

MASTER

The new way of working

developing a tool to determine the impact of the New Way of Working on an organization

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Eindhoven, June 2015

The New Way of Working

**Developing a tool to determine the impact of
the New Way of Working on an organization**

by
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in partial fulfilment of the requirements for the degree of

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in Innovation Management**

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Preface

From the start of my master study, I knew I wanted to graduate at a company. This way I could use the theoretical knowledge I obtained for a practical use. It was not easy to find a suitable internship, until my mentor introduced me to Susan Smulders and Marianne Sturman from Money Penny BV. During our preliminary interview it was clear to me that this organization has a clear structure, goal and vision. Therefore I was very happy when Susan called me with the good news: from the 28th of August I am a graduate trainee at Money Penny Consultancy and Training. It was clear that the organization had a clear view on the internship, still they gave me the room to operate autonomously and they were open to discuss my findings in the literature. Therefore I want to thank Money Penny BV, and especially Susan Smulders, for the trust she gave me and the many things she taught me.

Secondly, I want to thank my university's supervisors Prof. Dr. Jan de Jonge and Dr. Sonja Rispen. Prof. Dr. Jan de Jonge is an interesting man with a lot of knowledge and some common interests like organizational psychology and sports. He taught me a lot about different elements of the study; he improved my English writing, he taught me some interesting insights in organizational psychology, the importance of rest during sports, and many more interesting facts. He gave me the feedback I needed, which helped me writing this master's thesis. Dr. Sonja Rispen acted as the second supervisor, I want to thank her for her feedback on the final version of this master's thesis.

Thirdly I want to thank my parents for giving me the opportunity to study at a great university. They provided me with autonomy and responsibility that led to the decision to change my study direction. And it actually gave me the pleasure and provided me with the challenge to complete my master study including pre-master as fast as possible, but obviously in the best possible way. I especially want to thank them for the interest they showed during my internship at Money Penny BV.

Finally I want to thank my best friend, my reliance, and the best girlfriend someone can ask for. She also gave me the freedom to do what I thought was best for my study. Although I sometimes (or always) was cranky to her during the exam periods, she kept motivating me to study hard and finish the course, with the overall goal to finish the master study. She showed me what can happen if you successfully finish your study and are able to keep working hard afterwards. Thank you for being the support and the example I needed.

Management summary

This report describes the graduation research of a master student Innovation Management at the faculty of Industrial Engineering and Innovation Sciences (IEIS) from Eindhoven University of Technology, The Netherlands.

This research was commissioned by Moneyppenny Training and Consultancy. Moneyppenny BV focuses on the New Way of Working (NWoW) or *Het Nieuwe Werken (HNW)* in Dutch. Because women in general, were decreasing their work hours (work part-time or quit after they gave birth), the organization started in 2000 as an agency that provided jobs for teleworkers. This way there was an opportunity for women to work from home, and consequently to not quit or limit their jobs. After a while it appeared to be that many people liked to work as a teleworker, and thus the organization did not only target on women who gave birth anymore. In 2007, Moneyppenny Training and Consultancy was founded. This department of Moneyppenny BV is a fast growing training and consultancy agency which guides other organizations to a successful implementation of NWoW.

The New Way of Working is a concept that needs some clarification. For that reason, this report gives some definitions that are used in different kinds of literature. It shows that journal articles, educational books, and reports generally mean the same concept but define NWoW in a different way. The three core elements of NWoW appear to be (1) result-orientation, (2) flexibility in workplace and worktime, and (3) increase in efficiency, effectiveness, and job satisfaction. In NWoW it is not important *how* a certain result is achieved, it is more important *that* a certain result is achieved. This corresponds to a flexible use of work times and work locations, which directly seems to influence employees efficiency, effectiveness, and job satisfaction. The definition of NWoW in this report is: "A result-oriented and innovative way of working that provides the employee with autonomy to work time and place independent in order to increase efficiency, effectiveness, and job satisfaction".

The goal of this research was to develop an instrument that can analyse NWoW and the impact NWoW has on an organization. Previously, Moneyppenny Training and Consultancy used a questionnaire that consisted of some general questions that were not theory-based. Therefore, Moneyppenny Consultancy and Training is in need of a well-validated, comprehensive, theory-based questionnaire that can measure NWoW and its assumed impact. In order to develop this instrument the main research question is: What are the main components of NWoW? These components had to be translated into measures consisting of important items. When the items or questions were developed, a second question that had been asked was: which items are valid and reliable to

represent a given measure? The last question focused on construct validity. Construct validity compares the results found in this research with the conclusions of known research.

A first and frequently used partition to implement NWoW is bricks, bytes, and behaviours. With bricks the housing and facility aspects are intended, bytes focuses on certain technology tools to communicate from distance, and behaviours is used to intend working behaviours and Human Resource Management (HRM). This model is not used by Money Penny BV because they do not believe the three elements are equally important. Money Penny makes a distinction between (1) people and organization (culture, communication, control, and skills), (2) work (tasks and processes), and (3) preconditions (ICT, work place, health and safety, and working conditions).

A second frequently used partition for NWoW is the distinction between people, planet, and profit. This corresponds to two types of organizations: Anglo-Saxon organizations and Rhineland organizations. The Anglo-Saxon organizations focus more on profit, while the Rhineland organizations focus more on people and planet. The literature has suggested that making profit can be achieved by decreasing costs or increasing revenue. In addition, the literature has suggested that an investment in people (satisfaction, motivation, health, etc.) will result in employees who are more effective, efficient, and have a higher job satisfaction. Because they are willing to put extra effort into the organization, these employees can provide an increasing revenue. In addition, the planet element focuses – in NWoW organizations – merely on a decrease of office space and efficient use of transportation. Due to the decrease in office space and the efficient use of transportation this might lead to a decrease in costs. Therefore it can be concluded that NWoW might be a good solution for both types of organizations.

This report concluded that there are eleven main components that might influence NWoW or are influenced by NWoW. Two constructs function as antecedents: the first component is 'personal characteristics'. This part analyses some important descriptives (especially for the research) like managerial position, age, gender, experience, and education. The second component is 'organizational characteristics'. This component exists of organizational identification and leadership. One component compares the values of the respondents with the values of NWoW. This third component describes the 'values of NWoW', which are autonomy, responsibility, control, and flexibility. And the remaining components function as consequences: the fourth component is 'collaboration in work situations', which merely focuses on information and knowledge sharing, communication, and a social factor. The fifth component is 'job performance', this component is split up in in-role and extra-role performance. In addition two items are added that measure qualitative and quantitative performance. The sixth component is 'job autonomy', while the seventh

component describes 'job satisfaction and work motivation'. The eighth component is the 'work-life balance', which consists of work-over-life and life-over-work. The ninth component discusses 'health in work situations', which consists of mental and physical health. The tenth component is 'work pattern', and the eleventh and last component is 'creativity in work situations'.

The goal of this master research was to develop a well-validated questionnaire that can function as an instrument to compare the scores before the implementation of NWoW, the scores directly after implementation, and the scores after a certain period of time. Analysis of these three measurement moments may lead to a conclusion about the impact of NWoW on the main components. The eleven mentioned components were operationalized into different items. The majority of the items was found in earlier, already validated, questionnaires. Though, some of the items were newly developed and therefore needed some extra attention during the validation stage.

To validate the developed questionnaire, the questionnaire was distributed to a client organization of Money Penny BV on the one hand, and it was published in the newsletter that was sent to 830 people on the other. The distribution resulted in a response of 98 people (response rate = 11.8%) before 26 February 2015. This date was set so the graduation process would not be jeopardized. The sample consisted of 40.8% men and 59.2% women. They were on average 46.8 years of age ($SD = 9.3$) and had 14.3 years' experience in the organization they are currently active ($SD = 10.9$).

The respondents filled out the questionnaire quite well, which led to only 156 missing values (1.4%). In addition, the data were checked on outliers. This resulted in the deletion of an additional fourteen items because they were seen as univariate outliers, and the deletion of respondent 23 as she was seen as a multivariate outlier.

In order to validate the questionnaire, firstly a uniformity check was executed, and secondly an internal consistency check was executed which used Cronbach's alpha and a correlation matrix to see which items had a negative effect on the measure. Thirdly, and lastly, a multidimensional analysis was executed to provide a final check if the items belonged to the mentioned measure. The distinction as made by Money Penny Consultancy and Training was used to group the components. This led to a grouping of the components 'values of NWoW', 'organization identification', 'leadership', 'collaboration in work situations', and 'job satisfaction and work motivation' in the people and organization group, the work group consisted of 'job performance', 'creativity in work situations', and 'work pattern'. And the preconditions group consisted of 'job autonomy', 'work-life balance', and 'health in work situations'.

This validation resulted in the deletion of five items. For the constructs 'personal characteristics', 'values of NWoW', 'organization identification', 'leadership', and 'collaboration in work situations' one item per construct was deleted. After this validation process a last face validity check was executed, which led to the deletion of another seven items (spread over the 'collaboration in work situations' (1 item), 'health in work situations' (3 items), and 'work pattern' (3 items) measures).

After the validation, the components were computed into constructs. The construct scores showed some striking results, it showed for example that flexibility in work is highly valued. The results also showed that the respondents were in general very satisfied with their leader, and another construct score showed that the respondents were in general very satisfied with their job. In addition the differences between the two respondent groups were analysed. Three significant differences were shown: the group that was familiar with NWoW scores significantly higher on 'values of NWoW', 'job autonomy', and 'creativity in work situations'.

In addition, the correlations between the different constructs were given. This resulted in 24 significant correlations. In line with the literature, only correlations of .40 and greater were discussed in detail. Especially the 'job satisfaction and work motivation' construct correlated highly with the other constructs. The results for example show that employees who valued the NWoW values highly, can identify themselves with the organization, have a charismatic leader, have the feeling they can work together with their colleagues, and have the feeling they are autonomous in their work are more satisfied and motivated.

The usefulness of NWoW is more and more acknowledged by management of organizations. NWoW is seen as a philosophy, rather than just a new office concept. This research shows that the developed instrument can be used in two ways: (1) as a blueprint that functions as a benchmark, and (2) as a comparison tool before and after implementation. The need for a tool that helps organizations with the implementation of NWoW is increasing as the number of organizations implementing NWoW is increasing. This research shows that the developed instrument fulfils this social need.

Contents

Preface	3
Management summary.....	4
1. Introduction	11
1.1 Moneypenny BV	11
1.2 The New Way of Working	11
1.3 Goal of the research and research questions	13
1.4 Report outline.....	14
2. Components of the New Way of Working	15
2.1 Component analysis	16
2.1.1 People, planet, profit	16
2.2 Personal characteristics.....	19
2.2.1 Managerial position	19
2.2.2 Age.....	19
2.2.3 Gender.....	20
2.2.4 Experience and education.....	20
2.3 Values of the New Way of Working.....	20
2.4 Organizational characteristics	21
2.4.1 Communication and trust	21
2.4.2 Leadership style	21
2.4.3 Reputation.....	22
2.5 Collaboration in work situations	22
2.5.1 Communication and knowledge sharing	23
2.5.2 Social factor.....	23
2.6 Job performance	24
2.6.1 Quality and quantity	24
2.7 Job autonomy.....	25
2.8 Job satisfaction and work motivation	25
2.8.1 Job satisfaction	26
2.8.2 Work motivation.....	26
2.9 Work-life balance	26
2.9.1 Work over family.....	26
2.9.2 Family over work	27
2.10 Health in work situations	27

2.10.1 Mental health.....	27
2.10.2 Physical health.....	27
2.11 Work pattern	28
2.11.1 Office	28
2.11.2 Transportation	28
2.11.3 Digitalization.....	28
2.12 Creativity in work situations.....	28
2.13 Reasons why the New Way of Working is not yet fully implemented	29
3. Method.....	31
3.1 Research summary	31
3.2 Research method.....	31
3.3 Statistical analyses.....	31
3.4 Sample	32
4. Development of the New Way of Working questionnaire.....	34
4.1 General questionnaire conditions	34
4.2 Personal characteristics.....	35
4.3 Values of the New Way of Working.....	35
4.4 Organizational characteristics	36
4.5 Collaboration in work situations	36
4.6 Job performance	37
4.7 Job autonomy.....	37
4.8 Job satisfaction and work motivation	38
4.9 Work-life balance	38
4.10 Health in work situations	39
4.11 Working Pattern	39
4.12 Creativity in work situations	40
4.13 Additional questions	40
5. Results: Validation of the New Way of Working questionnaire	41
5.1 Data preparation	41
5.1.1 Missing values	41
5.1.2 Outliers.....	42
5.1.3 Normal distribution.....	44
5.2 Validation of the New Way of Working questionnaire	44
5.2.1 Uniformity and internal consistency.....	45

5.2.2 Multidimensionality	54
5.3 Summary of the validation results	56
5.3.1 Validation results	56
5.3.2 Post-research face validity check	59
5.3.3 Construct scores.....	60
5.3.4 Construct validity	62
6. Discussion and conclusions	65
6.1 Discussion.....	65
6.2 Theoretical implications	66
6.3 Managerial implications	69
6.4 Limitations of this study	71
6.5 Future research	72
6.6 Conclusions	73
References	75
Appendix I: Theoretical model of antecedents and consequences of the New Way of Working	81
Appendix II: Internal consistency tables	82
Appendix III: Multidimensional factor analysis results	86
Appendix IV: Results of the respondents' comparison.....	89
Appendix V: Hypotheses that might be investigated with the New Way of Working questionnaire	90

1. Introduction

Up to the start of the industrial revolution it was rather normal to work at the place you live. People were working on their farms or in their craft workshop. Work and life were strongly connected to each other and flowed more or less into one another. Due to the industrial revolution in the eighteenth century this all changed: during fixed times people left their homes to work in a factory (Bijl, 2009). Three centuries later, the way of working again is starting to change dramatically.

This is the introductory chapter for this master thesis report. This first chapter introduces the internship provider (Section 1.1), elaborates on the New Way of Working (Section 1.2), explains the goal of the research (Section 1.3), and gives a report outline for the remainder of this report (Section 1.4).

1.1 Moneypenny BV

From the start of my master study, I preferred to do research for and in a company, because the research results could help the organization and thus would have clear practical impact. The guidance from my mentor in combination with the guidance from someone who benefits from the research seemed the best combination. In the search for a company, an opportunity presented itself at Moneypenny BV in Amsterdam, the Netherlands.

Moneypenny BV is a company that focuses on the New Way of Working (*Het Nieuwe Werken* in Dutch). In 2000, Marianne Sturman started the company because she believed that some jobs are time and place independent. The Moneypenny BV agency was a pioneer in providing jobs for teleworkers. Sturman noticed that many women quitted their jobs or reduced their contract hours after they gave birth because 'traditional' jobs could not be combined with parental tasks. She did not like this course of events and therefore she focused on this target group. It appeared to be that many people were interested in these teleworker jobs, so the target group soon was broadened.

In 2007, Moneypenny BV started a second business that focuses on consulting and training. Moneypenny Consulting and Training is a fast growing consultancy and training agency which guides organizations to a successful implementation of the New Way of Working, in the remainder of this report abbreviated as NWoW. The organization tailors its approach and interventions based on the specific needs and wishes of their clients. Moneypenny BV is active in medium and large organizations in business, government, and non-profit sectors (Smulders, 2014).

1.2 The New Way of Working

The previous section has shown that Moneypenny BV is focusing on the New Way of Working (NWoW). This section will give an explanation of this concept.

NWoW is defined as a vision to work more effective, more efficient, but also to work with more fun for both the organization and the employee. The vision will be realized by putting the employee in centre and give him or her the room and freedom – within certain boundaries – to let him or her decide how s/he works, where s/he works, when s/he works, which instruments s/he uses, and with whom s/he works (De Reus & Spruit, 2012).

NWoW is a collective name for new work styles and management principles which can be characterized as systems of practices, norms and values which ideally will be expressed in a high degree of empowerment for employees, time and space flexibility, and steering on mutual trust (European Commission, 2002).

NWoW can be best explained by providing four characteristics: (1) work time- and place-independent; (2) guide employees by result; (3) provide free access to use knowledge, experiences and ideas; and (4) flexible work relations (Baane, 2011).

To summarize, the definition of De Reus and Spruit (2012) stresses effectiveness, efficiency, fun, and autonomy. The European Commission (2002) stresses empowerment for employees, time and place flexibility, and steering on mutual trust. Baane (2011) stresses work time- and place-independent, result-orientation, access to information, and flexible work relations. A combination of these three definitions will provide an overarching, more general, definition of NWoW.

NWoW is an innovative way of working. Where a traditional way of working focuses on presence at the office, NWoW focuses on the final efforts and results an employee provides. These efforts and results are related to productivity, which in turn, is related to efficiency, effectiveness and job satisfaction. However, the most important part of NWoW is the independency of workplace and worktime. This flexibility needs some conditions to make the work indeed efficient and effective, such as ICT and flexible office designs. With technological solutions information can be accessed everywhere and any time.

The literature suggests that result-orientation, flexibility in workplace and worktime, and increase in efficiency, effectiveness, and job satisfaction are the most important elements for NWoW. Therefore the definition of NWoW for the remainder of this master thesis will be: **“A result-oriented and innovative way of working which provides the employee with autonomy to work time and place independent in order to increase efficiency, effectiveness, and job satisfaction”**.

1.3 Goal of the research and research questions

Moneypenny BV believes that an essential element of the New Way of Working is disconnecting work from a fixed time and place, i.e. regular office hours in an office. Efficiency and effectivity are central themes within this concept; the efforts and results count more than office presence. In order to achieve the best results, working habits have to change: stop working at fixed times and fixed locations, start working at the time and place that best match the task at hand, the client, the organization, the team, and the individual employee. The most important benefits Moneypenny BV mentions are finding and binding talent (favourable work conditions), improving productivity, cost savings, faster response to changing wishes and needs of customers (and therefore becoming more innovative), and fulfilling corporate social responsibility (Moneypenny BV, 2014).

As the previous indention shows, Moneypenny Consulting and Training is focusing on NWoW. At the moment they are increasingly asked by various customers to monitor the impact of NWoW on various aspects of working and working together in organizations through evaluation measurements. Moneypenny BV already performs some kind of measurements, but the questionnaire that is used is rather elementary and, consequently, not well-validated.

Moneypenny BV thus already uses a questionnaire to see what impact the implementation of NWoW has on the organization. But this questionnaire is not complete and well-validated, and therefore needs some adaption. At the moment Moneypenny BV knows which components to monitor, but the interpretation by subject is unclear. In addition it is not totally clear which impact NWoW has on these components. In order to innovate and to provide useful and valid insights to their clients, Moneypenny BV therefore wants to develop a well-validated questionnaire that is based on the latest theoretical insights. Although there are some questionnaires about NWoW available (Van Delft, 2011; HEMA academy, 2013), these seem not comprehensive and therefore not suited for Moneypenny BV.

The main goal of this master thesis therefore is to develop a theoretically based and well-validated instrument for NWoW which can be used by Moneypenny BV to analyse the main components in NWoW. The main research question for this report is: *What are the main components of NWoW?* When the components are clear, the theoretical insights can be translated into questions. These questions together lead to the development of the instrument. After the instrument is developed, another important research question becomes: *Which items are valid and reliable to add to a particular measure?* The third and last research question focuses on the construct validity of the developed constructs. Construct validity is important as it researches if the scores have meaning in

terms of general theoretical concepts. Therefore the third question sounds: *Is construct validity obtained?*

In addition to the questionnaire, Money Penny BV also needs a blueprint to make it easier to analyse and report the outcomes of the questionnaire. If there is a standard analysis and report tool per module, it is easier to see which modules changed significantly (either positive or negative). Given the time table for the current master thesis research, this second part cannot be fulfilled during this internship.

1.4 Report outline

This first chapter introduced the company that provided the internship during the graduation process, gave a definition of the New Way of Working, and showed the goal of the master thesis research. Chapter 2 elaborates on the components which are most important in NWoW - the literature has shown eleven components that might influence or might be influenced by the implementation of NWoW. Chapter 3 contains the method and it summarizes the research process. Further, it discusses the research method, statistical analyses and the research sample. Chapter 4 discusses the development of the questionnaire and gives a definition for every component. In addition, this chapter discusses the items of the measure, and the used answer possibilities. Chapter 5 starts with the preparation for the data, after which the measures and corresponding items are validated. A uniformity check, internal consistency test, and multidimensional factor analysis are used to perform this validation of the instrument. This chapter also shows the actual construct scores, which are used to investigate the relations between them (construct validity). The last chapter, Chapter 6 is used for the discussion and conclusions of the report. It starts with the discussion of the thesis, after which it discusses theoretical and practical implications, limitations of the research, possibilities for future research, and ends with the main conclusions.

2. Components of the New Way of Working

As mentioned in the first chapter, Money Penny BV is in need of a theory-based and well-validated tool which can be used to investigate the impact of the implementation of the New Way of Working (NWoW) within companies. Therefore it is important to understand which components are affected by NWoW, or have an influence on NWoW.

Companies implement NWoW by using three levers: *bricks*, *bytes*, and *behaviours*. These three elements need some elaboration: with *bricks* the housing and facility aspects are intended, important for this element are for example a concept focused on flexible working and an inspiring office that functions as a meeting point and home base. The intention of using *bytes* as an element is to focus on technology, which in turn focuses on – for example – videoconferencing, use of laptops and smartphones, and technology that suits the user. The lever *behaviours* is used to intend working behaviours and Human Resource Management (HRM). Important for *behaviours* are autonomy, working in project groups, and a balance between trust and control (Baane, 2011). Although it is a well-found three component term, Money Penny BV does not use this model because it suggests that the three elements are equally important. Money Penny BV uses the distinction that is shown in Figure 1. Money Penny BV makes a distinction between people and organization, work, and preconditions. ICT is a real precondition, facilities can be a nice impulse but are not necessary or determinative, and from experience they see behaviour as the biggest obstacle.

