the article (Tai, 2006) managerial implications to higher or stabilize someone's self efficacy are mentioned. Managers can provide training related information, such as training attributes, a training environment, content complexity, and things like this. In the case of Philips Controls, management could try to provide employees who score low on self-efficacy with materials that show them their capabilities and train them to be not insecure but confident in

themselves. Philips is a company that uses employees of their own payroll but also hires employees from so called "body shops"; companies that outsource their employees to, for example, Philips.

As mentioned, training can increase the self-efficacy. The yearly formal feedback sessions can help with finding the appropriate training for the employee at Philips. In this personal conversation, the supervisor can together with the employee decide on which skills the employee needs to develop further. There are two main skills on which the supervisor focuses; technical skills and soft skills. The technical skills are the skills that are the easiest to develop, because the employee is thought to be capable to improve those skills and technical skills are concrete. Soft skills, which may be as important s technical skills are skills that are more abstract and difficult, sometimes even impossible, to be successfully acquired. For example, some employees at Philips need to negotiate with others about prices, milestones or processes. Negotiation not only requires knowledge but also social and communicative skills. Training on both skills will be assumed to be beneficial for the self-efficacy. The training must build on the strengths of the employee and must also try to lower the weaknesses. This challenges the employee, and will mot likely increase the self-efficacy.

In cases in which the supervisor and the employee agree that the self-efficacy of the employee is an issue or problem (C), training on some of the technical or soft skills that are important at work (I) could increase the level of self-efficacy trough the mechanism that training shows the capabilities of the employees which makes them more confident about themselves (M).

Goal clarity

Goal clarity was also found to be positively influencing engagement. The level of goal clarity is already quite high (3.80). It is important for Philips to keep the goal clarity this high or even higher.

This means that for the projects that are done at Philips Controls, the employees must be informed in such a way that they understand what they are supposed to do on the job. Moreover they should have clear and specific goals to aim for and know which goals are the most and least important. It is the goal for Philips to keep the goal clarity high. An important issue resulting from the interviews was that in some projects the goals are not always clear in the beginning phases. In those phases the requirements of a job are often not known and not (totally) specified. It is not always clear for all employees that the goals and specs of a project are unknown when they are unknown. This is a case in which the employees together should make each other clear what the status of the project is and they should then also talk about the clarity of the goal.

When the goal clarity in a project is not that clear (C), team meetings should be held to discuss about the parts of the goal(s) that are not clear yet (I). This will result in a situation in which the employees all know the clarity of the goal and that they also agree on the level of uncertainty of the goal (O). Through talking and discussing about the goals, employees can create a collective understanding about the goal clarity (M).

9.3   Evaluation

All previous recommendations try to manage engagement. Some of the recommendations are points of awareness and some are also points of action. For example, the recommendations given on autonomy are mostly to create awareness on how to be able to increase autonomy when the autonomy level would drop in the future and to understand what the possible threats to autonomy are. On the other hand, the given recommendations on temporal leadership can be seen as points of action. Temporal leadership scores quite low and it has benefits for engagement to increase this level.

Evaluation is an essential assignment in managing engagement. It is important for managers to once in a while check on the 'level' of engagement. The yearly EES measurements can provide help. It is worthwhile to evaluate on the actions taken in the past and try to understand what the effects of the actions were. This report gives recommendations for which actions will have a positive effect on the drivers of engagement. The task for the manager is to improve on knowing how to manage engagement effectively by evaluating on the results of the taken actions.

Concluding, the most important suggestions were on how to increase the levels of temporal leadership, feedback effectiveness, and social support between the co-workers. Also on the point of finding a balance between promotion and prevention focuses employees, recommendations were done. Figure 8 gives a schematic overview of the scores of Philips Controls at the different important resources on a scale to 5. It is clear that most improvement is possible on temporal leadership.
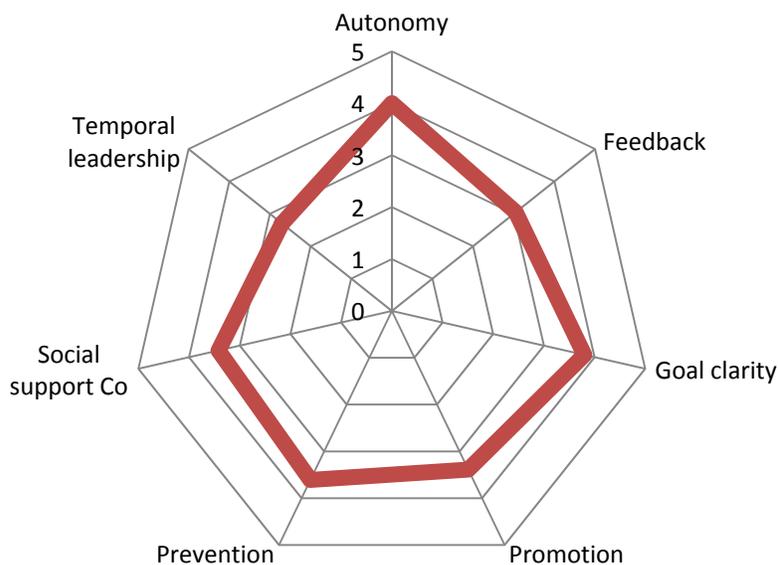

Figure 8: overview of scores on important resources

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