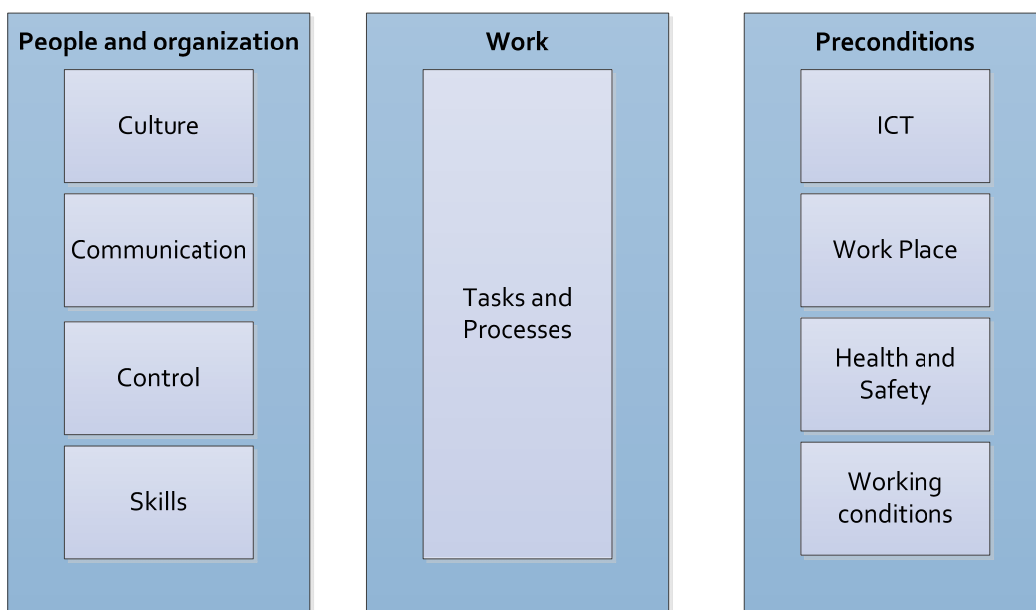


Figure 1: Nine elements of HNW (Money Penny, 2014)

This chapter is introducing the components that might be influenced by the implementation of NWoW. The first section will describe which elements are important for NWoW, the later sections will elaborate on one specific element. Section 2.2 describes 'personal characteristics' like age and gender. Section 2.3 describes the 'values of NWoW' measure, which attempts to designate the most important values in NWoW. Section 2.4 focuses on the 'organizational characteristics' measure, which consists of leadership and reputation. Section 2.5 elaborates on 'collaboration in work situations' by discussing knowledge sharing and social contacts. The next section, Section 2.6, discusses 'job performance'. Section 2.7 describes 'job autonomy', while Section 2.8 discusses 'job satisfaction and work motivation'. Section 2.9 discusses the 'work-life balance', with both possibilities: work over personal life and personal life over work. Section 2.10 elaborates on the 'health in work situations' measure, both mentally as physically. Section 2.11 focuses on 'work patterns', like transportation method and office space. Section 2.12 discusses 'creativity in work situations', and the last section, Section 2.13 discusses why NWoW is not yet fully implemented everywhere.

2.1 Component analysis

Before naming the eleven most important components that could impact or be impacted by NWoW, this section introduces the main components. A recurrent theme in the literature is the distinction between 'people, planet, and profit' to describe the elements of NWoW. Appendix I shows the complete model which is based on the literature that will be treated in this chapter.

2.1.1 People, planet, profit

Bijl (2009) advocates for a three-way partition in classifying the factors that are impacted by NWoW: people, planet, and profit. Though a rough distinction is made with these three elements, this thesis will only use these three elements as a starting point to be able to focus on better understandable components. These three elements are rather broad, while an easy distinction is needed in order to translate the components into questions. People, planet, and profit were the starting point in the model shown in Appendix I.

But before the author makes this distinction, he describes that NWoW - or the implementation of NWoW - can be impacted by two components: personal characteristics of the employees or managers and organizational characteristics. Section 2.2 will elaborate on the personal characteristics. Figure 2 shows the partition made by Bijl (2009).

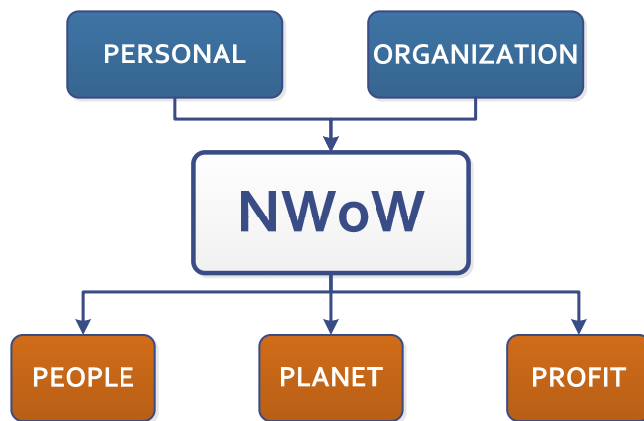


Figure 2. NWoW is impacted by personal and organizational characteristics and has impact on people, planet, and profit (Bijl, 2009)

Bijl (2009) mentioned two types of organizations to understand the organizational culture: (1) the Anglo-Saxon cultural view and (2) the Rhineland cultural view. Although most organizations will have elements of both views, most of the times a company can be classified as more Anglo-Saxon or more Rhineland. In the Anglo-Saxon view, it is most important to reach an increased profitability; the goal is reached when a prearranged margin is achieved. In the Rhineland view satisfaction is most important. The Rhineland view focuses on a satisfied customer, a satisfied employee, a good reputation, and a sustainable organization (Bijl, 2009).

Anglo-Saxon cultural view

An Anglo-Saxon organization focuses more on profit than on people or planet. In order to get a greater profit, either the revenue must increase or the costs must decrease. NWoW can lead to serious cost reductions for both the employer and the employee (Mooij, 2009). NWoW can, on the one hand, increase the revenues because of higher satisfaction and involvement, higher productivity, better cooperation, making use of knowledge, increase the power of innovation, better reputation for the company, higher customer satisfaction, and corporate social responsibility (Baane, 2011). But, on the other hand, it can also contribute to decreases in costs: savings on housing, facilities, travel and accommodation, ICT, absenteeism, and unwanted developments (Baane, 2011).

Rhineland cultural view

In Rhineland organizations, the people are seen as the most important determinant (Bijl, 2009). The Rhineland view focuses on a satisfied customer, a satisfied employee, a good reputation, and a sustainable (which corresponds to the planet element) organization (Bijl, 2009). Laihonen et al. (2012) add that NWoW will increase the motivation of employees, job satisfaction, and productivity. A sustainable organization focuses on digitalization, office, and travel (Bijl, 2009).

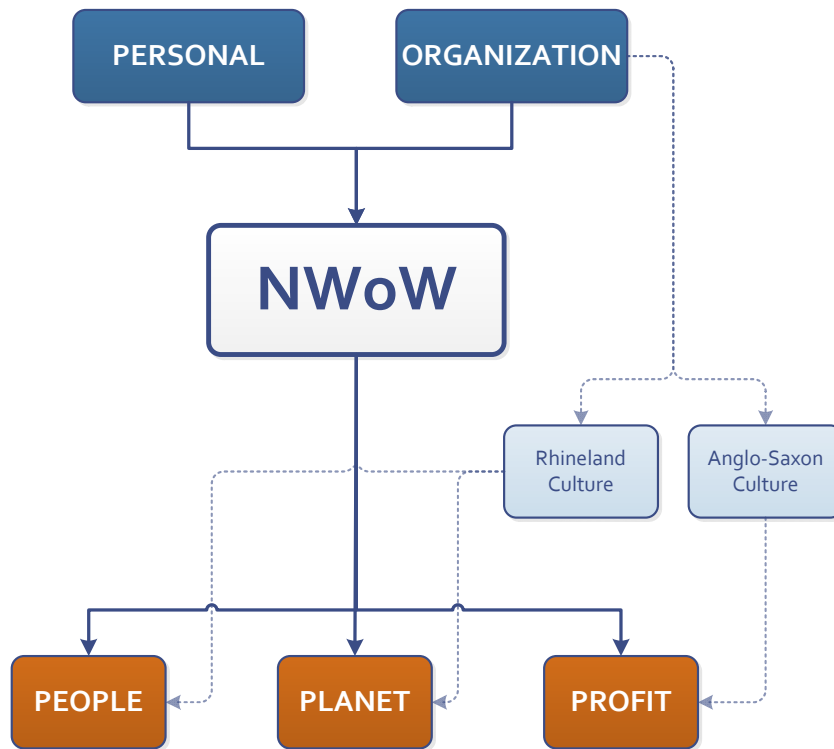


Figure 3. An organization can have a Rhineland cultural view or an Anglo-Saxon cultural view. A Rhineland view focuses on people and planet, while a Anglo-Saxon culture focuses on profit (Bijl, 2009)

The model in Appendix I is gradually expanded until a certain level of detail in the elements was obtained. As can be seen in the model, eleven elements will be part of the questionnaire: personal characteristics, values of NWoW, organizational characteristics, collaboration in work situations, job performance, job autonomy, job satisfaction and work motivation, work-life balance, health in work situations, work pattern, and creativity in work situations. These components will be described in more detail in the following sections.

But before the eleven components are discussed in greater detail an interesting conclusion can be drawn from the NWoW literature. Bijl (2009) suggested a great difference between the two organization's cultural views. The Rhineland view focuses on people and planet, while the Anglo-Saxon view focuses on profit. Figure 4 shows that both kinds of organizations can profit from NWoW. NWoW uses *planet* elements to decrease costs, like using less office space and using less paper. And it increases revenue by using *people* elements like satisfaction and creativity. Therefore an important conclusion for the remainder of this report that can be drawn from Figure 4 is: both Rhineland and Anglo-Saxon organizations can profit from implementing NWoW.

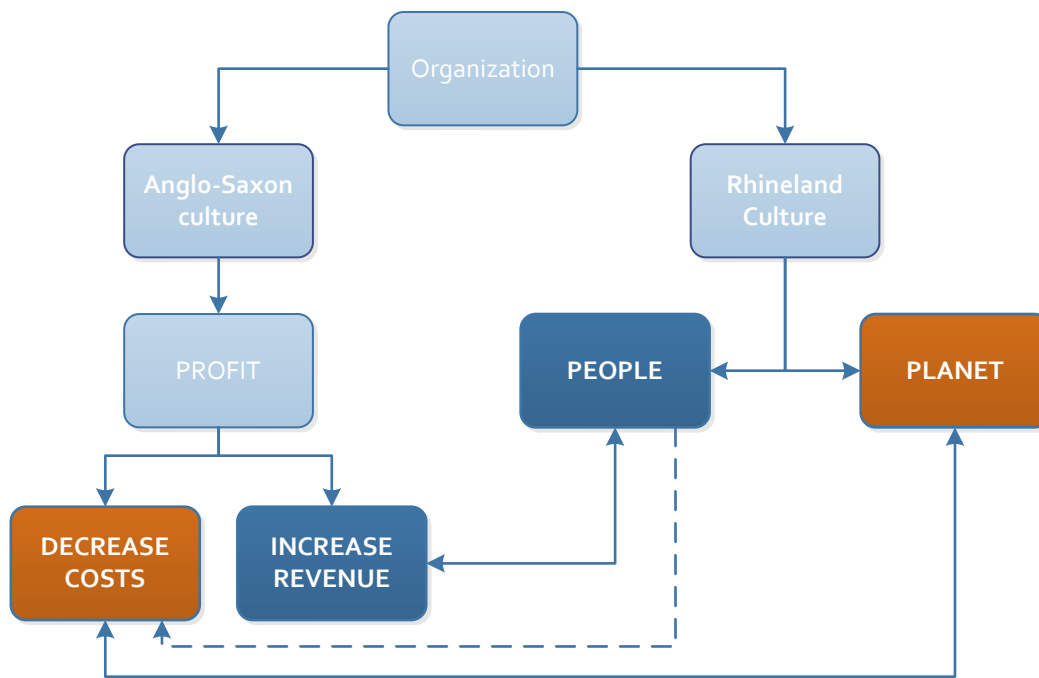


Figure 4: Matching goals of cultural views

2.2 Personal characteristics

Some general personal characteristics will be measured in the questionnaire. This way it can – for example – be shown that a certain generation or one of the genders will be more open for the implementation of NWoW, or some age groups or people from a certain educational level will have more ease with the implementation of NWoW. This section describes the items managerial position, age, gender, experience and education.

2.2.1 Managerial position

Peters et al. (2011) stressed that organizations or managers might have a rosier image about job conditions than their employees have (Bowen & Ostroff, 2004). Therefore, it might be important to know the function of the employee, a distinction is made between (1) a person in charge and (2) a person not in charge. By making this distinction, the scores of the groups can be compared which might lead to the first conclusion: a corresponding or non-corresponding score between the two groups.

2.2.2 Age

People differ from each other, this diversity can bring creativity and innovation to a company (Gibson & Gibbs, 2006), but it might also influence the way people are working together. A much discussed difference is the difference in generation characteristics. Differences between baby boomers, generation X and generation Y are for example handling responsibility (45% of generation Y experiences stress, versus 27% and 26% for baby boomers and generation X respectively) and

usage of technology (33% of the baby boomers have trouble using new technologies, versus 18% (X) and 17% (Y)) (Acerta, 2014). Because younger generations grew up with computers and other ICT related products, this might be positive for the implementation of NWoW.

2.2.3 Gender

Research has shown that men will be more suitable for working in the NWoW manner. Research also showed that personality and values of men might have a better fit, than personality and values of women. It can be concluded that men might not explicitly need structure, but like independence (Baroncini, 2012). On the other hand, male managers might have issues changing their leadership style to a transformational one (Van Der Schaaf, 2013). Therefore the hypothesis is that male employees will be more eager to implement NWoW than women, while male managers could face more difficulties to implement NWoW.

2.2.4 Experience and education

In addition to age and gender, personal characteristics are also drivers behind productivity according to Clements-Croome (2000). These drivers consist of someone's profession, the phase in someone's career (experience), and someone's skills (education) (Van der Voordt, 2004; Clements-Croome, 2000). Clements-Croome (2000) and Van der Voordt (2004) do not mention which people would be most productive. It is difficult to give an assumption, because an experienced employee might be guided by the status quo bias, while someone without much experience in the organization might be less critical to their managers.

2.3 Values of the New Way of Working

The values of employees are important to know for a company. Important values in NWoW are autonomy, responsibility, control, and flexibility. It is assumed that these values in general are important for people. Though, some people might not be comfortable with a high level of autonomy for example. It is likely that high amounts of freedom and autonomy that follow from NWoW elicit some ambiguity and uncertainty. For some people this may be difficult to cope with, some individuals may for example need more structure (Slijkhuis, 2012). Therefore it is assumed that people who highly value the NWoW values will be more open for - and more successful in - the implementation of NWoW than people who are not.

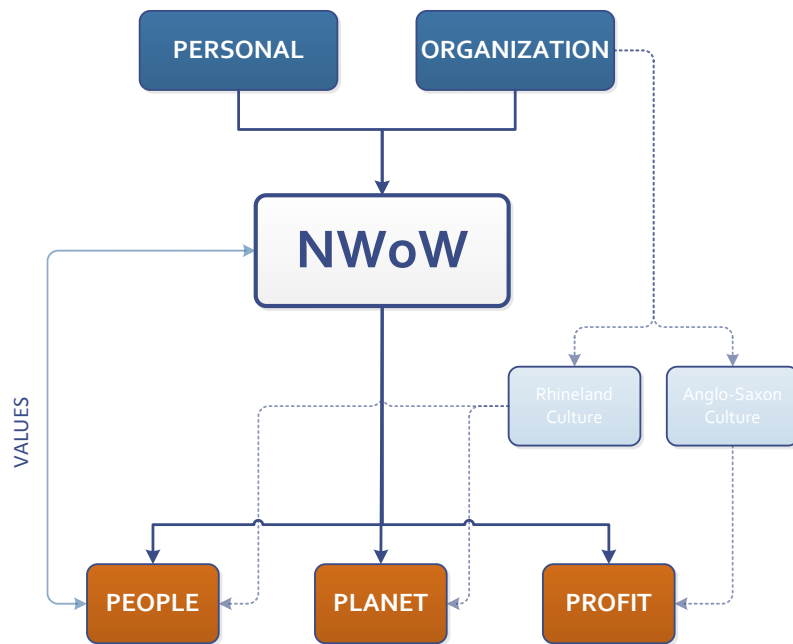


Figure 5. The component 'values of NWoW' is the link between NWoW and people

2.4 Organizational characteristics

An organization has to be dynamic in order to implement NWoW. Crusted organizations, are not able to implement the new way of working successfully. A company needs to be dynamic in order to be able to change (Le Blanc, Loo, & Janssen, 2013). Additionally, a company also needs to know that the results can come later than planned. So, a company and its management team need to be patient and do not get stressed when it takes a while before the results are shown. Although, it must be said that this is quite an objective in nowadays stresses and strains. This section is divided in three paragraphs. The first paragraph describes communication and trust, the second paragraph describes leadership style, and the last paragraph describes reputation.

2.4.1 Communication and trust

NWoW works best within organizational cultures with open communication and mutual trust (Volberda, Vaas, Visser, & Leijnse, 2005). A company has to know its people (Randall & Procter, 2008), management has to dig into the attitudes of its employees in order to connect the changes to wishes and needs, to prevent resistance, or to effectively deal with resistance (Le Blanc, Loo, & Janssen, 2013). Not only internal communication is important, but also the cooperation with customers, suppliers and knowledge institutions are mentioned as an important component in the culture of organizations (Volberda, van den Bosch, & Jansen, 2006).

2.4.2 Leadership style

Peters et al. (2011) stated that cultural aspects in NWoW can be researched in three components: leadership style, help behaviour among colleagues, and friendships among colleagues (Peters, De

Bruijn, Bakker, & Van der Heijden, 2011). This paragraph will elaborate on the leadership style, while the next section (Section 2.5) will discuss help behaviour and friendships with colleagues.

A coaching leadership style is important, a transformational leadership style focuses on the charisma of the leader and the way he trusts, inspires, gives personal attention, stimulates creativity, coaches, and wants to be a mentor for his employees (Mester, Visser, & Roodt, 2003).

Oeij et al. (2010) reflect the culture of the organization to certain competencies - this resulted in four competencies and organizational needs. The first competency is knowledge about the personnel; know what your employees want and what their wishes are. The second competency is the ability to provide autonomy to employees. In this way, experimenting and own initiative are encouraged. The third competency is the ability to motivate your employees to share information and ideas with each other. The fourth and final competency named by Oeij et al. (2010) is the competency to be result-oriented. It is not about the process, but about the result. This means that the company has to be willing to let their employees organize their work for themselves, and provide them with a performance-based reward (Oeij, Kraan, & Vaas, 2010). An important theme for result-orientated companies is the change of the method of controlling their employees. In order to be in control it is important that the goals are known from the start.

2.4.3 Reputation

Reputation influences the willingness to work for an organization. NWoW can also be a way of working to recruit the best of today's bright minds. These younger generations expect from companies that they fulfil their needs, one important need is the matching environment. This environment is one with enough autonomy. An office to work in from nine to five is not what they want (Van Heck, 2010).

Mael and Ashforth (1992) discussed organizational identification as the perception of someone's connection with an organization, where an individual with a high organizational identification identifies himself stronger with the organization (Mael & Ashforth, 1992). These people are more engaged and are willing to put extra effort into their tasks for the organization.

2.5 Collaboration in work situations

Although people will be less in the office, working together stays an important factor. In addition, it is important to involve employees so they do not face social withdrawal. Cooperation is important to share knowledge and to come to new insights. But cooperation also consists of communication, ask for help, and transparency. In NWoW new methods are used to work together, for example ICT solutions are implemented by the firm, then it is important that people understand these ICT

solutions and it is also important an organization implements the right ICT solutions (Zeldenrijk, 2011). In practice Money Penny BV saw that ICT tools were not used very often, so indeed it is important to choose the right tools, implement them, and give these tools attention. Important factors are the structure and culture of the organizations, communication lines should be known and these must be leading for the ICT choice.

Help behaviour and friendships among colleagues are important for knowledge sharing (Benchmarken Benchlearning Rijk, 2012) and the social factor. The following paragraphs will elaborate on these two important factors.

2.5.1 Communication and knowledge sharing

Knowledge sharing is the exchange of relevant information, ideas, and expertise between employees (Van Der Kleij, Blok, Aarts, Vos, & Weyers, 2013). Knowledge sharing may lead to an optimal performance, and might bring an advantage over competing organizations (Argote & Ingram, 2000). Knowledge becomes a more important asset when it is shared. It gives an advantage to the one who is sharing information, but also for the receivers it gives advantages. When sharing information with your colleagues, this may lead to a higher efficiency rate. Sharing knowledge supports the development of individual skills, the learning ability, and the innovative ability of the organization. 'Knowledge is power' becomes 'knowledge sharing gives power' (Van Der Kleij, Blok, Aarts, Vos, & Weyers, 2013).

In successful communication Kuiken (2014) compared human beings to ants. Ants help each other by leaving a scent trail from the place they found food to their anthill. People can do the same in organizations; tell what you are doing, share information, and share your success (Kuiken, 2014). Because of the open character of floor plans and the importance of communication between people because of their absence of the office, it might be the case that knowledge sharing is done more in organizations that have implemented NWoW.

2.5.2 Social factor

In general, the social factor is important because it leads to more empathy, which means listen to your employees, colleagues, partner or client without becoming defensive. This might lead to higher innovation levels because other insights are used to solve a problem (Bijl, 2009). For NWoW explicitly the social factor might be even more important, because employees will be at the office to a lesser extent. Because they will be, they could be getting *out of sight, out of mind*. When an employee is easily accessible for colleagues, this decreases the risk of isolation of employees amongst each other and the organization; this maintains the involvement (De Ruiter, 2014).

2.6 Job performance

Job performance refers to the level in which someone – qualitatively and quantitatively – performs on the work floor. A distinction can be made between in-role and extra-role performance. In-role performance refers to the performance on tasks which are part of the function, and extra-role performance refers to the performances that are achieved by executing actions which are not a part of the own function, but have positive consequences for the organization (Pekdemir & Turan, 2014).

When NWoW is implemented successfully, employees will be more time efficient and effective. Mostly because of their autonomy to choose the work environment and work times that fit their tasks the best. The productivity increase amongst others is impacted by flexible and effective time management, less interruptions, trust, and less absenteeism (Lister & Harnish, 2010).

2.6.1 Quality and quantity

Productivity is a manner to increase profits and performance (Van Heck, 2010). Productivity depends on four clusters of variables: (1) personal characteristics, (2) social factors, (3) organizational characteristics, and (4) the physical environment (Clements-Croome, 2000). Inputs, processes and outputs all can affect productivity. These three factors are shown in Table 1. There are three ways to increase productivity: (1) effectiveness (increase output with same input), (2) efficiency (same output with less input), and (3) effectiveness and efficiency combined (stronger rate of increase in output compared with the increase in input) (Laihonen, Jääskeläinen, Lönnqvist, & Ruostela, 2012).

Table 1: Factors that affect productivity (Laihonen, Jääskeläinen, Lönnqvist, & Ruostela, 2012)

Inputs	Processes	Outputs
Innovativeness	Management of professional's own work	Output quantity
Personal factors	work	Quality of results
Knowledge management infrastructure	Organization of work	Customer satisfaction
Working environment	Timeliness	
Physical location, virtual and social workplace	Quality of the interaction	
ICT	Knowledge sharing	
Organizational culture and structure	Team structure/composition	
	Continuous learning	
	Setting and communication of goals	
	Knowledge acquisition	

Many elements in Table 1 are already mentioned or will be mentioned in later sections. It also shows that the quantity and the quality of the output are important measures of productivity, as is customer satisfaction (Laihonen, Jääskeläinen, Lönnqvist, & Ruostela, 2012). Because people can plan their work themselves in NWoW, it is assumed that (their perception of) the quality and quantity of their work increases.

2.7 Job autonomy

Flexibility and autonomy are very important themes within NWoW. When people have the feeling they are being manipulated, when someone else tells them what to do, or when they do not feel capable to do a certain task, they might become passive or unmotivated. But when people have the feeling they are in control, they feel appreciated and feel themselves capable to do a certain task, they act pro-active and productive, and they feel better and more satisfied (Kuiken, 2014).

Autonomy is defined as the extent to which the work provides substantial freedom, independence and discretion to the individual to decide when, where and how the work is performed (Van Der Kleij, Blok, Aarts, Vos, & Weyers, 2013). Other definitions are independency and responsibility, freedom of choice within task performance, determine own methods, work pace, schedule, and goals. Most authors define autonomy with 'possibility', 'freedom', and 'independency'. De Jonge et al. (1994) gave a complete definition that describes autonomy as it is meant in this report: 'the employee's actual possibility (freedom) to determine various work aspects, like work pace, work method, order of tasks, and goals' (De Jonge, Landeweerd, & Van Breukelen, 1994, p. 31).

Breaugh (1985) divided autonomy in three groups; work-method autonomy (how to work), work-division autonomy (when to work), and work-criteria autonomy (change evaluation or functioning) (Van Der Kleij, Blok, Aarts, Vos, & Weyers, 2013).

2.8 Job satisfaction and work motivation

People with positive thoughts are more creative, are open to new information, and perform better. People who experience their work as significant work harder, are less absent and have less chance to get a burn out (Sorenson, 2013). Although work might lead to stress, work also gives us energy and resilience, it makes development and growth possible, and it can lead to positive reactions like satisfaction and motivation (De Jonge & Van Den Tooren, 2007). Paragraph 2.8.1 discusses job satisfaction, while Paragraph 2.8.2 discusses work motivation.

2.8.1 Job satisfaction

Job satisfaction refers to the well-being of a person in his or her work or work situation (De Jonge & Van Den Tooren, 2007). "There is a simple equation: a satisfied employee is a productive employee" (Sullivan, 1994, p. 394). Autonomy has shown positive results on job satisfaction and other outcomes like performance and the decrease of stress levels (Loher, Noe, Moeller, & Fitzgerald, 1985; Spector, 1986). The combination of autonomy and responsibility gets a lot of attention and energy from an employee, it is therefore assumed that the work is more challenging and satisfying. Because the job is more challenging and satisfying, it will lead to a higher job satisfaction (Lovelace, Manz, & Alves, 2007).

2.8.2 Work motivation

Work motivation refers to the level in which the person is stimulated by his or her work. It is the motive behind or the reason for human action in a work situation (De Jonge & Van Den Tooren, 2007).

Due to higher perceived autonomy, more perceived responsibility, and a result-oriented focus it is likely that people will be more motivated in NWoW organizations. In fact, NWoW might lead to a higher motivation of employees, because they get more control about the time and the place to work. This causes an increase in the sense of freedom and the perceived autonomy of the employee. This increases their involvement and consequently their motivation (Pricewaterhouse Coopers, 2011). A higher intrinsic motivation will have a positive impact on the creativity and the innovative skills of an employee (De Dreu, Nijstad, & Baas, 2011).

2.9 Work-life balance

An often heard theme within NWoW is the work-life balance. It describes the difficulty to reconcile work life and personal life (De Jonge & Van Den Tooren, 2007). A right balance between work and personal life can lead to productivity, in this case flexible work times create a win-win situation for both employer and employee (Sullivan, 1994). It does not always mean that people work less when they are not in the office, oftentimes it is the other way around because people are assessed on their results (Baane, 2011; Bijl, 2009).

2.9.1 Work over family

Because of the busy work pattern the personal situation is compromised (De Jonge & Van Den Tooren, 2007). Although it is not the expected, flexible working conditions are shown to experience more work-family conflict than the traditional work method. These people also consider themselves less successful in achieving a good work-life balance (Peters, Den Dulk, & Van Der Lippe, 2009). The flexibility offered may cause working overtime, which might lead to a more negative work-home

interference. Especially new employees are thinking they have to work overtime, which leads to a bad work-life balance (Peters, Den Dulk, & Van Der Lippe, 2009).

2.9.2 Family over work

This interference describes the compromising of the work situation because of the busy personal life (De Jonge & Van Den Tooren, 2007). NWoW is oftentimes not implemented by organizations because managers are afraid their employees will use their work time at home for personal activities like ironing or grocery shopping. A manager in an organization that has implemented NWoW would merely focus on the results (quantitative and qualitative) of the employee and not on the time spent on certain tasks.

2.10 Health in work situations

Psychosocial risk factors can lead to a prolonged state of mental and emotional stress, which may lead to maladjustment, poorer work performance and decreased health. Over time this can lead again to absenteeism and disability (De Jonge & Van Den Tooren, 2007). A combination in NWoW might be one of job satisfaction and working from home which might decrease absenteeism levels. This is explained because employees would have less stress and also are able to exercise more. In addition, it is assumed that an ill person will still work at home (Personeelslog, 2011). The 'health in working situations' measure is split up in two: Paragraph 2.10.1 describes mental health and Paragraph 2.10.2 describes physical health.

2.10.1 Mental health

Emotional exhaustion refers to feeling emotionally "empty", because of efforts made at work, especially in the contact with other people (De Jonge & Van Den Tooren, 2007). It is assumed that employees of a NWoW organization will experience less mental issues, because they can plan their own work. Contrary to this statement is the fact that employees who work in an NWoW manner have to plan their work carefully, so they reach a balance between relaxation and work. As seen in the previous section, employees within NWoW implemented companies will work longer than they would if they were at the office.

2.10.2 Physical health

Physical complaints during work situations can be described as musculoskeletal complaints (neck, shoulders, back) (De Jonge & Van Den Tooren, 2007). This is an important element to consider in NWoW organizations, it is important that the organization still fulfils the Health and Safety legislation (*ARBO-wet* in Dutch). It is assumed that people who work at flexible locations, like home, do not always use the right chair and desk combination. Therefore it is assumed that physical complaints can increase after the implementation of NWoW.

2.11 Work pattern

ICT can be used to perform the work better, more efficient and more pleasant. ICT can help to disconnect the human being of a physical workplace and standard working hours. This has three benefits: (1) employees can work (together) time- and place independent, (2) a decrease in administrative burden by automating standard operations, and (3) the business application of Web 2.0 technologies (Bijl, 2009). These benefits can decrease costs – among others – because travel times are decreased. This paragraph describes the work pattern for the themes office (Paragraph 2.11.1), transportation (Paragraph 2.11.2), and digitalization (Paragraph 2.11.3).

2.11.1 Office

In NWoW an organization needs less office space per single employee (Dannhauser, 1999); because people work at home, at restaurants or during their trip, people will not be working at their desk when they are at their office, and because many people work part-time, not everyone will be at the office at the same times. If employees can work where they want (obviously within a certain framework), they might be choosing to stay at home and work there (Dannhauser, 1999). So, the organization does not have to heat every room and does not have to light all office spaces; which can save a lot of energy. This improves the durability of organizations.

2.11.2 Transportation

When people can work wherever they want this consequently means that an employee does not have to travel to the office, or is travelling to the office when the traffic jams are over, which in most of the times means less CO₂ emissions. When people are not stuck in traffic jams they might experience less stress and anger which improves overall satisfaction. The same applies to employees who travel by public transport; when they can travel to their work after or before rush hours they probably experience more comfort during their ride.

2.11.3 Digitalization

Digitalization, obviously decreases the use of paper, which causes a significant decrease of trees to be cut. With innovations like the iPad and the Chromebook in combination with the overall availability of Wi-Fi, digitalization is also an easy way to have the documents which are needed at hand at all times. NWoW responds to the need to corporate social responsibility by digitalizing (most of) the work which drastically decreases the use of paper (Grantham, 2000).

2.12 Creativity in work situations

Creativity refers to the development of new ideas about products, processes, services and procedures, which are innovative and are potentially useful for the organization (De Jonge & Van Den Tooren, 2007). NWoW is result-oriented, the process therefore is subordinate to the result.

Therefore the process is not the most important factor, although it must be considered as it obviously has its influence on the outcome. Therefore, unwanted developments in the process might not have the same big impact as it did during the traditional way of working. Although the result depends on the process, this process can be creatively changed. Therefore it is important that the employees are creative and are able to quickly respond to changes. Because they have the autonomy and the responsibility, they might be more eager to respond to these changes in order to come up with a good result.

2.13 Reasons why the New Way of Working is not yet fully implemented

First of all, it is important to understand that not every work task can be done time- and place independent. But, people who are working with knowledge and information increasingly can work flexible. Most jobs contain a mix between time- and place-independent working and time- and place-dependent working (Bijl, 2009).

Although NWoW seems a positive innovative style of working, many organizations still are working in a traditional way. There are some issues, or difficulties, in NWoW which can lead to a no go from the organization. Most of them were mentioned in the previous sections, but for the sake of clarity this paragraph has listed the issues.

The NWoW Barometer 2013 (Van der Meulen, 2014) named five obstacles: (1) fear to lose a fixed work spot, (2) management style does not fit with NWoW, (3) high resistance against change from managers, (4) fear to lose touch with colleagues, and (5) organizational culture does not fit to NWoW. Most of these obstacles relate to the fact that the people in charge do not dare to change the current way of working (Van den Hout, 2011). They are afraid to mess up the social cohesion within the department, they are afraid people will get stressed because they work too much, or they are afraid people do less because they work at home; they have difficulties to provide employees with autonomy and to change the way to control (Baane, 2011; Van den Hout, 2011). In addition, organizations are afraid that confidential information about the company will lie on the streets (Baane, 2011). It is important that the manager is ready for the implementation, because he will be the coach who encourages his or her employees to follow his or her lead.

Secondly, virtual cooperation might not be a positive prospect for everyone. Some people just want to be at the office with colleagues within fixed times. Either because of their social contacts, or because they do not trust their colleagues being productive while being at home. But the most important no go for employees is the disappearance of the fixed workplace.

Lastly, NWoW has to match to the employee, some people have a lack of self-discipline, while others cannot deal with autonomy and pressure to perform (Baane, 2011; Slijkhuis, 2012). For the questionnaire it therefore seems important to add these themes.

3. Method

This chapter starts with a brief summary and elaboration on the goal of this research (Section 3.1). This is done by showing the research questions – introduced in Chapter 1 – once again. Section 3.2 describes the research method, Section 3.3 shows the statistical analyses, and Section 3.4 shows the sample of the research and some descriptives of the response group.

3.1 Research summary

The main goal of this research was to develop a theory-based, and well-validated tool to analyse the impact of the implementation of the New Way of Working (NWoW). In order to obtain this goal three research questions were formulated in Chapter 1.

The first research question was answered in Chapter 2. After literature study it was concluded that there are eleven main components for NWoW. The next step was to process the theory obtained in the previous chapter into useful questions. Existing questionnaires, which have proven their worth, were used when possible. When such questionnaires were not available, the questions were directly processed from the theory. Section 3.2 elaborates on the used type of research.

The second objective, corresponding to the second research question, was to validate the items and measures of the questionnaire in real practice. The statistical analyses used to validate the questionnaire will be named in Section 3.3. To obtain useful data, the questions were merged in an online survey tool and sent out to two different respondent groups. These two groups will be introduced in Section 3.4.

The third research question focused on construct validity. Section 3.3 also elaborates on this type of analysis.

3.2 Research method

The used research method in the field study is a cross-sectional survey study. A survey study, in general, collects data from a large number of respondents. Normally not every stakeholder can be questioned, therefore a sample is used to function as a delegation of the entire target group (Baarda & De Goede, 2006). Section 3.4 elaborates on the sample of this research. In a cross-sectional study, the data gathering occurs at one particular moment, therefore the results are a snapshot for this moment in time (Baarda & De Goede, 2006).

3.3 Statistical analyses

This remaining part of this master research used three types of statistical analyses: a content validity test, a reliability analysis, and a construct validity test.

To test the content validity, Principal Component Analysis (PCA), a type of factor analysis, was used. Factor analysis is a method to examine interrelationships among a larger set of variables in order to explain them by a smaller set of common underlying dimensions (Hair, Black, Babin, & Anderson, 2010). Exploratory factor analysis was used to check the uniformity of the measures. Exploratory factor analysis is "an orderly simplification of interrelated measures" (Suhr, 2006, p. 1). This was done by using only one dimension in the factor analysis, scores above .500 were considered "practically significant", while scores above .700 were considered "indicative of well-defined structure and are the goal of any factor analysis" (Hair, Black, Babin, & Anderson, 2010, p. 117). In addition factor analysis was used to investigate the grouping of the items in the right constructs. Therefore the constructs were grouped in a well-argued manner and factor analysis with as much dimensions as constructs was executed per group. Ideally, the items will group per measure in a dimension.

In addition a reliability analysis was executed to test the internal consistency of the measures, which corresponds to the consistency among the variables in a summated scale. Because the items measure the same construct, the items should be highly correlated and should have a Cronbach's alpha score of .70 or greater (Hair, Black, Babin, & Anderson, 2010). Cronbach's alpha measures the reliability of an item. In addition the Cronbach's alpha score when the particular item was deleted is also given. When this score was higher, the item was in general considered for deletion.

Construct validity is the "extent to which a set of measured variables actually represent the theoretical latent construct they are designed to measure" (Hair, Black, Babin, & Anderson, 2010, p. 631). To determine the construct validity the zero-order Pearson correlations between the constructs were measured and analysed on the basis of the theory described in Chapter 2.

3.4 Sample

As mentioned before, the sample consisted of two different groups. First, the questionnaire was sent to employees of a firm that just decided to make use of Moneypenny's services. For this firm, the questionnaire was somewhat modified. This way the questionnaire can be used for this research and it provides important insights in the current situation at the client's organization. Important to know is that these respondents have not worked with the New Way of Working yet, therefore the results of these respondents might differ from the results from the other respondent group. This difference might initiate conclusions on the impact of NWoW. Because only 60 questionnaires could be sent to this organization, the questionnaire was sent to a second group to receive a significant amount of responses. Second, the questionnaire was sent to the people who are registered to receive Moneypenny's newsletter. In this newsletter the research was mentioned, among the

respondents a James Bond night in Amsterdam’s Tuschinski Theatre was raffled. These respondents are familiar with the New Way of Working and in general have worked or are working this way.

The questionnaire was sent to a total amount of 830 people, from these people 98 responded before 26 February 2015. This date was picked so my graduation process would not be jeopardized time technically. This led to a response rate of 11.8% (60% for client X). The percentages male and female were 40.8% and 59.2% respectively, this led to a total of 100%, so there were no missing scores on this item. While the mean age was 46.8 years (SD = 9.3), and the mean experience was 14.3 years (SD = 10.9).

Table 2: Demographics and response rates of the sample (n=98)

	Response			Gender	Age	Experience
	(N – n – %)			(M/F)	(Y)	(Y)
Client X	60	36	60.0%	50.0 / 50.0	45.7 (10.1)	19.4 (12.0)
Newsletter	770	62	8.1%	35.5 / 64.5	47.4 (8.9)	11.3 (9.0)
Total	830	98	11.8%	40.8 / 59.2	46.8 (9.3)	14.3 (10.9)

4. Development of the New Way of Working questionnaire

For this research an online survey questionnaire was chosen because it is an instrument that measures a lot of information in a relatively short period of time (De Jonge & Hamers, 1997). The information to be measured was introduced in Chapter 2. This chapter discussed the main components of NWoW. These eleven components were used as a guide in this chapter. In addition it is important to think about ten important issues before designing a questionnaire (NETQ, 2014). These ten issues will be discussed in the first section (Section 4.1).

The following sections will provide a definition per component, and when an existing questionnaire was used, the source is mentioned as well as its past performance if possible. In addition, the number of items will be given, as well as some examples of the items that were measured for the particular construct. Last, the scale anchors are provided. Most items use a five point, or ten point, Likert scale.

4.1 General questionnaire conditions

The ten issues that will be mentioned in this paragraph are general remarks listed by NETQ, a Dutch company that is specialized in online questionnaires (NETQ, 2014). The first issue is already tackled in Section 3.1, because it is important to know the goal of the research, and thus the goal of the questionnaire. Second, it is important to understand that 'less is more'. It is important to ask as few questions as possibly can in order to reach the goal. If the questionnaire has too many questions, people will quit halfway which will lead to incomplete results. It is important to ask the 'need to know' questions and limit the 'nice to know' questions. In this case, because the questionnaire had to be validated first, it was chosen to ask more questions so questions can be deleted if it appears that these questions were less important. The third issue is the structure, in the next chapter the components are structured in the most logical way. NETQ (2014) advises to end with the personal characteristics because these questions are the easiest for the respondent to answer. Sudman and Bradburn (1983) agree, although they gave as reason that people were in general more willing to give personal information when their commitment to the questionnaire is bigger (Sudman & Bradburn, 1983). Because of the length of the questionnaire, for this research it was chosen to start with the personal characteristics. This way these characteristics are known when respondents decide to stop before they completely filled out the questionnaire. Fourth, it is important that the person who fills in the questionnaire understands the question immediately. So make sure that it is not possible to understand the questions wrongly. The fifth issue is categorizing right, especially with multiple choice answers it is important to categorize right (age 0-10, 11-20 instead of 0-10, 10-20). This questionnaire did not use these categorizations, the questionnaire asked an actual

number, so the researcher can categorize later if needed. Sixth, understand the answerer; do not bother him or her with questions that are inapplicable. Seventh, think about which questions are obligatory. The positive side is that an answer must be given, the negative is that a respondent can quit. Eighth, use varied question types; the respondent will not get tired and will respond honestly. Ninth, do not forget to use an appealing layout. And last, test the questionnaire before publishing it online. This way the last mistakes can be taken out and the average response time can be calculated. A second source agrees on these preconditions, although not splitting them into ten themes, the themes mentioned correspond to the ten named by NETQ (Brinkman, 1994).

4.2 Personal characteristics

Personal characteristics are features that describe the respondents. These items were used to describe the respondent group as is for example done in Section 3.3.

The measure is a general one, as the measure oftentimes is an important aspect of a questionnaire. Questionnaires from Gevers and Rispens (2013) and De Jonge and Van Den Tooren (2007) were used as guiding instruments for this questionnaire (Gevers & Rispens, 2013; De Jonge & Van Den Tooren, 2007). In consultation with the research team some of the items were deleted as they were not interesting for this research and for later use in the instrument. An item about contract hours was added during this face validity check.

The questionnaire used seven different items to describe the personal characteristics. These items were discussed in Chapter 2, to summarize them: managerial position, age, gender, education, experience within the organization, total work experience, contract hours. Managerial position was split up in manager versus no manager, while gender was split up in male versus female. Age, experience, and contract hours had to be filled in by the respondent in whole numbers. Because no one was excluded, every number between 0 and above can be filled out. A later outlier analysis will deal with uncommon values. The education item was split in (1) primary school, (2) lower vocational education, (3) general secondary education, (4) secondary vocational education, (5) senior general secondary education, (6) higher professional education, (7) academic education, and (8) no education.

4.3 Values of the New Way of Working

In this questionnaire, a value is defined as an important characteristic of a work task or the job as a whole. The literature review in Chapter 2 showed important values in NWoW, like autonomy and flexibility.

The questionnaire used seven items which were valued by the respondent. The items were made up as follows: *I like it to...* This means this construct is subjective and it shows which respondents (or

which departments as a whole) value NWoW high and which value NWoW low. An example of a question is *I like it to decide for myself where I work*. Another question is: *I like it to have responsibility*.

These items were valued from 1 up to and including 10, where 10 means that it would be the desired situation, while 1 means the opposite. A respondent who valued an item with 6 is considered as a respondent that does not mind if the value is present or not.

4.4 Organizational characteristics

The organization measure exists of two different parts. The first part describes the organizational identification, whereas the second part describes the leadership style. This distinction corresponds to the distinction made in the literature review in Chapter 2. Organizational identification was discussed by Mael and Ashforth (1992) in their partial test of the reformulated model of organizational identification (Mael & Ashforth, 1992). Their research found significant correlations between organizational identification and satisfaction, openness, and extra-role behaviour. The items on leadership style were developed during a research team meeting. These items were based on the literature review (Randall & Procter, 2008) and Moneypenny's experience.

Mael and Ashforth (1992) used six items to research the organizational identification construct. The authors researched the organizational identification of students with their schools. The questions therefore were adapted for organizations. An example of the items is: *When someone criticizes the organization, it feels like a personal insult*. A seventh item is added, this item is based on the literature review in Chapter 2: *I praise the organization in my network*. The leadership construct exists of six items, one of these items is: *My manager can clarify the goal to pursue*.

The items were ranked on a five point Likert scale. A score of one (1) is corresponding to 'never', a score of two (2) is corresponding to 'rarely', a score of three (3) is corresponding to 'sometimes', a score of four (4) is corresponding to 'often', and a score of five (5) is corresponding to 'always'. This means a frequency was asked instead of a valuation. This way the answers were semi-objective instead of subjective.

4.5 Collaboration in work situations

Collaboration is defined as the cooperation between employees, both within their own department as interdepartmental. Collaboration was divided in two main themes: (1) knowledge sharing and communication, and (2) the social factor. The social factor defines the (number of) contact moments between employees. Three items correspond to team member proficiency as discussed by Griffin et al. (2007) ($\alpha = .83$). These authors discussed team member proficiency as a construct consisting of coordination of work, communication, and providing help to colleagues (Griffin, Neal, & Parker, 2007).

Four items correspond to the number of contact moments between employees. Three items describe team member proficiency (Griffin et al., 2007). Six other items were added as they were adapted from the literature review. One item asks if information from other departments can be easily obtained. Which led to a total of thirteen items.

Twelve of the thirteen items had to be ranked on the same five point Likert scale as discussed in Section 4.3. The thirteenth item asks if the organization has the right resources to share knowledge and information, this question is answered by 'yes' or 'no'.

4.6 Job performance

Job performance is defined as the degree to which someone – qualitatively and quantitatively – performs on the work floor (De Jonge & Van Den Tooren, 2007, p. 9). The items are adapted from the Research to Psychosocial Workload made by De Jonge and Van Den Tooren (De Jonge & Van Den Tooren, 2007). The instrument developed by these authors was already validated, and therefore has proven itself.

De Jonge and Van Den Tooren (2007) discussed sixteen items. These items were categorized in items measuring in-role and items measuring extra-role performance. In addition to these items, two items were added: a valuation of the quantity of their performed tasks, and a valuation of the quality of their performed tasks. Both items were assisted by a question what the reason was for an insufficient mark (if this was the case).

Although De Jonge and Van Den Tooren (2007) chose for a seven-point scale - ranging from 'totally not characteristic' to 'totally characteristic' – the newly developed NWoW questionnaire used a ten point Likert scale. It was assumed that people can evaluate their performance better in a way they were used to during their education. It was assumed that it is easier to value a score between 1 and 10 than a score between 1 and 7. A score of 10 corresponds to 'totally characteristic', while a score of 1 corresponds to 'totally not characteristic'.

4.7 Job autonomy

Autonomy in work situations is 'the employee's actual possibility (freedom) to determine various work aspects, like work pace, work method, order of tasks, and goals' (De Jonge, Landeweerd, & Van Breukelen, 1994, p. 31). The items were adapted from the Maastricht Autonomy Questionnaire from De Jonge et al. (1994). This instrument was constructed from questions which were divided in operational autonomy and structuring autonomy. Operational autonomy describes the possibilities within the lines of the own work situation, or autonomy in work. While structuring autonomy describes the possibilities in the border of the own work situation and the environment, or autonomy about work (De Jonge, Landeweerd, & Van Breukelen, 1994). These questions are in line

with the partition Morgeson and Humphrey (2006) made in their article. These authors described work scheduling autonomy as the most important kind, which is divided in decisions about how to schedule work, in which order to do certain tasks, and plan your own work. Other types of autonomy that were named by these authors are decision-making autonomy (use personal initiative) and work methods autonomy (methods to do the tasks) (Morgeson & Humphrey, 2006).

De Jonge et al. (1994) used ten items to build the autonomy construct. An example item is: *I can decide my own way of working*. Three more questions were added to this element which accentuate the most important parts of autonomy: ability to work when someone wants, ability to work where someone wants, and the possibility that is provided by the organization to work flexible.

De Jonge et al. (1994) used a five point Likert scale which was based on frequency instead of valuation. This way, the items were made more objective (or semi-subjective). This scale was also used in the developed questionnaire. The division of scores is the same as discussed in Section 4.3.

4.8 Job satisfaction and work motivation

Satisfaction refers to job satisfaction, which is defined as the wellbeing of a person in his or her job or work situation (De Jonge & Van Den Tooren, 2007, p. 8). While motivation refers to work motivation: the extent to which the work stimulates the person. It is the driving force behind human action in the labour situation. And it refers to the experienced usefulness of the job (De Jonge & Van Den Tooren, 2007, p. 8). De Jonge and Van Den Tooren (2007) tested the construct and it has proven itself in the Research to Psychosocial Workload.

Job satisfaction consisted of four items and work motivation existed of two items. An example of the satisfaction items is: *I enjoy my work*. An example of an item for the motivation construct is: *I like to start the work day*.

De Jonge and Van Den Tooren (2007) used a five point Likert scale varying from (1) 'totally disagree' to (5) 'totally agree'. To continue the chosen path, the answer possibilities in the developed NWoW questionnaire were set at the five possibilities explained in Section 4.3. Because of this change, the questions were slightly adapted.

4.9 Work-life balance

The work-life balance refers to interference between work and personal life. De Jonge and Van Den Tooren (2007) defined two types of interference: work-home interference and home-work interference. The first describes the situation where the personal situation is compromised because of the workload, whereas the second describes the situation where work is compromised because of

the home situation. These items are quoted from the Research to Psychological Workload, the measure therefore has proven itself.

The measure consisted of six items, three items focused on work-home interference and three items focused on home-work interference. The respondents were for example asked what the frequency is that they cannot perform their hobbies because of their workload, or they were asked about the frequency that they have to refuse work tasks because of obligations in the home situation.

As is mentioned, the frequencies were asked. Again the answer possibilities as mentioned in Section 4.3 were used. Varying from (1) 'never' to (5) 'always'.

4.10 Health in work situations

Health is an important theme in NWoW and should not be underestimated. Health issues concern both mental and physical issues. De Jonge and Van Den Tooren (2007) used several items in their Research to Psychological Workload. These constructs are well tested and therefore it is assumed that the item scores show a significant result.

De Jonge and Van Den Tooren (2007) used five items for mental exhaustion, three items for physical complaints, and six general items that discuss both mental as physical issues. The six general items were used for the NWoW questionnaire, from the five items about mental exhaustion three items were taken. Two items were left out because one looks familiar to another item, and the second describes a situation that can be understood in several ways. The three items about physical complaints were added, although the items in the general part will describe someone's physical situation. An example question for this last category is: *Did you experience back aching the past six months?*

The general items and the items about mental exhaustion were ranked on a five point Likert scale, varying from (1) 'never' to (5) 'always'. Again frequencies were asked to make the answers more objective. The same answer possibilities were used as the ones in Section 4.3. The three items on physical complaints were asked on a three point scale with possibilities 'yes', 'sometimes', and 'no'.

4.11 Working Pattern

Working pattern is a broad concept within NWoW. The concept has to do with work times, place of work, transportation method and the corresponding delays. The literature review in Chapter 2 showed the key items of the measure.

The measure consisted of twelve items. The respondent was asked for example at which location he or she works, which transport the person uses to go to their work, but there are also items that asked about needs: frequency of need to work outside the office or the frequency of need to work other times than office hours.

The items had different answer possibilities. Seven items asked a number; the number of days in the week, the number of prints made, etc. Three items asked frequencies, the answer possibilities vary from (1) 'never' to (5) 'always'. The five point Likert scale from Section 4.3 was used for these items. One item asked the way of transportation, answer possibilities were 'by car or motorcycle', 'public transport', 'bike', and 'walking'. The last item asked which location is used when the person does not work in the office, no predetermined answer possibilities were given here.

4.12 Creativity in work situations

Creativity refers to the development of new ideas about products, practices, services, and procedures which are new and potentially usable for the organization (De Jonge & Van Den Tooren, 2007, p. 8). De Jonge and Van Den Tooren (2007) built a creativity construct in their Research on Psychological Workload. These items are quoted in the NWoW questionnaire.

De Jonge and Van Den Tooren (2007) used twelve items. Examples of these items are *In my work I come up with creative solutions for problems*, or *In my work I detect new technologies, techniques, or production ideas*.

The items in the questionnaire had the same five point Likert scale as used by De Jonge and Van Den Tooren (2007): varying from (1) 'never' to (5) 'always'. These are the same answer possibilities as explained in Section 4.3.

4.13 Additional questions

There was one question added, which asked the respondent if s/he has further remarks on the questions s/he just answered. This way, the respondent can give his or her opinion or can add some valuable information for Money Penny BV or the researcher.

5. Results: Validation of the New Way of Working questionnaire

Chapter 4 discussed the development of the New Way of Working (NWoW) questionnaire. The questionnaire consisted of 122 questions, which is quite a lot. One of the requirements for a good questionnaire is the fact that usually less is more. Therefore, in addition to the validation of the questionnaire, another objective of the psychometric analysis was the decrease of the number of questions as much as possible and desirable. Before a psychometric analysis can be executed, the data had to be prepared. Section 5.1 discusses missing values and outliers. Section 5.2 discusses uniformity, internal consistency, and multidimensionality. Section 5.3 summarizes the results and shows construct scores to investigate some hypotheses, and analyse the construct validity.

5.1 Data preparation

The descriptive statistics of all variables were consulted to see if there were any incorrectly filled out values. The range of possible answers was checked, if the values were not within this range the answers were deleted. In the database this was not the case, so no values were deleted. In addition, the scores of the work-life balance answers and answers to questions 1, 2, 3, 10, 11, and 12 from the 'health in work situations' measure were reversed so a high score refers to a positive score. And because questions about the leader used a 1 to 5 Likert scale with an additional value 6 for answer possibility 'I am a manager', this value 6 was deleted because it might influence the total score of these variables. This explains the large number of missing values in the 'organizational characteristics' measure.

5.1.1 Missing values

First, the data were checked on missing values. Table 3 shows there were 156 missing values (54 caused by the deletion of the aforementioned answer possibility 6). A check was performed to see if the missing values were randomly distributed or not. To draw a conclusion, the little MCAR's test was consulted. This test "makes a comparison of the actual pattern of missing data with what would be expected if the missing data were totally randomly distributed" (Hair, Black, Babin, & Anderson, 2010, p. 60).

This test was not significant ($\chi^2 = 4345.41$, $df = 4854$, $p = 1.00$), so the missing values were randomly distributed (Hair, Black, Babin, & Anderson, 2010). Therefore, the regression-based method can be used to estimate the missing values. The percentages shown in Table 3 show that the missing values were below 10% and thus do not need to be estimated at all.

Table 3. Missing values of all sections of the questionnaire

Variable section	Number of missing values	Percentage
<i>Personal</i>	4 (4 for 'age')	0.7%
<i>Values</i>	4	0.6%
<i>Organization</i>	67 (9 deleted for question 11 till 16)	5.3%
<i>Collaboration</i>	16 (3 for question 4 and 10)	1.3%
<i>Job Performance</i>	15 (4 for question 9)	0.9%
<i>Autonomy</i>	7 (3 for question 12)	0.5%
<i>Satisfaction and Motivation</i>	4 (3 for question 4)	0.7%
<i>Work-life balance</i>	2	0.3%
<i>Health</i>	12	1.0%
<i>Work Pattern</i>	12 (4 for question 7 and 3 for question 6)	1.1%
<i>Creativity</i>	13	1.1%
Total	156	1.4%

5.1.2 Outliers

Second, the data were checked on outliers. An outlier is defined as “an observation that is substantially different from the other observations on one or more characteristics. At issue is its representativeness of the population” (Hair, Black, Babin, & Anderson, 2010, p. 36). So, outliers are cases that have data values that are very different from the data values for the majority of cases in the data set and outliers are important because they can change the results of the data analysis. Outliers can be deleted in some cases, but there might be some good reasons to let them in. It all depends on the reason why it is an outlier, and the purpose of the analysis (Hair, Black, Babin, & Anderson, 2010).

There are two types of outliers; univariate and multivariate outliers. Univariate outliers are cases that have an unusual value for a single variable. While multivariate outliers are cases that have an unusual combination of values for a number of variables (Hair, Black, Babin, & Anderson, 2010). Univariate outliers can be found by using the standard score (z-score). For a small sample size (80 or fewer) Hair et al. (2010) recommend to discuss when the z-score is greater than 2.5. For larger sample sizes the authors recommend to discuss the z-scores greater than 4.0. Because a sample size of 98 was used, here the z-score of 3.5 or greater or -3.5 or smaller were discussed as they might refer to a univariate outlier. These outliers are given in Table 4. In the dataset respondents 9, 19, 23, 26, 29, 101, 102, 104, 108, 111, 119, 129, 136, 145, 148, 153, 157, and 160 had such univariate outlier scores. The scores for the variables with z-scores smaller than -4.0 were deleted. This means an increase of fourteen missing values, leading to a percentage of 1.4% missing values. The deletion thus did not lead to any problems.

Table 4. Univariate outliers of the variables (n=98)

Variable	Min	Max	Respondent ID (case value)
Values 1	-6.79	1.03	111 (1)
Values 2	-5.49	1.08	111 (1)
Values 3	-5.08	1.16	111 (1)
Values 4	-6.03	1.05	111 (1)
Values 5	-6.24	1.13	111 (1)
Values 6	-6.33	1.06	111 (1)
Organization 3	-3.98	0.93	29 (2)
Organization 15	-4.26	0.77	145 (1), 153 (1)
Job Performance 1	-3.60	1.51	101 (1), 108 (1), 148 (1)
Job Performance 7	-4.96	1.67	101 (1)
Job Performance 10	-3.91	1.48	157 (2)
Job Performance 16	-4.21	1.30	160 (3)
Job Performance 17	-3.97	1.89	19 (4)
Autonomy 8	-4.96	1.54	119 (1)
Satisfaction and Motivation 1	-3.56	1.67	23 (2)
Health 4	-3.63	1.26	102 (1), 129 (1)
Health 5	-3.57	1.72	19 (1)
Health 7	-3.70	1.77	26 (2)
Work Pattern 3	-1.10	4.05	148 (40)
Work Pattern 6	-0.47	8.03	104 (30)
Work Pattern 7	-0.40	8.02	9 (500)
Work Pattern 12	-1.26	3.90	129 (23)
Creativity 4	-3.69	2.21	160 (1)

To check for multivariate outliers the Mahalanobis distance (D^2) and its p-value were calculated. When the p-value was smaller than 0.001 the respondent was considered as an outlier. To check these multivariate outliers, the Mahalanobis distance and corresponding p-value were calculated for every measure. This was done so a conclusion can be made according to a smaller piece of the questionnaire, when the entire questionnaire was used for the multivariate outlier check no outliers were found. Table 5 shows the respondents which can be considered an outlier for a certain construct. Respondent 23 was deleted from the database as this respondent was considered an outlier for both measures 'values of NWoW' and 'job satisfaction and work motivation'.

Table 5. Multivariate outliers of the variables (n=98)

Element	D ²	p-value	Respondent outlier IDs
Values	38.6	0.000	23
Organization	-	-	-
Collaboration	-	-	-
Job Performance	-	-	-
Autonomy	-	-	-
Satisfaction and Motivation	36.4	0.000	23
Work-life balance	-	-	-
Health	-	-	-
Work Pattern	-	-	-
Creativity	-	-	-

5.1.3 Normal distribution

Finally, it was researched if the data were normally distributed. In order to calculate this assumption, the Kolmogorov-Smirnov test and Shapiro-Wilk test were executed. When these tests are significant, the data have a normal distribution. The Shapiro Wilk test is the preferred test because of its good power properties, therefore its outcome is binding (Razali & Wah, 2011). The Shapiro-Wilk test was only statistically significant for the item 'total experience'. Although only one variable seemed to be normally distributed, De Jonge et al. (1994) found that this does not have to be problematic. The bias becomes only negligible when 70% or more of the respondents score maximal or minimal on one of the particular variables (De Jonge, Landeweerd, & Van Breukelen, 1994). In this database it means that 68 respondents had to score 1 (minimal) or 5 or 10 (maximal). A frequency analysis showed that this was not the case.

5.2 Validation of the New Way of Working questionnaire

The previous section prepared the data obtained from the developed questionnaire for validation. A questionnaire is valid when it complies its goal, but it is as important that the scores hardly depend on coincidences (De Jonge & Hamers, 1997). There are three types of validity; predictive validity, construct validity, and face validity (De Jonge & Hamers, 1997). Predictive validity describes the predictive power of the questionnaire, construct validity researches if the scores have meaning in terms of general theoretical concepts, and face validity is the only type of validation that can be determined prior to the collection of research data because the questionnaire is assessed by experts (De Jonge & Hamers, 1997). This thesis focused especially on the construct validity, although predictive validity will be discussed briefly. The questionnaire was analysed by experts from Money Penny prior to the gathering of data, therefore it meets face validity.

In the next paragraphs, the questionnaire undergoes a psychometric analysis. The database was used to analyse the validity and reliability.

A priori, the database consisted of nine measures (organizational characteristics, collaboration in work situations, job performance, job autonomy, job satisfaction & work motivation, work-life balance, health in work situations, work pattern, and creativity in work situations). Although factor analysis was executed, it did not have a clear outcome. This was not surprising given the number of variables in correspondence to the number of respondents. This paragraph will use three different methods to analyse the variables. Firstly, the construct's uniformity was analysed, this was done by executing a factor analysis with only one dimension on the items corresponding to the construct. Secondly the internal validity of the constructs was measured by using Cronbach's alpha. Thirdly, and lastly, a group of constructs was analysed with factor analysis. This way it was analysed if the items group in the corresponding dimensions, and if the number of dimensions corresponds to the number of constructs.

But before the other categories were analysed, the personal characteristics measure was analysed. Table 6 shows the correlations between the personal characteristics items. It shows a significant correlation between age and total experience ($r = .92, p < .001$), age and experience in organization ($r = .50, p < .001$), and total experience and experience in organization ($r = .56, p < .001$). One of the experience items therefore might be deleted, because 'total experience' correlates extremely high with 'age', this experience item could be deleted. For NWoW the culture of an organization is more important, therefore the item 'experience in the organization' is of greater value than the 'total experience' item.

Table 6. Pearson correlations between the items of the 'personal characteristics' measure (n=97)

		Age	Experience in organization	Total experience	Contract hours
Age	R	1			
Experience in organization	R	.50***	1		
Total experience	R	.92***	.56***	1	
Contract hours	R	.08	.05	-.00	1

* p < .05
 ** p < .01
 *** p < .001

5.2.1 Uniformity and internal consistency

This paragraph analysed the uniformity and the internal consistency of the different measures. The uniformity was analysed by using a principal component analysis (PCA). The number of dimensions was set at 1 so the factor scores to this one dimension were calculated. In addition, the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and Bartlett's Test of Sphericity were used to analyse the appropriateness of factor analysis (Hair, Black, Babin, & Anderson, 2010).

This paragraph will analyse the reliability of the variables in the questionnaire. Reliability is an “assessment of the degree of consistency between multiple measurements of a variable” (Hair, Black, Babin, & Anderson, 2010, p. 125). One form of reliability analysis is the test-retest, but this cannot be used in this research because of the cross-sectional time path. A second more commonly used analysis is analysis of internal consistency, which corresponds to the consistency among the variables in a summated scale. Because the items measure the same construct, the items should be highly correlated (Hair, Black, Babin, & Anderson, 2010). The inter-item correlation should at least exceed .30.

Therefore, this paragraph has used these inter-item correlation matrices. The tables are shown in Appendix II. For the ten measures the Cronbach’s alpha was calculated and the value of the Cronbach’s alpha was calculated when one of the items should be left out. This paragraph shows the uniformity and internal consistency per measure.

Values of the New Way of Working

The KMO value was 0.83 which means that the value was excellent and thus factor analysis is useful for the dataset. The Bartlett’s test of Sphericity was significant ($p < .001$) which means that the number of dimensions in the dataset can be reduced. Table 7 shows the factor scores for the variables when there is one dimension. Table 7 shows that items 1 to 5 had very high factor scores, with item 6 as a pretty high value as well. While item 7 scores negatively and lower than the others.

Table 7. Uniformity factor scores for the measure ‘values of NWoW’ (n=97)

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7
Factor score	.86	.70	.83	.83	.82	.63	-.55

Because item 7 scores negatively, this item needs to be recoded. Which leads to a uniformity factor score .55 for item 7.

The Cronbach’s Alpha for the measure ‘values of NWoW’ was greater than the recommended value of .70. The Cronbach’s Alpha score was .82 while the standardized Cronbach’s Alpha score was .87. This means there were different variances within the items. Especially item 7 had a different standard deviation as the others ($SD = 2.04$). Appendix II shows the inter-item correlation matrix. The matrix shows some values smaller than the cut-off value .30. Table 8 shows the Cronbach’s alpha if an item was deleted. When item 7 is deleted, this will lead to a greater Cronbach’s alpha value. That is why this item must be considered for deletion.

Table 8. Item-total statistics of the measure 'values of NWoW' (n=97)

	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
Item 1	49.01	27.42	.77	.67	.78
Item 2	49.32	26.66	.58	.57	.80
Item 3	49.48	24.82	.71	.70	.77
Item 4	49.11	27.13	.70	.62	.78
Item 5	49.21	27.07	.70	.57	.78
Item 6	49.12	29.16	.47	.50	.81
Item 7	52.11	22.16	.44	.21	.87

Organizational characteristics

The organization category is build up from two different elements: (1) organizational identification and (2) leadership. Because of this clear distinction, the organization measure is split up for the remainder of this psychometric analysis.

Organizational identification

The KMO value was 0.79 which means that the value was great and thus factor analysis was useful for the dataset. The Bartlett's test of Sphericity was significant ($p < 0.001$) which means that the number of dimensions in the dataset can be reduced. Table 9 shows the factor scores for the variables when there is one dimension. Item 1 scores relatively low, compared to the other items.

Table 9. Uniformity factor scores for the measure 'organization identification' (n=97)

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7
Factor score	.47	.65	.65	.74	.71	.61	.74

The organization identification items had a Cronbach's Alpha of .77. The inter-item correlation matrix in Appendix II showed some values beneath .30, especially item 1 scored low on all other items. Table 10 shows that the Cronbach's alpha becomes .78 when item 1 is deleted. Although the value is higher, the value does not change a lot. This item should be considered for deletion, but after these tests it seemed like it is not useful to delete this item.

Table 10. Item-total statistics of the measure 'organization identification' (n=97)

	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
<i>Item 1</i>	22.55	9.57	.34	.18	.78
<i>Item 2</i>	21.55	9.50	.52	.30	.74
<i>Item 3</i>	21.13	10.01	.49	.33	.75
<i>Item 4</i>	21.78	9.18	.56	.47	.73
<i>Item 5</i>	21.85	9.52	.55	.37	.73
<i>Item 6</i>	22.36	9.13	.47	.26	.75
<i>Item 7</i>	21.97	8.63	.58	.37	.72

Leadership

The KMO value is 0.80 which means that the value was great and thus factor analysis was useful for the dataset. The Bartlett's test of Sphericity was significant ($p < 0.001$) which means that the number of dimensions in the dataset can be reduced. Table 11 shows the factor scores for the variables when there is one dimension. Item 3 scores low, and must be considered for deletion.

Table 11. Uniformity factor scores for the measure 'leadership' (n=97)

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6
Factor score	.78	.76	.41	.83	.71	.61

The Cronbach's alpha is .77 which was high enough to prove internal consistency. The inter-item correlation matrix especially shows values beneath .30 for item 3. When this item was deleted, the Cronbach's alpha increases to .80. Although the change is minimal, deletion of the item results in a Cronbach's alpha of .80 or higher. This is a criterion to delete this item, therefore this item must be considered for deletion.

Table 12. Item-total statistics of the measure 'leadership' (n=97)

	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
<i>Item 1</i>	20.08	6.65	.60	.42	.70
<i>Item 2</i>	19.58	7.24	.59	.42	.71
<i>Item 3</i>	19.90	8.04	.28	.16	.80
<i>Item 4</i>	19.45	6.78	.71	.53	.68
<i>Item 5</i>	18.98	8.00	.53	.33	.73
<i>Item 6</i>	19.34	7.57	.43	.23	.75

Collaboration in work situations

The KMO value was 0.79 which means that the value was great and thus factor analysis was useful for the dataset. The Bartlett’s test of Sphericity was significant ($p < 0.001$) which means that the number of dimensions in the dataset can be reduced. Table 13 shows the factor scores for the variables when there is one dimension. The score for item 8 is low, therefore this item should be considered for deletion.

Table 13. Uniformity factor scores for the measure ‘collaboration in work situations’ (n=97)

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10	Item 11	Item 12
Factor score	.56	.72	.68	.67	.76	.57	.61	.40	.71	.69	.56	.63

The ‘collaboration in work situations’ measure has a Cronbach’s alpha of .86. There were not many values smaller than .20, three for item 8, and two for items 2 and 6. But when these items will be deleted, the Cronbach’s Alpha will not be significantly greater.

Table 14. Item-total statistics of the measure ‘collaboration in work situations’ (n=97)

	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Squared multiple correlation	Cronbach’s alpha if item deleted
Item 1	41.68	26.00	.48	.29	.85
Item 2	41.94	22.95	.62	.64	.84
Item 3	42.13	23.82	.59	.57	.84
Item 4	41.83	24.09	.56	.61	.84
Item 5	42.17	23.11	.66	.67	.84
Item 6	42.46	24.67	.48	.53	.85
Item 7	42.57	24.82	.53	.52	.85
Item 8	41.94	25.94	.34	.34	.86
Item 9	41.76	24.63	.63	.52	.84
Item 10	42.01	24.61	.60	.56	.84
Item 11	41.74	23.48	.46	.37	.86
Item 12	42.55	24.45	.55	.43	.85

Job Performance

The KMO value was 0.78 which means that the value was great and thus factor analysis was useful for the dataset. The Bartlett’s test of Sphericity was significant ($p < 0.001$) which means that the number of dimensions in the dataset can be reduced. Table 15 shows the factor scores for the variables when there is one dimension. The table shows low scores for items 1, 3, 5, 7, 12, and 13. These items should be considered for deletion.

Table 15. Uniformity factor scores for the measure 'job performance' (n=97)

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9
Factor score	.39	.63	.48	.73		.75	.43	.65	.60

	Item 10	Item 11	Item 12	Item 13	Item 14	Item 15	Item 16	Item 17	Item 19
Factor score	.50	.61	.45	.35	.69	.75	.64	.55	.70

The Cronbach's alpha for the job performance variables was .85 while the Cronbach's alpha for the standardized items was .88. Appendix II shows the inter-item correlation table, there are quite a few correlations smaller than .20. Table 16 shows that deletion of one of the items will not lead to a significantly higher Cronbach's alpha (if item 5 would be deleted, the alpha value increases to .86).

Table 16. Item-total statistics of the measure 'job performance' (n=97)

	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
<i>Item 1</i>	135.62	116.29	.36	.51	.85
<i>Item 2</i>	134.75	119.29	.57	.61	.84
<i>Item 3</i>	134.69	121.02	.44	.47	.85
<i>Item 4</i>	134.56	119.60	.63	.60	.84
<i>Item 5</i>	135.63	120.86	.25	.33	.86
<i>Item 6</i>	134.90	118.12	.67	.64	.84
<i>Item 7</i>	135.17	120.55	.42	.45	.85
<i>Item 8</i>	134.78	119.68	.54	.57	.84
<i>Item 9</i>	135.44	117.35	.55	.51	.84
<i>Item 10</i>	135.21	114.29	.46	.40	.85
<i>Item 11</i>	134.95	117.42	.53	.50	.84
<i>Item 12</i>	135.80	112.44	.39	.47	.85
<i>Item 13</i>	134.74	125.12	.28	.43	.85
<i>Item 14</i>	134.99	117.54	.55	.63	.84
<i>Item 15</i>	134.58	120.80	.62	.71	.84
<i>Item 16</i>	134.64	116.26	.56	.49	.84
<i>Item 17</i>	134.94	120.23	.45	.40	.85
<i>Item 19</i>	134.77	120.43	.58	.56	.84

Job autonomy

The KMO value was 0.89 which means that the value was excellent and thus factor analysis was useful for the dataset. The Bartlett's test of Sphericity was significant ($p < 0.001$) which means that the number of dimensions in the dataset can be reduced. Table 17 shows the factor scores for the variables when there is one dimension. Only item 8 scores low, therefore this item should be considered for deletion.

Table 17. Uniformity factor scores for the measure 'job autonomy' (n=97)

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10	Item 11	Item 12	Item 13
Factor score	.71	.80	.74	.70	.74	.68	.62	.36	.63	.79	.71	.88	.80

The Cronbach's alpha for autonomy was .92. Appendix II shows that autonomy 8 has a lot of scores smaller than .20. Deletion of this item will not lead to a significantly higher Cronbach's alpha – as is shown in Table 18.

Table 18. Item-total statistics of the measure 'job autonomy' (n=97)

	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
Item 1	44.79	54.65	.66	.66	.91
Item 2	45.11	52.42	.75	.78	.91
Item 3	44.60	53.79	.69	.64	.91
Item 4	44.76	54.64	.64	.48	.91
Item 5	44.58	55.11	.67	.60	.91
Item 6	44.98	55.39	.62	.52	.91
Item 7	44.43	58.57	.55	.46	.92
Item 8	44.43	61.32	.31	.22	.92
Item 9	44.76	57.16	.57	.60	.92
Item 10	44.93	53.29	.73	.66	.91
Item 11	44.62	55.01	.65	.53	.91
Item 12	44.97	51.40	.84	.78	.91
Item 13	45.11	53.81	.74	.69	.91

Job satisfaction and work motivation

The KMO value was 0.87 which means that the value was excellent and thus factor analysis was useful for the dataset. The Bartlett's test of Sphericity was significant ($p < 0.001$) which means that the number of dimensions in the dataset can be reduced. Table 19 shows the factor scores for the variables when there is one dimension. All scores are high, so no items have to be deleted.

Table 19. Uniformity factor scores for the measure 'job satisfaction and work motivation' (n=97)

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6
Factor score	.82	.83	.82	.85	.79	.88

This construct had a Cronbach's alpha value of .91. Appendix II shows high inter-item correlation scores, and deletion of any of the variables will not lead to a (significantly) higher Cronbach's alpha value. Table 20 shows that the deletion of one of the items would lead to a decrease of the Cronbach's alpha value, and consequently a decrease in internal consistency.

Table 20. Item-total statistics of the measure 'job satisfaction and work motivation' (n=97)

	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
Item 1	20.09	7.63	.73	.58	.90
Item 2	20.03	7.41	.74	.58	.89
Item 3	20.06	7.29	.73	.58	.89
Item 4	20.17	6.42	.78	.69	.89
Item 5	20.09	7.54	.70	.55	.90
Item 6	20.31	6.60	.83	.74	.88

Work-Life Balance

The KMO value was 0.70 which means that the value was great and thus factor analysis was useful for the dataset. The Bartlett's test of Sphericity was significant ($p < 0.001$) which means that the number of dimensions in the dataset can be reduced. Table 21 shows the factor scores for the variables when there is one dimension. All items score high, so no items should be considered for deletion.

Table 21. Uniformity factor scores for the measure 'work-life balance' (n=97)

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6
Factor score	.70	.79	.71	.64	.63	.70

The Cronbach's alpha for this construct was .78. The inter-item correlation matrix shows only three values smaller than .20. Table 22 shows that deletion of any of the items 1 or 3 will not lead to a higher Cronbach's alpha. Therefore, these items should not be considered for deletion, and thus should be left in the measure.

Table 22. Item-total statistics of the measure 'work-life balance' (n=97)

	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
Item 1	19.13	6.52	.57	.46	.74
Item 2	18.84	5.84	.68	.59	.71
Item 3	18.63	5.73	.57	.49	.75
Item 4	17.82	7.45	.46	.34	.77
Item 5	17.69	7.60	.44	.49	.77
Item 6	17.73	7.07	.51	.57	.76

Health in work situations

The KMO value was 0.84 which means that the value was excellent and thus factor analysis was useful for the dataset. The Bartlett's test of Sphericity was significant ($p < 0.001$) which means that

the number of dimensions in the dataset can be reduced. Table 23 shows the factor scores for the variables when there is one dimension. All items score relatively high, so no item should be considered for deletion based on this uniformity check.

Table 23. Uniformity factor scores for the measure 'health in work situations' (n=97)

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9
Factor score	.76	.64	.72	.58	.56	.53	.70	.80	.74

The Cronbach's alpha for this construct was .84. There were not many values smaller than .20 in the correlation matrix, deletion of an item does not result in a higher Cronbach's alpha.

Table 24. Item-total statistics of the measure 'health in work situations' (n=97)

	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
<i>Item 1</i>	30.80	12.90	.69	.59	.81
<i>Item 2</i>	31.12	13.65	.55	.45	.82
<i>Item 3</i>	30.99	13.05	.62	.45	.82
<i>Item 4</i>	30.75	14.28	.47	.24	.83
<i>Item 5</i>	31.05	14.41	.47	.27	.83
<i>Item 6</i>	30.90	15.38	.42	.25	.84
<i>Item 7</i>	30.75	14.93	.55	.58	.83
<i>Item 8</i>	30.90	14.37	.67	.66	.81
<i>Item 9</i>	30.84	14.60	.61	.53	.82

Work Pattern

As mentioned in Section 4.10 the items measured in the 'work pattern' measure vary a lot from each other. On the one hand it measures the weekly number of traffic delays, while on the other hand it measures the number of pages printed on a day. Therefore, common sense should decide which questions are useful in practice. A uniformity check can be executed for items 8, 9, and 10, although it is questionable what the results will show. Because the KMO value was .56 it is questionable if a factor analysis is useful. Table 25 shows the results, these values are pretty high.

Table 25. Uniformity factor scores for the measure 'work pattern' (n=97)

	Item 8	Item 9	Item 10
Factor score	.71	.81	.61

The work pattern construct consisted of questions that are not measured in the same scale. Only items 8, 9, and 10 are measured on a five point Likert scale. When these were analysed they had a Cronbach's alpha of .51, so the three items did not have a high internal consistency. Therefore, the

added value of the work pattern section should be discussed in a later stage. Deletion of variables at this stage will not be the best option.

Creativity in work situations

The KMO value was 0.93 which means that the value was excellent and thus factor analysis was useful for the dataset. The Bartlett’s test of Sphericity was significant ($p < 0.001$) which means that the number of dimensions in the dataset can be reduced. Table 26 shows the factor scores for the variables when there is one dimension. All scores are high, so no items should be considered for deletion.

Table 26. Uniformity factor scores for the measure ‘creativity in work situations’ (n=97)

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10	Item 11	Item 12
Factor score	.76	.79	.66	.80	.86	.72	.82	.79	.84	.77	.76	.79

The creativity construct had a Cronbach’s alpha value of .94. Appendix II shows the inter-item correlation matrix, there are no scores smaller than the cut-off value. In Table 27 it can be seen that the alpha score will not increase when an item is deleted.

Table 27. Item-total statistics of the measure ‘creativity in work situations’ (n=97)

	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Squared multiple correlation	Cronbach’s alpha if item deleted
Item 1	38.29	39.48	.71	.60	.94
Item 2	38.35	38.70	.74	.61	.93
Item 3	38.63	38.57	.60	.45	.94
Item 4	38.37	38.38	.76	.65	.93
Item 5	38.30	36.71	.82	.78	.93
Item 6	38.34	39.12	.66	.53	.94
Item 7	38.08	37.93	.78	.72	.93
Item 8	38.52	37.19	.74	.62	.93
Item 9	38.60	36.74	.81	.71	.93
Item 10	38.28	37.80	.72	.58	.94
Item 11	38.21	38.94	.70	.59	.94
Item 12	38.49	38.98	.74	.62	.93

5.2.2 Multidimensionality

To check multidimensionality the measures were grouped and factor analysis was used to see if the items in the dimensions were loaded to the right measures. The three groups that were introduced in Figure 1 (on page 15) were used: people and organization, work, and preconditions. Table 28 shows the grouping of the constructs. The first group consisted of the measures ‘values of NWoW’, ‘organization identification’, ‘leadership’, ‘collaboration in work situations’, and ‘job satisfaction and

work motivation'. The second group consisted of the measures 'job performance', 'creativity in work situations', and 'work pattern'. While the third group consisted of the measures 'job autonomy', 'work-life balance', and 'health in work situations'.

Table 28. Grouping of the measures for the multidimensionality check (see figure 1, page 15)

People and Organization	Work	Preconditions
Values of NWoW	Job performance	Job autonomy
Organization identification	Creativity in work situations	Work-life balance
Leadership	Work pattern	Health in work situations
Job collaboration		
Job satisfaction and work motivation		

People and Organization

Table 28 shows that the people and organization group consists of five measures. The KMO value for this factor analysis was .61 which is rather low. In the previous paragraphs it was analysed that there were some items that score rather low on the particular constructs. For the constructs in this group it were item 7 from 'values of NWoW', item 3 from 'leadership', item 1 from 'organizational identification', and item 8 from 'collaboration in work situations'. Without these items the KMO value became .66. Because this value increased a lot, the variables were left out in the analysis. A principal component analysis (PCA) with oblique rotation and an a priori set number of dimensions (5) was used. The results are shown in Appendix III.

The results show that the 'values of NWoW' items, the 'leadership' items and the 'job satisfaction and work motivation' items clearly belong to their own dimension. The 'organizational identification' items were grouped, but items 3, 4, and 5 scored low on its own dimension. And the last dimension was filled with the 'collaboration in work situations' items, although items 1, 9, and 11 did not clearly belong to this (or another) dimension.

Work

The second group consisted of the measures 'job performance', 'creativity in work situations', and 'work pattern'. Because it was concluded that the measure 'work pattern' will not have value in the factor analysis, this construct was left out. When all variables for 'job performance' and 'creativity in work situations' were inserted the KMO value was .81. So, it was useful to execute factor analysis. But when the items that score low in the unidimensional test were left out, the KMO value might become a little higher. Therefore 'job performance' items 1, 3, 5, 7, 12, and 13 were left out, this led to a KMO value of .86. Because the difference is rather low, and the KMO value of the complete set was pretty high, the mentioned items were left in. A principal component analysis (PCA) with

oblique rotation and an a priori set number of dimensions (2) was used. The results are shown in Appendix III.

Again the result in Appendix III shows a clear distinction in the two dimensions. Job performance items 3, 12, 13, 16 and 17 did not have a really high score on any of the dimensions, while job performance item 11 scores high on the 'creativity in work situations' dimension. The 'creativity in work situations' dimension was filled with the twelve items that belong to the measure.

Preconditions

The third and last group consisted of the measures 'job autonomy', 'work-life balance', and 'health in work situations'. The KMO value of the total number of variables was .74. Without the low scoring item 8 from the 'job autonomy' measure, this became .75. Because of the only slight increase, the mentioned item was left in. A principal component analysis (PCA) with oblique rotation and an a priori set number of dimensions (3) was used. The results are shown in Appendix III.

The results show that the items were grouped very well. All items scored high on their own dimension, only item 8 from the 'job autonomy' measure did not score above .30 on any of the dimensions.

5.3 Summary of the validation results

The validation in the previous sections showed the items that might be ready for deletion. Into consideration must be taken that items that belong to a pre-validated questionnaire belong to the construct, although the validation in Sections 5.1 and 5.2 says differently. Paragraph 5.3.1 summarizes the validation results. In addition with these items, the items especially in the construct 'work pattern' were discussed within the research team. Items that would not be relevant were deleted from the questionnaire, these items are discussed in Paragraph 5.3.2. Paragraph 5.3.3 focuses on the calculation of construct scores. Lastly, Paragraph 5.3.4 discusses the construct validity.

5.3.1 Validation results

Table 29 shows the results of the previous validation sections. The first item that should be deleted was item 7 of the 'values of NWoW' measure. This question was: *I like it when my manager controls me*. This question can be interpreted in several ways, therefore it was decided that this item must be deleted.

For the measure 'organizational identification' item 1 could be deleted, when the item is deleted the Cronbach's alpha increases from .77 to .78. Although not a major increase, it also scores low on the uniformity factor analysis and the result was better when it was excluded from the multidimensional factor analysis. Therefore item 1 of the 'organizational identification' measure

should be deleted as well. Therefore the statement *if someone criticizes the organization, this feels like a personal insult* was deleted. Items 3, 4 and 5 score low on the multidimensional factor analysis. But the items score rather high on the uniformity research, and when they were deleted, the Cronbach's alpha decreases greatly. Therefore, these items were left in the questionnaire.

Table 29. Items ready for deletion

Construct	Uniformity	Multidimensional	Cronbach's alpha
Values	7	7	7
Organization ID	1	1, 3, 4, 5	1
Leadership	3	3	3
Collaboration	8	1, 8, 9, 11	8
Job performance	1, 3, 5, 7, 12, 13	3, 5, 11, 12, 13, 16, 17	1, 5, 12
Autonomy	8	8	

For the 'leadership' measure item 3 was considered for deletion. This item was: *My manager can change the way he controls his or her employees*. On the uniformity check the item only scored .41, and the Cronbach's alpha increases from .77 to .80 when the item was left out. In the multidimensional factor analysis it was left out because the KMO value increased when it was left out. Therefore the item should be deleted.

The tests for the 'collaboration in work situations' items were not showing a clear outcome. Item 8 scored low on the internal consistency test, while items 1, 9, and 11 scored low on the multidimensional test where item 8 was left out for a higher KMO value. At the uniformity check also item 8 was scoring rather low (.40). The Cronbach's alpha stays .86 when item 8 is deleted. Although there was no increase of the Cronbach's alpha value, the item - *within the organization help is provided to colleagues when this is needed or asked* - was deleted because of the low uniformity and the higher KMO value when the item was left out. Items 1, 9, and 11 were not deleted as the Cronbach's alpha would decrease when these items were deleted, and the value for uniformity was rather high.

The items of the 'job performance' measure had no clear items to be deleted. For uniformity, items 1, 3, 5, 7, 12, and 13 scored below .50, while a multidimensional test suggested to delete items 3, 5, 11, 12, 13, 16, and 17. There were no clear reasons to delete one of the items, although uniformity and multidimensional tests suggested there were some issues. This might be the case because of the clear distinction De Jonge and Van Den Tooren (2007) made between in-role and extra-role performance. Table 30 shows which items belong to which dimension, while Table 31 tests the

uniformity of the items on their new dimension. Table 30 concludes that items 1, 5, 7, 8, and 9 belong to the extra-role dimension, and items 2, 3, 4, 10, 11, 12, 13, 14, 15, and 16 belong to the in-role dimension. Item 6 made no clear distinction, while it belonged to the in-role dimension. Items 3, 8, 11, and 13 belonged to the wrong dimension.

Table 30. Factor analysis results for in-role and extra-role job performance

	In-role dimension	Extra-role dimension
<i>Item 1</i>		.79
<i>Item 2</i>	.58	
<i>Item 3</i>	.50	
<i>Item 4</i>	.73	
<i>Item 5</i>		.60
<i>Item 6</i>	.53	.47
<i>Item 7</i>		.64
<i>Item 8</i>	.40	.50
<i>Item 9</i>	.35	.51
<i>Item 10</i>	.44	
<i>Item 11</i>	.65	
<i>Item 12</i>	.63	
<i>Item 13</i>	.66	-.48
<i>Item 14</i>	.68	
<i>Item 15</i>	.69	
<i>Item 16</i>	.70	

Table 31. Uniformity of the in-role and extra-role items (n=97)

	Item 2	Item 4	Item 6	Item 8	Item 9	Item 10	Item 11	Item 14	Item 16
<i>In-role</i>	.64	.74	.81	.71	.64	.60	.60	.72	.67
	Item 1	Item 3	Item 5	Item 7	Item 12	Item 13	Item 15		
<i>Extra-role</i>	.59	.73	.59	.61	.45	.45	.52		

Table 31 shows that items 12 and 13 score low on the extra-role dimension. This does not seem to be the answer for the unclear number of items that could be deleted following the previous tests. Because De Jonge and Van Den Tooren (2007) used a significant larger amount of respondents, the distinction the authors made was kept. No items were deleted based on these results.

The last measure was the 'job autonomy' measure, this measure showed one item that might be considered for deletion. Namely, item 8. It scored low on the uniformity check (.36), and it was left out of the multiple dimensions test for a better KMO value. The Cronbach's alpha did not increase when this item was left out. Item 8, *I can judge for myself whether the work I have done is good or*

bad, was part of the construct developed by De Jonge et al. (1994). Therefore, this item was maintained in the questionnaire.

This led to a total of four items which were deleted after validation: item 7 from the 'values of NWoW' measure, item 1 from the 'organizational identification' measure, item 3 from the 'leadership' measure, and item 8 from the 'collaboration in work situations' measure.

5.3.2 Post-research face validity check

After deletion of the mentioned items, there were still some items that must be evaluated on their usefulness in the questionnaire. These questions used different answer possibilities than the other questions. Therefore they were not analysed during the validation process. Because of their different answer possibilities, these questions cannot be part of the to-developed-construct. The items that were discussed are item 13 from the 'collaboration in work situations' measure (*My organization has the right tools to share knowledge and information*), 'health in work situations' items 10, 11, and 12 (*Did you suffer your neck or shoulders, the centre of your back, your lower back, the last six months*), and the 'work pattern' items.

'Collaboration in work situations' item 13 *My organization has the right tools to share knowledge and information*, was deleted because this questionnaire is likely not the right way to ask this. When this question is asked, it might also be important why it is not the right tool, or what the alternative might be. In addition, as was mentioned in Section 2.5, it is questionable if the tools that the company has are used in the right way. If the overall score of the construct is low, it might be that the company does not have the right tools, subsequently an interview with the manager - or some of the respondents that believe the used tool is not the right one – might lead to a better conclusion than a conclusion based on the score of this item. Therefore, this item was deleted from the questionnaire.

The extra items in the health part were considered for deletion because they seem superfluous: the respondent's physical health can already be concluded from previous items in the questionnaire. If it is concluded from these items that respondents have physical health issues, an interview with this respondent will have more value than the addition of these three items. Therefore the three physical health items (items 10, 11, 12) were deleted.

Three items were deleted in the 'work pattern' measure, *which type of transport do you use, how many days in the week do you use this type of transport*, and *how many pages do you print on a day* were left out. The transportation type is not interesting for the change after the implementation of NWoW, because it probably will not change after the implementation. How many days this type of transportation is used correlates ($r = .56, p < .01$) with the number of days the respondent goes to

the office. Therefore, these items were superfluous and deleted from the questionnaire. How many pages are printed is a sign of digitalization, but it is hard for people to estimate. Digitalization is an important theme within NWoW, therefore this theme should be for example considered as a probable cause of possible low scores in the collaboration construct. Digitalization is an important theme to measure for NWoW. Currently, it was asked how many pages were printed on a day. But this question is reconsidered as it is hard for people to estimate. There are other ways to measure this, for example the executed print jobs per period before and after implementation can be compared. Therefore this item was deleted.

5.3.3 Construct scores

The items that survived the validation procedure were used to calculate construct scores. This mean-item-score reflects the total score of the construct. In order to do so, the mean of the different construct items was used to calculate the construct score. The descriptives of the newly developed construct scores are given in Table 32. A distinction was made between the two respondent groups. The first group, consisting of the respondents of the company (C), was not familiar with NWoW, while the second group, consisting of the newsletter respondents (N), was familiar with NWoW. The total scores (T) reflect the mean scores of both groups together.

First of all, Table 32 was analysed on striking results. The first result was the high score on the construct 'values for NWoW'. With a mean score of 8.71 and no values below 7.00 it was clear that characteristics of NWoW, like flexibility, were highly valued. Second, the score for the 'leadership' construct was relatively high, with a mean score of 3.97. This means that the respondents in general were satisfied with their leader and have faith that their leader is ready for NWoW. A third result was a relatively low score for job autonomy for the group that was not familiar with NWoW, and a higher score for the group that was familiar with NWoW. A fourth striking result was the high score for 'job satisfaction and work motivation' (mean = 4.02). It showed that the respondents were in general satisfied with their job and motivated to perform their work tasks. A fifth result was found in the score for work-life balance, it showed that the N-group scores lower than the C-group. The mean score for the total amount of respondents was 3.66 which was lower than expected. But the lower score for the N-group corresponded to the assumptions made in Chapter 2 (Baane, 2011; Bijl, 2009). Last, the score on the 'creativity in work situations' construct was lower than expected, although it was clear that there was a difference between the respondent groups.

Table 32. Analysis of the computed constructs

		Range	Min	Max	Mean	SD
<i>Values for NWoW</i>	C (n=35)	1-10	7.00	10.00	8.50	.71
	N (n=61)	1-10	7.17	10.00	8.82	.80
	T (n=96)	1-10	7.00	10.00	8.71	.78
<i>Organization ID (n=98)</i>	C (n=35)	1-5	3.00	5.00	3.74	.42
	N (n=62)	1-5	2.33	5.00	3.79	.55
	T (n=97)	1-5	2.33	5.00	3.77	.51
<i>Leadership (n=89)</i>	C (n=34)	1-5	3.20	4.80	3.99	.40
	N (n=54)	1-5	2.40	5.00	3.96	.68
	T (n=88)	1-5	2.40	5.00	3.97	.58
<i>Job collaboration (n=98)</i>	C (n=35)	1-5	2.60	4.73	3.74	.43
	N (n=62)	1-5	2.82	4.64	3.84	.49
	T (n=97)	1-5	2.60	4.73	3.80	.47
<i>Job performance (n=98)</i>	C (n=35)	1-10	6.13	9.38	7.91	.64
	N (n=62)	1-10	6.25	9.93	8.01	.71
	T (n=97)	1-10	6.13	9.93	7.97	.68
<i>Job autonomy (n=98)</i>	C (n=35)	1-5	2.31	4.92	3.45	.56
	N (n=62)	1-5	2.15	5.00	3.90	.60
	T (n=97)	1-5	2.15	5.00	3.74	.62
<i>Job satisfaction and work motivation</i>	C (n=35)	1-5	3.17	5.00	4.08	.42
	N (n=61)	1-5	2.50	5.00	3.99	.58
	T (n=96)	1-5	2.50	5.00	4.02	.52
<i>Work-life balance (n=98)</i>	C (n=35)	1-5	2.67	5.00	3.76	.52
	N (n=62)	1-5	3.00	5.00	3.61	.49
	T (n=97)	1-5	2.67	5.00	3.66	.50
<i>Health (n=98)</i>	C (n=35)	1-5	2.50	5.00	3.87	.56
	N (n=62)	1-5	2.44	4.78	3.85	.43
	T (n=97)	1-5	2.44	5.00	3.86	.48
<i>Creativity (n=98)</i>	C (n=35)	1-5	2.73	5.00	3.30	.47
	N (n=62)	1-5	2.42	5.00	3.62	.60
	T (n=97)	1-5	2.42	5.00	3.50	.58

In addition, the difference between the two respondent groups was investigated. Appendix IV shows the results of the comparison. The results show that there were three significant differences between the two respondent groups. On the construct 'values for NWoW' the group that was familiar with NWoW scores significantly higher ($p < .05$). This was in line with the expectations based on the status quo bias (Falk, Schepers, Hammerschmidt, & Bauer, 2007), there was a natural resistance against change when there was already a working alternative. Because the

implementation of NWoW led to a change of the way of working, it was assumed that people who have no experience with NWoW will be more negative towards it than people who have experienced it. On the construct 'job autonomy' the respondents that were familiar with NWoW scored significantly higher as well ($p < .01$). This difference was not expected, as it was expected that the majority of people would always value job autonomy. This was in line with one of the results shown in the previous indentation. The third construct that was significantly different was 'creativity in work situations' ($p < .01$). The respondent group that was familiar with NWoW again scored higher than the respondent group that was not familiar with NWoW. So, the people that had worked or were working in a NWoW environment were more creative than people who had or were not. This corresponded to the assumption that the freedom provided in organizations that had implemented NWoW led to more creativity (Duurzaam Vastgoed, 2015).

5.3.4 Construct validity

Table 33 shows the Pearson correlation matrix of the developed constructs with the items 'age', 'experience in the organization', and 'contract hours' added. This led to 34 significant Pearson correlations. This section will discuss the Pearson correlations greater than .40, corresponding to the distinction made by Evans (1996). He labelled the relations between variables as moderate to strong when the values exceed a Pearson correlation value of .40 (Evans, 1996). This led to eleven remaining significant correlations.

The first relation that is described is the one between the 'values for NWoW' construct and the 'job autonomy' construct ($r = .50$; $p < .001$). This relation was not that surprising as five of the six items of this construct were focused on flexibility or autonomy (work planning, where to work, when to work, make own decisions, own way of working). Therefore this high correlation did not come as a surprise. 'Values for NWoW' also had a significant relation with 'creativity in work situations' ($r = .41$; $p < .001$). This was not surprising because the relation between 'job autonomy' and 'creativity in work situations' was also significant ($r = .46$; $p < .001$). This corresponded to the research by Zhang and Bartol (2010) who found that autonomy is a vital precondition for creativity in work situations.

The 'satisfaction and motivation' construct had many significant relations with other constructs. Five constructs had a Pearson correlation greater than .40: 'organization identification' ($r = .50$; $p < .001$), 'leadership' ($r = .42$; $p < .001$), 'collaboration in work situations' ($r = .49$; $p < .001$), 'job autonomy' ($r = .40$; $p < .001$), and 'health in work situations' ($r = .40$; $p < .001$). Mael and Ashforth (1992) found that job satisfaction is related to organization identification, because satisfaction depends on the organization 'contributing suitably to the attainment of one's personal objectives' (Mael & Ashforth, 1992, p. 108). In NWoW managers become directors. A high leadership score corresponds to a leader that can provide his employees with autonomy. Kuiken (2014) discussed

that people are more satisfied when they have the feeling of autonomy, connectedness, and competence. Peters et al. (2011) found that the bundling of job demands and resources, as is done in autonomous organizations, will lead to so-called active work, which can motivate employees and can bring a higher job satisfaction. In addition many researchers found that there is a positive relation between job autonomy and job satisfaction (Spector, 1986; Loher, Noe, Moeller, & Fitzgerald, 1985).

Table 33. Pearson correlation matrix of the developed constructs and personal characteristics (n=97)

	Age	Experience in organization	Contract Hours	Values	Organization Identification	Leadership	Collaboration	Job Performance	Autonomy	Satisfaction motivation	Work life balance	Health	Creativity
Age	1												
Experience in organization	.50***	1											
Contract hours	.08	.05	1										
Values	.13	-.09	.06	1									
Organization Identification	.04	-.09	.10	.27**	1								
Leadership	.13	.09	.15	.09	.43***	1							
Collaboration	.09	.14	-.01	.29**	.27**	.39***	1						
Job Performance	-.08	-.09	.01	.39***	.29**	.25*	.23*	1					
Autonomy	.13	-.09	.09	.50***	.48***	.33**	.26**	.11	1				
Satisfaction motivation	.23*	.28**	.14	.27**	.50***	.42***	.49***	.17	.40***	1			
Work-life balance	-.03	-.05	-.21*	.04	.02	.04	.01	.17	-.12	-.05	1		
Health	.16	.03	-.04	.23*	.20*	.38***	.27**	.08	.26*	.40***	.29**	1	
Creativity	-.09	-.11	.08	.41***	.25*	.19	.17	.51***	.46***	.24*	-.18	.01	1

* p < .05
 ** p < .01
 *** p < .001

In line with the results, Faragher et al. (2005) found a positive significant relation between job satisfaction and health. This research found that job satisfaction has a positive relation with both mental and physical health. This means that people who are more satisfied with their job, are healthier, both mental as physical (Faragher, Cass, & Cooper, 2005).

There were also significant correlations between 'organization identification' and 'leadership' ($r = .43$; $p < .001$) and between 'organization identification' and 'job autonomy' ($r = .48$; $p < .001$). Mael and Ashforth (1992) discussed that employees who see their manager as a mentor will have a greater organization identification. "Identification with an organizational member who is seen as exemplifying the organization may promote identification with the organization as a whole" (Mael & Ashforth, 1992, p. 108). Therefore the results corresponded to the research into organization identification of Mael and Ashforth (1992): there was a positive relation when the leader was seen as charismatic and employees were able to identify themselves with their manager and thus their organization. These authors do not describe the relation between organization identification and autonomy. It was found that people who perceive more autonomy will in general have a greater organization identification. This is contrary to the remarks of De Ruiter (2014). This author found that NWoW, and the corresponding autonomy, could lead to a feeling of '*out of sight, out of mind*' by the other employees.

Lastly, there was also a positive significant relation between 'job performance' and 'creativity in work situations' ($r = .51$; $p < .001$). This is in line with the findings of Pitt & Bennett (2008). These authors suggested to change the term productivity to job performance, as productivity infers to produce more quantity, while work tasks in NWoW – for example – are more about quality and creativity than about quantity. Therefore they concluded that there is a positive relation between job performance and creativity.

6. Discussion and conclusions

This last chapter presents the discussion and conclusions. The chapter starts with a discussion on the study in Section 6.1. Section 6.2 presents the theoretical implications which discuss contributions to science. Further, Section 6.3 presents the managerial implications which discuss practical valorisation. The study limitations are given in Section 6.4. The next section (6.5) describes possibilities for future research based on this study. Finally Section 6.6 presents the overall conclusions of this research.

6.1 Discussion

The goal of this master research was to develop a theoretically-based and well-validated instrument that can be used to assess NWoW as well as to determine the impact of the implementation of NWoW. In order to achieve this goal, three research questions were introduced in Chapter 1. The first research question focuses on the development of the questionnaire, the second deals with the psychometric analysis of the questionnaire, and the third focuses on construct validity.

To answer the first research question, a literature review was executed. After this literature review eleven constructs are identified as the main components of NWoW. Two of these constructs are seen as potential antecedents (personal and organizational characteristics), the construct 'values' is seen as a link between the respondent and NWoW, and the other constructs are seen as potential consequences (see Figure 6, for a representation).

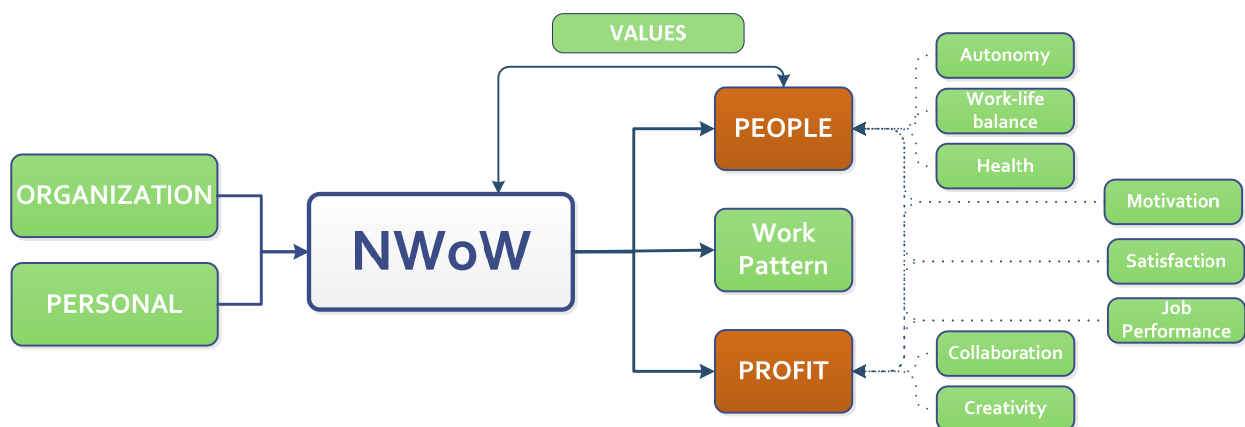


Figure 6. Potential antecedents and consequences of NWoW

In order to answer the second research question, the constructs are split up in items which correspond to a question that is asked in a newly developed questionnaire. This questionnaire is sent to two different respondent groups by means of an online cross-sectional survey: the first group (a new client of Money Penny BV) has not worked with NWoW before, while the people in the

second group (newsletter subscribers) are in general familiar with working in a NWoW manner. This led to a sample of 98 people. These respondents are on average 46.8 years old, while they had on average 14.3 years' experience in their current organization. The received scores are used for an internal consistency and reliability analysis. The uniformity and internal consistency are tested for the items per construct. In addition, multidimensional factor analysis shows that the items belong to the right constructs. This analysis shows that eleven items had to be deleted in order to make the constructs valid and reliable. Therefore, the psychometric analysis shows that the instrument is valid and reliable.

The third research question focuses on construct validity. Construct validity can be verified by comparing the results found in this research with results found in other research which was designed to measure the same (Baarda & De Goede, 2006). To measure the construct validity, the relations between the constructs have been analysed and compared to theoretical expected relations. This resulted in similar results, and therefore construct validity is found.

On the basis of these three research questions, it can be concluded that ten of the eleven constructs in the developed questionnaire are valid and reliable. The construct 'work pattern' deserved some additional attention because it was hard to split this construct into items. Face validity analysis is used to make this construct valid.

In addition, a question was added to the questionnaire to ask if the respondents have further remarks. This led to some interesting findings. The respondents of the client company – where NWoW was not yet implemented – responded quite negatively on the change. Some of the respondents did not know what NWoW was, others seemed to oppose to the change. While the newsletter respondents were quite positive. One respondent was very positive about the flexible work times, as she can work hard when the situation asks for it, and she can take it slow when there is little to do. Some people of the second group responded that they had fun filling out the questionnaire as it made them think about their way of working. Another respondent made a very valid point by stressing that some questions would be answered differently when another research method was used.

6.2 Theoretical implications

Although NWoW is not that new anymore, only a few studies are focusing on NWoW. Because not many effects of NWoW are investigated yet, a study focusing on NWoW like this could have theoretical contributions. This section describes the theoretical implications of this research, and especially of the developed instrument.

Theoretical implications of the collection of components of NWoW

Although several authors started their studies with the statement that there is no single and clear definition of NWoW, they tried to make the term clearer by using rather vague partitions. For example, Bijl (2009) uses the partition people, planet, profit to discuss NWoW, and Baane (2011) uses the partition bricks, bytes, behaviours. Although Bijl (2009) mentions most of the eleven components, the author makes no clear statement that these eleven components are the most important for NWoW. The same can be concluded for Baane (2011) who also mentions most of the eleven components in his research. This study tries to make NWoW a clear concept by using the eleven main components instead of vague partitions that alliterate well.

As the developed instrument actually is a theoretical collection of the results found in the research to NWoW, it is hard to mention its scientific value. The instrument has grouped the main components of NWoW and made it easier to do research to the relations between these constructs. Therefore the grouping of the main components is the most important theoretical implication of this research.

Although not many studies focus on NWoW, and even less studies discuss the main components of NWoW (like antecedents and consequences), eleven main components are found during the literature review. The component that served as starting point in the questionnaire was the personal characteristics component. In addition, a component that compares the values of the respondents with the values obtained from NWoW is considered important. Although it is sometimes assumed that all people like autonomy for example, Slijkhuis (2012) concluded that for some people there is no fit with the main values of NWoW (Slijkhuis, 2012). Many authors do agree that autonomy is one of the core components of NWoW (Baane, 2011; Bijl, 2009; Peters et al., 2009; Peters et al., 2011; Pricewaterhouse Coopers, 2011), flexibility in work place and work times are the most important issues within this construct. Some of these authors agree that this flexibility or autonomy leads to creativity and innovation (Baane, 2011; Laihonon, 2012) and corresponding to the autonomy employees achieve, this leads to changes in work pattern (Baane, 2011; Peters, 2011; Pricewaterhouse Coopers, 2011). Further, autonomy and flexibility give the employee the possibility to work at home. Therefore an important component of NWoW becomes the work-life balance (Bijl, 2009; Peters et al., 2009; Pricewaterhouse Coopers, 2011). In addition, NWoW is generally implemented because it could lead to an increased job performance (Baane, 2011; Bijl, 2009; Laihonon, 2012, Peters et al., 2011; Pricewaterhouse Coopers, 2011) and an increased job satisfaction (Baane, 2011; Bijl, 2009; Laihonon, 2012; Peters et al., 2011). Organizations that are willing to implement NWoW have to meet the Health and Safety legislation, so health also is an important component of NWoW (Baane, 2011). Further, there are some difficulties that have to be

overcome, most of them correspond to organizational characteristics. The first difficulty is the collaboration method, likely this will change because people are less in the office (Baane, 2011; Bijl, 2009; Peters et al., 2011; Pricewaterhouse Coopers, 2011), secondly the reputation of the company is likely to change because they have made work more fun (Baane, 2011). Thirdly, and lastly, the leadership style has to be changed to one where employees are assessed on their results rather than their presence (Baane, 2011; Peters et al., 2011). This intention shows that there are some differences between the components named per used source. Hence, it is concluded that this research has scientific contribution because it bundles the main components (antecedents and consequences) of NWoW. Although it is hard to conclude that this list of components is comprehensive, it could be concluded that the main components are discussed.

In addition, there are not many questionnaires focusing on NWoW and even less are available in Dutch. The University of Utrecht developed a questionnaire about NWoW, but it merely focuses on work-life balance (Van Delft, 2011). In addition, HEMA academy developed a questionnaire, but this questionnaire functions as a scan: it only analyses if the respondent is ready, or able, to implement NWoW. It focuses on job collaboration, organization identification, autonomy, and job performance (HEMA academy, 2013). These questionnaires contain 50, respectively 85 questions which are all obligatory to be filled out. Further, these questionnaires cannot be modularly used and do not provide comprehensive information about NWoW and the impact of the implementation of NWoW. This might show that the developed questionnaire in this research is a welcome addition to the available questionnaires.

Theoretical implications of construct validity

The instrument is developed on the basis of the model in Appendix I. This model shows the distinction people, planet, profit (Bijl, 2009), and it elaborates on this distinction to summarize the main components of NWoW. The instrument is developed modularly and thus can be used to measure the relations between any of the components. The previous chapter already discussed the eleven strongest ($r > .40$) relations found. This intention will not repeat these results, but it focuses on expected relations between different constructs that are not found in this construct validity analysis.

Firstly, although Sullivan (1994) found that a satisfied employee is a productive employee, it seems this is not the case in this research ($r = .17$; $p = .09$). It seems that employees do not get satisfied by performing good at their job, but they are more satisfied when they have a good leader, when they can work together properly, and also when they have the autonomy they need. These findings are in line with the findings of De Jonge and Van den Tooren (2007). These authors found that job

satisfaction was positively influenced by convenient work times, collaboration, and job conditions (De Jonge & Van Den Tooren, 2007).

Secondly, there is also no relation found between someone's 'experience in the organization' and his or her 'organizational identification' ($r = -.09$; $p = .41$). This is rather strange, as organizational identification in this research is defined as the perceived connectedness of an employee with the organization s/he works for (Mael & Ashforth, 1992). This result shows that an employee who is working longer at an organization does not identify himself or herself more with the organization than someone who is working there a shorter period of time. These findings are partially in line with the findings of Agrawal (2013), this author found that people with less than 10 years of experience in the organization do not identify themselves with their organization and employees who are longer employed showed no positive, but rather a negative organizational identification (Agrawal, 2013).

Finally, other relations or not existing relations can be mentioned here, but this will shift the focus from the questionnaire to the constructs' correlations. Therefore it is decided only to mention these two findings.

6.3 Managerial implications

This section focuses on the managerial implications of the research. In other words, it discusses the practical relevance of the developed instrument. The developed tool can be used for three different analyses: an analysis before the actual implementation, an analysis of the differences between a baseline measurement and a measurement after implementation, and an analysis about predicted impact of the implementation of NWoW. This section will elaborate on these three analyses, and will explain how the instrument could be a valuable tool (for Money Penny BV, and for participating organizations in general).

Managerial implication 1: Blueprint - Analysis before the implementation

The developed instrument can be used as a blueprint to analyse the current state of the organization towards the main components of NWoW, as well as to its potential antecedents and consequences. When the tool is used by many different organizations, and a lot of people have filled out the questionnaire, the tool can be used to predict certain outcomes, such as the increase of job satisfaction corresponding to organizational characteristics. When the predictive power is high enough, the tool can be used to predict the impact of the implementation of NWoW on a certain component for a certain department of a given organization. This means the collected data are used to create a benchmark.

This benchmark can be used for three purposes: first, the main components of NWoW are introduced in the questionnaire. Therefore this tool can be used to introduce employees with NWoW and its main antecedents and consequences. Second, by analysing the respondents' scores it shows the organization where the possibilities lie, this means that the scores show the organization if the employees in general are willing and are ready to change their way of working. And last, if employees in general score low on a certain component, this component requires attention during the implementation and training. Or when an employee scores low on all components, this particular employee could (or should) be assisted during the implementation of NWoW.

In other words, the tool shows the potential risk factors and risk groups, even before the implementation process is started. For Money Penny BV this means that the analysis of the results found before NWoW is implemented could lead to a more suiting and a more efficient implementation process. Therefore, the developed instrument can be used as a blueprint to design a customized implementation process for a particular client.

Managerial implication 2: Comparison - Analysis before and after the implementation

The developed instrument can be used to conclude the impact of the implementation of NWoW on its main components in an organization. Three possible conclusions can be drawn after the comparison of the baseline measurement and the measurement after implementation: the implementation of NWoW had a negative, positive, or had no impact on a particular component. Because the questionnaire is built modularly, the possibility exists that organizations can focus on one (or more) constructs which are important for them. This means that the questionnaire can be split into eleven different parts – in agreement with the number of components. Therefore a client could ask only for the impact of the implementation of NWoW on for example 'collaboration in work situations', Money Penny BV than is able to analyse this impact by using only one part of the questionnaire.

So, for an organization the instrument can be used to analyse the impact of the implementation of NWoW. For Money Penny BV this way it can also be used as a sales tool: practical examples of previous clients can be shown to persuade a potential new client to decide to make use of the implementation method and process of Money Penny BV.

Managerial implication 3: Results - relations found between the developed constructs

For some organizations, the results of the relations between the developed constructs might be useful. Some organizations for example think it is important that their employees identify

themselves with the organization. The results have shown that these organizations should focus on the right leadership style, enough autonomy for the employees, and a high job satisfaction level.

For companies it is hard to pursue job satisfaction, as it is a difficult concept to achieve. The results have shown that job satisfaction is related to the right leadership style, collaboration on the work floor, autonomy for the employees, and take health of employees in account.

The results also have shown that autonomy is related to creativity, creativity on its turn is related to job performance. Therefore, it might be a good option for organizations to provide their employees with more autonomy, as this might lead to a better job performance.

6.4 Limitations of this study

Next to a couple of strong points, such as the questionnaire's comprehensiveness and the executed psychometric analysis, this study has several limitations. First, this research was conducted with a very small sample size ($n = 98$), which limits the power to find significant results and limits the possibilities to generalize the results. Secondly, given the fact that they are subscribers of the Money Penny BV newsletter, the largest part of the respondent group consisted of people that already are familiar with and interested in NWoW (63.3%). And because the other roughly thirty percent already had some kind of introduction to NWoW, it cannot be concluded how people who have not yet heard about NWoW would fill in the questionnaire. Thirdly, some of the constructs processed from earlier studies were investigated in other settings. The organization identification construct from Mael and Ashforth (1992) for example investigated the organization identification of students with their high schools. And the study from De Jonge and Van den Tooren (2007) about psychosocial workload was executed at a care centre, while the study of De Jonge et al. (1994) about autonomy was executed at three groups of health care workers. Fourthly, the questionnaire asks the respondents to answer certain statements. The results therefore are not objective, and consequently the results must be seen as perceived instead of actual results. In order to make the scores less subjective, the statements are adapted so they ask about the frequency instead of a respondent's opinion. This may lead to method variance, which is defined as variance that can be attributed to the measurement method instead of to the measured construct (Spector, 2006). Fifthly, the research method used is a cross-sectional survey study. Because it is cross-sectional this leads to some difficulties. Especially indicating causality is problematic, this cannot be done using this type of study. Therefore this is a possibility for future research and will be named in the next section. Because the research is a snapshot of a certain period of time, stability of the questionnaire, and correspondingly generalizability, is not analysed and therefore not shown. And finally, due to the time span the study could not be executed as wanted. It was the researcher's goal

to use a respondent group that did not implement NWoW, let them implement NWoW and let them fill out the questionnaire again one month after the implementation. This research will be elaborated on in the next section that discusses future research.

6.5 Future research

This section provides some possibilities for future research, based on the research described in this report. Firstly, it is important to keep innovating the questionnaire. Although it seems like the most important components for NWoW are mentioned in the questionnaire, future research should confirm this. Although the number of constructs used in this research seems comprehensive, future research should confirm this. In addition, it could be the case that in the future other antecedents or consequences emerge, the questionnaire has to be adapted to these changes in order to keep its comprehensiveness. The same is valid for the items used to build a construct. Future research should confirm that the items used for a particular construct indeed measure the most important themes of the construct and are still comprehensive.

Secondly, the main components of NWoW are discussed during this research, and the eleven components are used as guiding tools during this report. Literature review showed that there are two antecedents and eight consequences for NWoW. This master research has not tested these suggested causal relations. Future research should focus on these causalities in NWoW. The pure experiment is the best basic form of research to meet the conditions of causality (covariance, time sequence, and no third explanatory feature) (Baarda & De Goede, 2006).

Thirdly, further research should investigate if the eleven components might also have impact on, or be impacted when other ways of working are implemented. This means that the mentioned components also are components of other ways of working, for example for project-based work. This means that the developed tool can be used as a general instrument to investigate the impact of a change in the way of working. If this tool indeed can be generalized, this shows us that the constructs important for NWoW are also important for other ways of working. A generalized tool can be a great instrument for organizations that are willing to change their way of working.

Fourthly, the validation procedure in this research is only executed in a cross-sectional way on a relatively small sample size (n=98). Therefore the first recommendation would be to test the construct validity with a larger sample size. In addition future research should elaborate on the validation procedure of this questionnaire. The questionnaire should be filled out by respondents who have worked with NWoW and respondents that have not worked with NWoW. Two comparable respondent groups should be used, where one serves as an intervention group and the other as a control group. This means one group will implement NWoW and fill out the questionnaire

again, while the other group continues to work in the way they already do and fill out the questionnaire at the same time as the other group. This way the reliability and the discriminant validity of the questionnaire can be tested more thoroughly.

Fifthly, the questionnaire can be used to perform a paired t-test to show the significant differences between a baseline measurement and a measurement at a later stadium. This research is one of the ways Money Penny BV wants to use the questionnaire. By performing this comparison, it is shown what the actual effect of the implementation of NWoW on the organization is.

Lastly, future research could use this questionnaire to predict consequences of the implementation of NWoW on the basis of antecedents. This means that this research for example could focus on the predicted impact of the implementation of NWoW on the consequences by analysing the personal characteristics of the employees, or the organizational characteristics of the company.

6.6 Conclusions

More and more organizations are seeing the usefulness of NWoW. Management understands that NWoW is more than just a new office concept - it is a work philosophy. They also understand that NWoW suits the needs of their employees, and that it consequently may lead to better job performance. As NWoW becomes more and more important for both employers and employees, there is a need for a tool that helps organizations with the implementation and it seems that such a tool is not yet available.

This research has found eleven main components corresponding to NWoW. Personal and organizational characteristics might influence the implementation process of NWoW. The construct 'values for NWoW' is used to compare the values of the respondent with the values of NWoW to analyse the fit between respondent and way of working. The implementation of NWoW might bring some changes to the other eight components: job autonomy, work-life balance, health, work pattern, satisfaction and motivation, job performance, collaboration, and creativity.

During this research a tool is developed to analyse the impact of the implementation of NWoW on these different components. It is concluded that the tool is valid and reliable, given the current psychometric analyses and sample, although further research should focus on the validation procedure again. This merely has to do with the small sample size in this research and the research's current time frame.

The tool is developed to perform three different kind of analyses. Firstly, the tool can be used as an introduction to the employees as it describes the main components of NWoW. Than the tool is used to analyse the current state of the employees. This means the tool can analyse if the employees are

willing and are ready to implement NWoW, and it shows which components need some special attention during the implementation stage. Secondly, the tool can be used to compare the scores of the organization or department before and after the implementation of NWoW. This analysis shows the impact of the implementation of NWoW on the main components. Lastly, when a lot of people have filled out the questionnaire, the tool can be used to create a benchmark to predict the impact of the implementation when for example the personal or organizational characteristics are known.

This research is initiated by Money Penny BV, as they were aware that a tool that determines the impact of the implementation of NWoW was not yet available. During this research such an instrument is developed and validated. Literature suggests that the implementation of NWoW leads to more fun, more efficiency, and more effectivity in work. This shows that both employer and employee might benefit from the implementation of NWoW. The tool developed in this research can help managers to monitor the impact the change of the way of working had on the organization. And consequently these results might convince other organizations to change their way of working, and connect fun and labour again.

References

- Acerta. (2014, January 24). *Ten differences between the generations at your job [in Dutch: Tien verschillen tussen de generaties bij jou op werk]*. Retrieved September 26, 2014, from Intermediair: <http://www.intermediair.nl/carriere/werk-en-leven/collegas-en-bazen/10-verschillen-tussen-de-generaties-bij-jou-op-werk>
- Agrawal, M. (2013). Organizational Identification in Executives of a Steel Company in Central India. *International Journal of Innovative Research and Development*, 2(12), 1-8.
- Argote, L., & Ingram, P. (2000). Knowledge transfer: A basis for competitive advantage in firms. *Organizational Behavior and Human Decision Processes*, 82(1), 150-169.
- Baane, R. (2011). The New Way of Working unraveled, about Bricks, Bytes and Behavior [in Dutch: Het Nieuwe Werken ontrafeld, over Bricks, Bytes en Behavior]. *Tijdschrift voor HRM*, 7-23.
- Baarda, D., & De Goede, M. (2006). *Handbook Methods and Techniques, instructions for establishing and conducting quantitative research [in Dutch: Basisboek Methoden en Technieken, handleiding voor het opzetten en uitvoeren van kwantitatief onderzoek]*. Houten: Wolters-Noordhoff Groningen.
- Baroncini, B. (2012, June 6). *The New Way of Working is more suitable for men than for women [in Dutch: Mannen geschikter dan vrouwen voor Het Nieuwe Werken]*. Retrieved September 30, 2014, from P&O topical, link between strategy and human capital [in Dutch: P&O actueel, schakel tussen strategie en human capital]: <http://www.penoactueel.nl/Personeel/Algemeen/2012/6/Mannen-geschikter-dan-vrouwen-voor-Het-Nieuwe-Werken-PEN0008431W/>
- Baxter, L. A., & Babbie, E. (2003). *The Basics of Communication Research*. Toronto: Cengage Learning.
- Benchmarken Benchlearning Rijk. (2012). *The New Way of Working, what makes the difference? [in Dutch: Het Nieuwe Werken, wat maakt het verschil?]*. The Worksociety ["De Werkmaatschappij" in Dutch]. The Hague: Ministry of Foreign Affairs and Kingdom Relations.
- Bijl, D. (2009). *Start with the New Way of Working [in Dutch: Aan de slag met Het Nieuwe Werken]*. Zeewolde: Par CC.
- Bowen, D., & Ostroff, C. (2004). Understanding HRM-Firm Performance linkages: the role of the 'strength' of the system. *Academy of Management Review*, 29(2), 203-221.
- Breaugh, J. (1985). The Measurement of Work Autonomy. *Human Relations*, 38(6), 551-570.
- Brinkman, J. (1994). *The Questionnaire [in Dutch: De Vragenlijst]*. Den Haag: Wolters-Noordhoff Groningen.
- Clements-Croome, D. (2000). *Creating the productive workplace*. New York: Routledge.
- Dannhauser, C. L. (1999). Who's in the home office? *American Demographics*, 21(6), 50-56.

- De Dreu, C. K., Nijstad, B. A., & Baas, M. (2011). Creativity in Individuals and Groups: Basic Principles With Practical Implications. In D. De Cremer, R. Van Dick, & J. K. Murnighan, *Social Psychology and Organizations* (pp. 297-324). New York: Taylor&Francis.
- De Jong, A. (2013, March 15). Multiple Regression Analysis. *Lecture slides 1ZM31 'Multivariate Statistics'*. Eindhoven: University of Technology Eindhoven.
- De Jonge, J., & Hamers, J. (1997). The development and assessment of questionnaires [in Dutch: De ontwikkeling en beoordeling van vragenlijsten]. *Verpleegkunde*, 12(3), pp. 173-183.
- De Jonge, J., & Van Den Tooren, M. (2007). *Research Psychosocial Workload [in Dutch: Onderzoek Psychosociale Arbeidsbelasting]*. Eindhoven: University of Technology Eindhoven.
- De Jonge, J., Landeweerd, J. A., & Van Breukelen, G. J. (1994). The Maastrichtse Autonomielijst: background, constructs and validation [in Dutch: De Maastrichtse Autonomielijst: achtergrond, constructie en validering]. *Gedrag en Organisatie*, 7, 27-41.
- De Reus, C., & Spruit, H. (2012). ManagementXperience. *ManagementXperience*. TNO & NEWX.
- De Ruiter, N. (2014). *The Influence of Autonomy, Connectivity, and Trust to Work from Home in relation with NWOW and Employee Attitudes and Behavior [in Dutch: De Invloed van Autonomie, Connectiviteit en Thuiswerk-Zelfvertrouwen in de Relatie tussen HNW en Werknemer Attitudes]*. Amsterdam: University of Amsterdam.
- Duurzaam Vastgoed. (2015). *Why the New Way of Working? [in Dutch: Waarom het nieuwe werken?]*. Retrieved March 30, 2015, from <http://www.duurzaamvastgoed.com/nieuws/dossiers/het-nieuwe-werken/waarom-het-nieuwe-werken>
- European Commission. (2002). *New Forms of Work Organization: The Obstacles to Wider Diffusion*. Retrieved September 11, 2014, from http://www.aip.pt/irj/servlet/prt/portal/prtroot/com.sap.km.cm.docs/aip/documentos/estudos%20publicacoes/centro%20documentacao/Capital%20Humano/I.Livre_Circulacao_Trabalhadores/D.Mercado_de_Trabalho/Obstacles_to_Wider_Diffusion.pdf
- Evans, J. D. (1996). *Straightforward Statistics for the Behavioral Sciences*. Portland: Brooks/Cole Pub Co.
- Falk, T., Schepers, J., Hammerschmidt, M., & Bauer, H. H. (2007). Identifying Cross-Channel Dissynergies for Multichannel Service Providers. *Journal of Service Research*, 10(2), 143-160.
- Faragher, E., Cass, M., & Cooper, C. (2005). The Relationship Between Job Satisfaction and Health: a Meta-Analysis. *Occupational and Environmental Medicine*, 62(2), 105-112.
- Gevers, J. M., & Rispens, S. (2013). Questionnaire Human Aspects of Innovation - for Team Members. Eindhoven: University of Technology Eindhoven.
- Gibson, C. B., & Gibbs, J. L. (2006). Unpacking the concept of virtuality: The effects of geographic dispersion, electronic dependence, dynamic structure, and national diversity on team innovation. *Administrative Science Quarterly*, 51(3), 451-495.
- Grantham, C. (2000). *The future of work: The promise of the new digital work society*. London: McGraw-Hill.

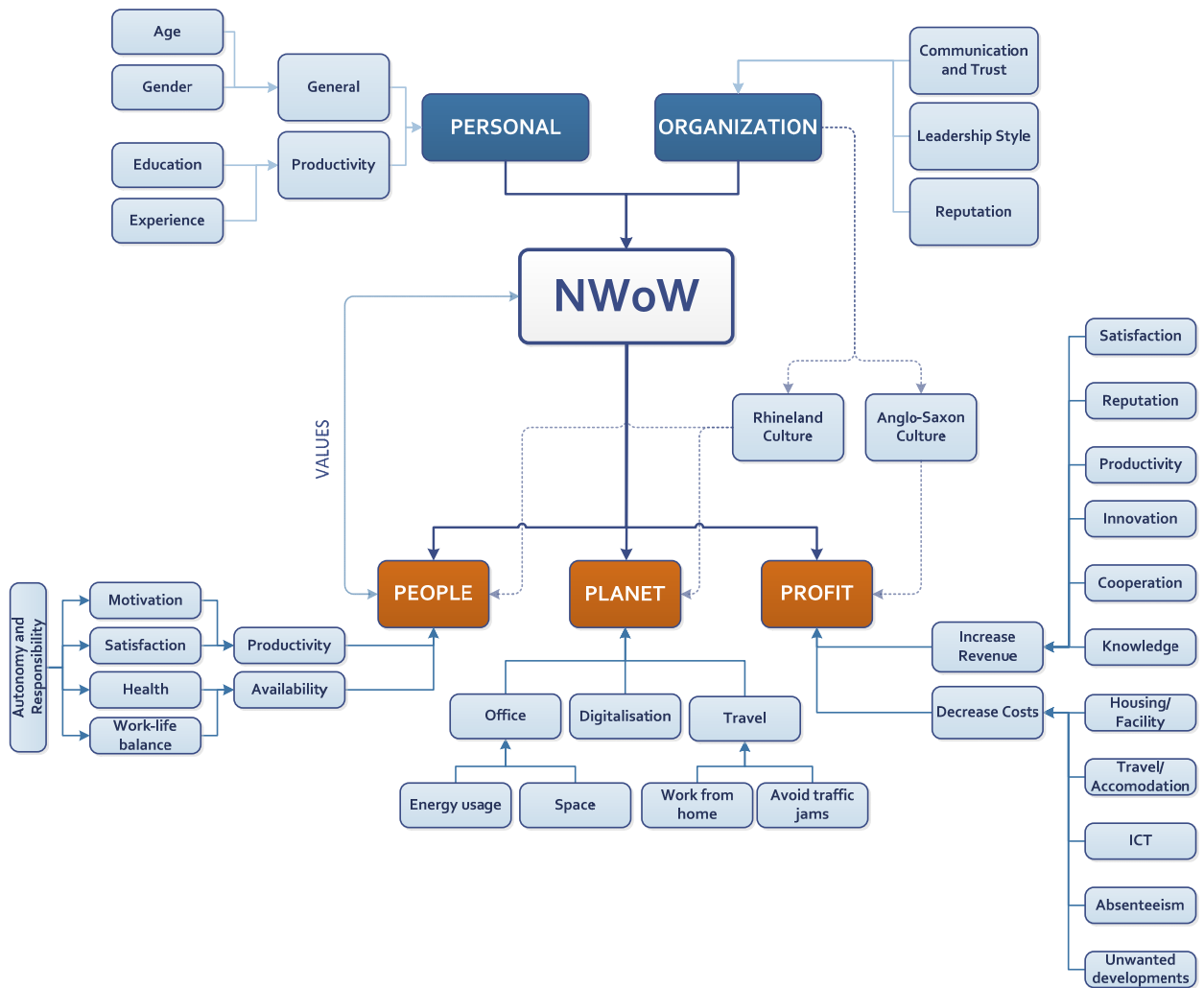
- Griffin, M. A., Neal, A., & Parker, S. K. (2007). A New Model of Work Role Performance: Positive Behavior in Uncertain and Interdependent Contexts. *Academy of Management Journal*, 50(2), 327-347.
- Hair, J., Black, W., Babin, B., & Anderson, R. (2010). *Multivariate Data Analysis: A Global Perspective*. Upper Saddle River, New Jersey: Pearson Education, Inc.
- HEMA academy. (2013). *Scans & Measurement: New Way of Working*. Retrieved April 14, 2015, from http://hema-academie.nl/openscans/vragen_hnw.html
- Kuiken, B. (2014). *The PRET Factor: why fun at work works better [in Dutch: De PRET Factor: Waarom plezier op het werk beter werkt]*. Zaltbommel, The Netherlands: Haystack.
- Laihonen, H., Jääskeläinen, A., Lönnqvist, A., & Ruostela, J. (2012). Measuring the productivity impacts of new ways of working. *Journal of Facilities Management*, 10(2), 102-113.
- Le Blanc, P., Loo, M., & Janssen, S. (2013). *Dossier Social Innovation [in Dutch: Dossier Sociale Innovatie]*. Eindhoven: University of Technology Eindhoven.
- Lister, K., & Harnish, T. (2010). *Workshifting Benefits: The Bottom Line*. Telework Research Network.
- Loher, B. T., Noe, R. A., Moeller, N. L., & Fitzgerald, M. P. (1985). A meta-analysis of the relation of job characteristics to job satisfaction. *Journal of Applied Psychology*, 70(2), 280.
- Lovelace, K. J., Manz, C. C., & Alves, J. C. (2007). Work stress and leadership development: the role of self-leadership, shared leadership, psychological fitness and flow in managing demands and increased job control. *Human Resource Management Review*, 17, 374-387.
- Mael, F., & Ashforth, B. E. (1992). Alumni and their alma mater: A partial test of the reformulated model of organizational identification. *Journal of Organizational Behavior*, 13, 103-123.
- Mester, C., Visser, D., & Roodt, G. (2003). Leadership style and its relation to employee attitudes and behaviour. *Journal of Industrial Psychology*, 29(2), 72-82.
- Money Penny BV. (2014). *The New Way of Working ["Het Nieuwe Werken" in Dutch]*. Retrieved August 20, 2014, from <http://www.moneypenny.nl/het-nieuwe-werken/>
- Mooij, M. (2009). *Room for the New Way of Working: efficient, effective, flexible, and creative working in a sustainable environment [in Dutch: Ruimte voor Het Nieuwe Werken: efficiënt, effectief, flexibel en creatief werken in een duurzame omgeving]*. Alphen aan den Rijn: Kluwer.
- Morgeson, F. P., & Humphrey, S. E. (2006). The Work Design Questionnaire (WDQ): Developing and Validating a Comprehensive Measure for Assessing Job Design and the Nature of Work. *Journal of Applied Psychology*, 91(6), 1321-1339.
- NETQ. (2014). *How do I make a questionnaire? [in Dutch: Hoe maak je een enquête?]*. Retrieved September 26, 2014, from Ten do's and don'ts: <http://www.netq-enquete.nl/nl/hoe-maak-je-een-enquete>
- Oeij, P., Kraan, K., & Vaas, F. (2010). To a Scientific Foundation of Social Innovation [in Dutch: Naar een wetenschappelijke onderbouwing van sociale innovatie]. *Tijdschrift voor HRM*, 1(1), 74-100.

- Pekdemir, I., & Turan, A. (2014). The Mediating Role of Organizational Identity Complexity/Congruence on the Relationship between Perceived Organizational Prestige and In-Role/Extra-Role Performance. *International Journal of Business and Social Science*, 9(1), 119-131.
- Personeelslog. (2011, November 28). *Five reasons that make the New Way of Working more productive [in Dutch: 5 redenen die Het Nieuwe Werken productiever maken]*. Retrieved September 19, 2014, from <http://www.personeelslog.nl/2011/11/28/5-redenen-die-het-nieuwe-werken-productiever-maakt/>
- Peters, P., De Bruijn, T., Bakker, A., & Van der Heijden, B. (2011). Fun in the New Way of Working? Preconditions for 'work-related flow' in new work conditions [in Dutch: Plezier in Het Nieuwe Werken? Randvoorwaarden voor 'werkgerelateerde flow' onder nieuwe arbeidscondities]. *Tijdschrift voor HRM*, 31-47.
- Peters, P., Den Dulk, L., & Van Der Lippe, T. (2009). The effects of time-spatial flexibility and new working conditions on employees' work-life balance: the Dutch case. *Community, Work & Family*, 12(3), 279-297.
- Pitt, M., & Bennett, J. (2008). Workforce ownership of space in a space sharing environment. *Journal of Facilities Management*, 6(4), 290-302.
- Pricewaterhouse Coopers. (2011). *An exploration of macro-economic effects of the New Way of Working [in Dutch: Een verkenning van macro-economische effecten van Het Nieuwe Werken]*. Amsterdam: Pricewaterhouse Coopers.
- Randall, J., & Procter, S. (2008). Ambiguity and Ambivalence. Senior Manager's Accounts of Organizational Change in a Restructured Government Department. *Journal of Organizational Change*, 21(6), 686-700.
- Razali, N. M., & Wah, Y. B. (2011). Power comparisons of Shapiro-Wilk, Kolmogorov-Smirnov, Lilliefors and Anderson-Darling tests. *Journal of Statistical Modeling and Analytics*, 2(1), 21-33.
- Slijkhuis, M. (2012). *A structured approach to need for structure at work*. Groningen: Ridderprint BV.
- Smulders, S. (2014, July). Assignment formulation for student [in Dutch: Opdrachtformulering voor student]. Amsterdam, Noord-Holland, The Netherlands: Moneypenny BV.
- Sorenson, S. (2013, June 20). *How Employee Engagement Drives Growth*. Retrieved November 25, 2014, from Gallup Business Journal: <http://www.gallup.com/businessjournal/163130/employee-engagement-drives-growth.aspx>
- Spector, P. E. (1986). Perceived control by employees: A meta-analysis of studies concerning autonomy and participation at work. *Human Relations*, 39(11), 1005-1016.
- Spector, P. E. (2006). Method Variance in Organizational Research. Truth or Urban Legend? *Organizational Research Methods*, 9(2), 221-232.
- Sudman, S., & Bradburn, N. (1983). *Asking Questions: A practical guide to questionnaire design*. San Francisco: Jossey-Bass Publishers.

- Suhr, D. (2006). Exploratory or confirmatory factor analysis? *Cary: SAS*, 1-17.
- Sullivan, S. A. (1994). Flexibility as a management tool. *Employment Relations Today*, 393-405.
- Van Delft, J. (2011). *Research to the work-life balance and the influence of the work environment*. Retrieved April 14, 2015, from <http://www.provenbenchmark.nl/pbe2/benchmark-uu.php>
- Van den Hout, P. (2011, August 18). *Manager blocks the New Way of Working [in Dutch: Manager staat Het Nieuwe Werken in de weg]*. Retrieved from HR Strategy: <http://www.hrpraktijk.nl/topics/strategisch-hr/nieuws/manager-staat-het-nieuwe-werken-de-weg>
- Van Der Kleij, R., Blok, M., Aarts, O., Vos, P., & Weyers, L. (2013). The New Way of Working and knowledge-sharing: the role of organisation-identification and autonomy [in Dutch: Het Nieuwe Werken en kennisdelen: de rol van organisatie identificatie en autonomie]. *Tijdschrift voor Arbeidsvraagstukken*, 29(1), 63-82.
- Van der Meulen, N. (2014). *The State of the New Way of Working: Results of the National NWoW Barometer 2013 [in Dutch: De Staat van Het Nieuwe Werken: Resultaten van de Nationale HNW Barometer 2013]*. Rotterdam: Erasmus@Work Research.
- Van Der Schaaf, M. (2013, January 24). *Why women are better leaders than men [in Dutch: Waarom vrouwen betere leiders zijn dan mannen]*. Retrieved from The Optimist: <http://theoptimist.nl/waarom-vrouwen-betere-leiders-zijn-dan-mannen/>
- Van der Voordt, T. (2004). Productivity and employee satisfaction in flexible workplaces. *Journal of corporate real estate*, 6(2), 133-148.
- Van Gool, B., Töller, J., & Weller, L. (2011). *Working transparant makes the traditional manager superfluous [in Dutch: Transparant werken maakt de traditionele manager overbodig]*. Huizen: Magazine for Management Development [in Dutch: Tijdschrift voor Management Development].
- Van Heck, E. (2010). New ways of working - Microsoft's 'mobility' office. *RSM Insight*, 4-6.
- Volberda, H., Vaas, F., Visser, J., & Leijnse, F. (2005). *Social Center of Excellence in Social Innovation: To an increase of productivity and the Dutch competitiveness [in Dutch: Maatschappelijk Topinstituut Sociale Innovatie: Naar productiviteitsgroei en versterking van de Nederlandse concurrentiepositie]*. Rotterdam: AIAS/EUR/TNO.
- Volberda, H., van den Bosch, F., & Jansen, J. (2006). *Smart Management and Innovative Organizing [in Dutch: Slim managen en innovatief organiseren]*. Rotterdam: Erasmus University Rotterdam.
- Zeldenrijk, R. (2011, August 26). *Cooperation is the base by the New Way of Working [in Dutch: Samenwerking is basis bij Het Nieuwe Werken]*. Retrieved September 19, 2014, from <http://www.computable.nl/artikel/opinie/mobility/4112047/1277034/samenwerking-is-basis-bij-het-nieuwe-werken.html>

Zhang, X., & Bartol, K.M. (2010). Linking Empowering Leadership and Employee Creativity: The influence of Psychological Empowerment, Intrinsic Motivation, and Creative Process Engagement. *Academy of Management Journal*, 53(1), 107-128.

Appendix I: Theoretical model of antecedents and consequences of the New Way of Working



Appendix II: Internal consistency tables

Table 34. Inter-Item correlation matrix (values)

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7
<i>Item 1</i>	1.00						
<i>Item 2</i>	.52	1.00					
<i>Item 3</i>	.74	.71	1.00				
<i>Item 4</i>	.67	.40	.57	1.00			
<i>Item 5</i>	.58	.56	.60	.64	1.00		
<i>Item 6</i>	.51	.12	.30	.63	.51	1.00	
<i>Item 7</i>	.43	.33	.36	.36	.34	.27	1.00

Table 35. Inter-item correlation matrix (organization identification)

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7
<i>Item 1</i>	1.00						
<i>Item 2</i>	.29	1.00					
<i>Item 3</i>	.24	.25	1.00				
<i>Item 4</i>	.12	.32	.53	1.00			
<i>Item 5</i>	.28	.31	.36	.53	1.00		
<i>Item 6</i>	.28	.41	.22	.33	.27	1.00	
<i>Item 7</i>	.22	.45	.38	.45	.44	.38	1.00

Table 36. Inter-item correlation matrix (leadership)

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6
<i>Item 1</i>	1.00					
<i>Item 2</i>	.49	1.00				
<i>Item 3</i>	.18	.24	1.00			
<i>Item 4</i>	.55	.61	.39	1.00		
<i>Item 5</i>	.51	.41	.12	.44	1.00	
<i>Item 6</i>	.39	.29	.10	.39	.39	1.00

Table 37. Inter-item correlation matrix (collaboration)

	Item1	Item2	Item3	Item4	Item5	Item6	Item7	Item8	Item9	Item10	Item11	Item12
<i>Item1</i>	1.00											
<i>Item2</i>	.32	1.00										
<i>Item3</i>	.28	.59	1.00									
<i>Item4</i>	.21	.67	.48	1.00								
<i>Item5</i>	.25	.53	.63	.67	1.00							
<i>Item6</i>	.41	.24	.36	.26	.35	1.00						
<i>Item7</i>	.38	.19	.34	.25	.38	.63	1.00					
<i>Item8</i>	.30	.15	.20	-.05	.05	.33	.35	1.00				
<i>Item9</i>	.33	.49	.39	.36	.41	.27	.35	.27	1.00			
<i>Item10</i>	.33	.46	.26	.40	.45	.12	.35	.26	.60	1.00		
<i>Item11</i>	.30	.24	.24	.22	.31	.18	.26	.28	.54	.47	1.00	
<i>Item12</i>	.30	.39	.24	.35	.48	.35	.31	.33	.32	.45	.30	1.00

Table 38. Inter-item correlation matrix (job performance)

	Item1	Item2	Item3	Item4	Item5	Item6	Item7	Item8	Item9
Item1	1.00								
Item2	.35	1.00							
Item3	.14	.35	1.00						
Item4	.14	.58	.38	1.00					
Item5	.39	.17	.28	.11	1.00				
Item6	.31	.44	.11	.47	.27	1.00			
Item7	.50	.15	.25	.26	.26	.33	1.00		
Item8	.34	.28	.12	.45	.13	.62	.32	1.00	
Item9	.36	.16	.20	.31	.27	.50	.29	.47	1.00
Item10	.17	.38	.20	.31	.10	.41	.28	.28	.37
Item11	.10	.26	.43	.36	.07	.32	.23	.29	.31
Item12	.01	.32	.21	.34	.01	.27	.13	.15	.23
Item13	-.11	.13	.34	.33	-.07	.11	-.05	.00	.08
Item14	.06	.38	.23	.42	.08	.49	.06	.50	.34
Item15	.18	.40	.36	.57	.09	.53	.15	.50	.48
Item16	.14	.43	.17	.44	.01	.49	.22	.24	.25
Item17	.17	.18	.21	.29	.01	.30	.29	.27	.33
Item19	.22	.45	.27	.52	.22	.51	.20	.47	.29

	Item10	Item11	Item12	Item13	Item14	Item15	Item16	Item17	Item19
Item1									
Item2									
Item3									
Item4									
Item5									
Item6									
Item7									
Item8									
Item9									
Item10	1.00								
Item11	.16	1.00							
Item12	.38	.30	1.00						
Item13	.10	.33	.39	1.00					
Item14	.30	.40	.31	.17	1.00				
Item15	.20	.38	.13	.33	.66	1.00			
Item16	.39	.45	.39	.34	.38	.39	1.00		
Item17	.12	.52	.21	.21	.32	.41	.35	1.00	
Item19	.17	.41	.08	.18	.57	.55	.39	.41	1.00

Table 39. Inter-item correlation matrix (autonomy)

	Item1	Item2	Item3	Item4	Item5	Item6	Item7	Item8	Item9	Item10	Item11	Item12	Item13
<i>Item1</i>	1.00												
<i>Item2</i>	.768	1.00											
<i>Item3</i>	.67	.65	1.00										
<i>Item4</i>	.52	.57	.57	1.00									
<i>Item5</i>	.42	.47	.55	.49	1.00								
<i>Item6</i>	.49	.55	.48	.37	.32	1.00							
<i>Item7</i>	.30	.33	.32	.25	.53	.40	1.00						
<i>Item8</i>	.14	.17	.23	.20	.26	.20	.28	1.00					
<i>Item9</i>	.26	.30	.25	.39	.62	.26	.50	.40	1.00				
<i>Item10</i>	.41	.53	.42	.49	.57	.48	.50	.24	.61	1.00			
<i>Item11</i>	.34	.39	.45	.44	.49	.44	.55	.28	.48	.64	1.00		
<i>Item12</i>	.64	.81	.66	.57	.58	.58	.46	.24	.49	.63	.51	1.00	
<i>Item13</i>	.47	.62	.47	.53	.47	.47	.39	.15	.44	.69	.55	.71	1.00

Table 40. Inter-item correlation matrix (satisfaction and motivation)

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6
<i>Item 1</i>	1.00					
<i>Item 2</i>	.69	1.00				
<i>Item 3</i>	.66	.60	1.00			
<i>Item 4</i>	.59	.60	.68	1.00		
<i>Item 5</i>	.56	.61	.49	.57	1.00	
<i>Item 6</i>	.58	.64	.65	.80	.70	1.00

Table 41. Inter-item correlation matrix (work-life balance)

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6
<i>Item 1</i>	1.00					
<i>Item 2</i>	.65	1.00				
<i>Item 3</i>	.55	.66	1.00			
<i>Item 4</i>	.27	.27	.26	1.00		
<i>Item 5</i>	.18	.32	.15	.40	1.00	
<i>Item 6</i>	.20	.30	.28	.55	.67	1.00

Table 42. Inter-item correlation matrix (health)

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9
<i>Item 1</i>	1.00								
<i>Item 2</i>	.65	1.00							
<i>Item 3</i>	.60	.51	1.00						
<i>Item 4</i>	.37	.29	.32	1.00					
<i>Item 5</i>	.48	.33	.30	.29	1.00				
<i>Item 6</i>	.29	.24	.24	.32	.26	1.00			
<i>Item 7</i>	.33	.24	.42	.27	.26	.22	1.00		
<i>Item 8</i>	.44	.34	.48	.35	.29	.40	.73	1.00	
<i>Item 9</i>	.37	.26	.39	.40	.33	.39	.62	.67	1.00

Table 43. Inter-item correlation matrix (creativity)

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item10	Item11	Item12
<i>Item 1</i>	1.00											
<i>Item 2</i>	.61	1.00										
<i>Item 3</i>	.45	.50	1.00									
<i>Item 4</i>	.63	.69	.54	1.00								
<i>Item 5</i>	.63	.59	.50	.58	1.00							
<i>Item 6</i>	.44	.49	.42	.56	.54	1.00						
<i>Item 7</i>	.49	.57	.52	.59	.77	.68	1.00					
<i>Item 8</i>	.49	.63	.45	.63	.60	.54	.64	1.00				
<i>Item 9</i>	.55	.64	.62	.61	.76	.55	.68	.66	1.00			
<i>Item 10</i>	.59	.49	.40	.55	.69	.51	.58	.52	.61	1.00		
<i>Item 11</i>	.62	.57	.35	.48	.69	.51	.56	.54	.59	.63	1.00	
<i>Item 12</i>	.64	.55	.47	.64	.66	.47	.53	.64	.60	.61	.54	1.00

Appendix III: Multidimensional factor analysis results

Table 44. Multidimensional factor analysis group 1

	D1	D2	D3	D4	D5
<i>Value 1</i>		.88			
<i>Value 2</i>	.33	.59		-.33	
<i>Value 3</i>		.85			
<i>Value 4</i>		.82			
<i>Value 5</i>		.86			
<i>Value 6</i>		.64			
<i>Satisfaction 1</i>	.71				
<i>Satisfaction 2</i>	.82				
<i>Satisfaction 3</i>	.74				
<i>Satisfaction 4</i>	.78				
<i>Satisfaction 5</i>	.76				
<i>Satisfaction 6</i>	.84				
<i>Organization 2</i>					.72
<i>Organization 3</i>	.38				
<i>Organization 4</i>	.39	.37			.42
<i>Organization 5</i>	.48				.39
<i>Organization 6</i>					.71
<i>Organization 7</i>	.31				.51
<i>Leader 1</i>				.83	
<i>Leader 2</i>				.71	
<i>Leader 4</i>				.72	
<i>Leader 5</i>				.74	
<i>Leader 6</i>				.54	
<i>Collaboration 1</i>			-.42		.47
<i>Collaboration 2</i>		.32	-.65		
<i>Collaboration 3</i>			-.64		
<i>Collaboration 4</i>			-.68		
<i>Collaboration 5</i>			-.71		
<i>Collaboration 6</i>			-.57		.44
<i>Collaboration 7</i>			-.66		.41
<i>Collaboration 9</i>	.36		-.39		
<i>Collaboration 10</i>			-.50		
<i>Collaboration 11</i>				.48	
<i>Collaboration 12</i>			-.66		

Table 45. Multidimensional factor analysis group 2

	D1	D2
<i>Job Performance 1</i>		.65
<i>Job Performance 2</i>		.60
<i>Job Performance 3</i>	.31	
<i>Job Performance 4</i>		.62
<i>Job Performance 5</i>		.35
<i>Job Performance 6</i>		.76
<i>Job Performance 7</i>		.52
<i>Job Performance 8</i>		.72
<i>Job Performance 9</i>		.63
<i>Job Performance 10</i>		.50
<i>Job Performance 11</i>	.67	
<i>Job Performance 12</i>	.31	
<i>Job Performance 13</i>	.40	
<i>Job Performance 14</i>		.53
<i>Job Performance 15</i>		.64
<i>Job Performance 16</i>	.32	.44
<i>Job Performance 17</i>	.37	.32
<i>Job Performance 19</i>		.62
<i>Creativity 1</i>	.75	
<i>Creativity 2</i>	.78	
<i>Creativity 3</i>	.75	
<i>Creativity 4</i>	.87	
<i>Creativity 5</i>	.82	
<i>Creativity 6</i>	.73	
<i>Creativity 7</i>	.80	
<i>Creativity 8</i>	.73	
<i>Creativity 9</i>	.72	
<i>Creativity 10</i>	.69	
<i>Creativity 11</i>	.73	
<i>Creativity 12</i>	.76	

Table 46. Multidimensional factor analysis group 3

	D1	D2	D3
<i>Autonomy 1</i>	.61		-.40
<i>Autonomy 2</i>	.73		
<i>Autonomy 3</i>	.64		-.34
<i>Autonomy 4</i>	.69		
<i>Autonomy 5</i>	.71		
<i>Autonomy 6</i>	.71		
<i>Autonomy 7</i>	.61		
<i>Autonomy 8</i>			
<i>Autonomy 9</i>	.61		
<i>Autonomy 10</i>	.78		
<i>Autonomy 11</i>	.67		
<i>Autonomy 12</i>	.84		
<i>Autonomy 13</i>	.81		
<i>Work-Life balance 1</i>			.66
<i>Work-Life balance 2</i>			.80
<i>Work-Life balance 3</i>			.77
<i>Work-Life balance 4</i>			.57
<i>Work-Life balance 5</i>			.50
<i>Work-Life balance 6</i>			.61
<i>Health 1</i>		-.67	
<i>Health 2</i>		-.51	
<i>Health 3</i>		-.63	
<i>Health 4</i>		-.62	
<i>Health 5</i>		-.58	
<i>Health 6</i>		-.57	
<i>Health 7</i>		-.67	
<i>Health 8</i>		-.82	
<i>Health 9</i>		-.73	

Appendix IV: Results of the respondents' comparison

Table 47. Comparison test between the two respondent groups

t-test for Equality of Means					
	t	df	Sig.	Mean Difference	Std. Error Difference
<i>Values for NWoW</i>	-1.99	94	.05	-.33	.16
<i>Organization Identification</i>	-.46	95	.65	-.05	.11
<i>Leadership</i>	.32	85.85	.75	.04	.12
<i>Job collaboration</i>	-.94	95	.35	-.09	.10
<i>Job performance</i>	-.67	95	.50	-.10	.14
<i>Job autonomy</i>	-3.59	95	.00	-.45	.12
<i>Job satisfaction and work motivation</i>	.73	94	.47	.08	.11
<i>Work-life balance</i>	1.43	95	.16	.15	.11
<i>Health</i>	.19	95	.85	.02	.10
<i>Creativity</i>	-2.91	85.23	.01	-.32	.11

Appendix V: Hypotheses that might be investigated with the New Way of Working questionnaire

- People in charge have a rosier image about job conditions than people not in charge.
- Younger people are more able to implement NWoW successfully than older people.
- Male employees will be better in implementing NWoW than female employees.
- Male managers will face more difficulties in implementing NWoW than female managers.
- People with more experience will be more open for implementation of NWoW than people with less experience.
- People with a higher education will be more open for implementation of NWoW than people with a lower education.
- Correspondence between values of people and values of NWoW will lead to a better implementation of NWoW.
- The implementation of NWoW is positively influenced by communication and trust.
- Good communication will lead to a better implementation of NWoW.
- An organization with higher trust in employees will be more successful in implementing NWoW than an organization with lower trust.
- A leader who knows his or her personnel will be more successful in implementing NWoW than a leader who does not know his or her personnel.
- A coaching leadership style will guide employees to a successful implementation of NWoW.
- Employees with a higher organization-identification are more productive than employees with a lower organization-identification.
- Communication and knowledge sharing are better in organizations that have implemented NWoW successfully than in organization without NWoW.
- People who work in organizations that have implemented NWoW are more satisfied than people who work in organizations without NWoW.
- People who work in organizations that have implemented NWoW have a higher extra-role performance than people who work in organizations without NWoW.
- NWoW will lead to a higher (perception of) quantity and quality of work.
- People who report more autonomy are more productive.
- Employees in NWoW organizations are more motivated than employees of companies that have not implemented NWoW.
- Employees in organizations that have not implemented NWoW have a better work-life balance than employees of companies that have implemented NWoW.

- Employees in a NWOW organization perceive less mental problems than employees of companies that have not implement NWoW.
- Employees in NWoW organizations perceive more physical problems than employees of companies that have not implement NWoW.
- NWoW organizations need less office space per employee than organizations that have not implemented NWoW.
- Employees with less contract hours have less difficulties with the implementation of NWoW than employees with more contract hours.
- Employees with less contract hours work more when they have the possibility to use the right technology than when they would not have this possibility.
- People who highly value NWoW themes have less issues implementing NWoW than people who score low on NWoW values.