The New Way of Working

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IDENTIFING THE COMPETENCIES THAT ARE NEEDED FOR A SUCCESSFUL NEW WAY OF WORKING AT UMC UTRECHT

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MANAGEMENT SUMMARY

The time that organizational size was inextricably bounded to the quality of healthcare is no more. Since non healthcare activities are inferior to healthcare activities it is important to be as efficient and effective as possible regarding housing and occupancy of workplaces. A housing deficit at the facility department of UMC Utrecht forced Gebouwen, Beheer & Inrichting, Inkoop, and Veilige Werkomgeving to reallocate. Expenditure on housing will be accounted by the specific department. Therefore it was important that more efficient use is made of square meters, wherefore the Zandplaat was developed. This new building facilitates 96 dynamic workplaces for 120 employees and managers, which means that no private offices or workplaces exist. This requires a different attitude of employees and managers, because they need to work following different guidelines. These guidelines are wrapped into a concept called the New Way of Working (NWoW). Baane, Houtkamp, and Knotter (2010) examined the core aspects of NWoW. They have found four dimensions that characterize NWoW when applied collectively and to a full extent. These dimensions are: Time and place independent working, Managing results, Access and connectivity to knowledge, and Flexible employment relationships. The extent to which these dimensions are collectively present within UMC Utrecht is called the intensity of NWoW.

Theory showed that not all employees and managers have the same willingness to change, which makes it more difficult to manage them in this change process. For this reason the competencies needed by employees and managers to be successful in NWoW are investigated. Successful in NWoW means meeting the performance goals of NWoW. These performance goals are commitment, work-life balance, and overall productivity. The literature review resulted in a bundle of competencies distinguished in employee competencies and managerial competencies that should influence the relation between the intensity of NWoW and the performance goals. According to the literature, employees need empowerment, knowledge sharing among employees, and employees' acceptance of IT to be successful in NWoW. Managers on the other hand need individualized consideration, trust, empowerment impact, supporting employees' acceptance of IT, supporting knowledge sharing among employees, and output control.

Intensity of NWoW, employee and managerial competencies, and performance goals of NWoW together form the foundation for the questionnaire that is developed. This questionnaire, operating like a scan, is meant to give an overview of the extent of NWoW present within an organization. Employee and managerial competencies together with the performance goals of NWoW are used to discover to what extent employees and managers already possess certain competencies and to what extent performance goals of NWoW are already met. Subsequently validity and reliability tests were used to determine whether the questions (items) that together form a scale (construct) prove reliable and whether they measure what they intend to measure. Unfortunately due to a low unit of analysis (N) it is not possible to draw statistical conclusions for the managerial competencies. The employee competencies do pass the test. However, when testing the regression equations it becomes clear that employees' acceptance of IT is not significant. Therefore two competencies remain: empowerment and knowledge sharing among employees. The initial research model partly remains, because from all theoretical employee and managerial competencies it can be stated that empowerment and knowledge sharing do positively contribute to the performance goals of NWoW. The results from UMC Utrecht show high values, respectively a mean value of 4.09 (scale 1 – 5) for empowerment and 3.83 for knowledge sharing among employees. The results of the questionnaire on intensity of NWoW show a moderate extent of NWoW present in the organization. Despite the implementation it is observed that time and place independent working and access and connectivity to knowledge score notable lower that the other two. This is mainly caused by: the absence of working at home, the low use of social media, and the limited amount of IT used to facilitate NWoW.

Although it is hard to prove that the other competencies do contribute to the performance goals of NWoW the data still allow analysis and thereby recommendations for improvements for UMC Utrecht[1]. Additionally, this developed questionnaire should not be altered after one test, but should be repeated to obtain sufficient values for employee and managerial competencies. After all, theory does indicate that these competencies contribute to the performance goals of NWoW. For this reason it is important that UMC Utrecht pays attention to these competencies and help employees to develop them. For all these developments it is important that managers proactively support employees. More specific, UMC Utrecht can improve the success of NWoW by allowing working at home, and stimulating the use of social media and IT means. Furthermore, creating competency profiles – used to determine the cognitive capacities of potential employees and managers - that contain the employee and managerial competencies of this research ensures that new employees and managers will meet the NWoW demands regarding competencies.

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[1] When UMC Utrecht is written you should read the investigated departments: Zandplaat (GB&I, VWO, and Inkoop).

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PREFACE

This master thesis has been the last assignment to complete my Master Business Administration. It has been a great research in which interesting discoveries have been done. This had not been possible without the necessary guidance and support. For this reason I would like to thank several people that have been valuable during this research. First, I would like to thank UMC Utrecht, Cees Henzen in particular, who offered the opportunity to do my research within his organization. Cees has been a great discussion partner to find fit between theory and the practical impact at UMC Utrecht. Furthermore, he introduced me to the people who could be valuable for my research. This was very helpful.

Secondly, I would like to thank my university supervisors, Jan de Leede and Fons Wijnhoven, who were very interested in this relative new subject during the entire process. They have been of great support in achieving research focus, maintaining a high quality level, and guidance through tight deadlines. Their input was very helpful and kept me motivated and on track.

Last, but certainly not least I would like to offer my special thanks to Annemiek te Lintelo. She has been a great partner throughout the entire research period. Her passion and motivation have proved to be of massive value in achieving my research objectives. Annemiek, thank you very much!

Having this all said, I would like to mention that I hope you will enjoy reading my master thesis and get answers to yet unanswered knowledge questions. If you have any questions or comments I will be more than happy to help you. So do not hesitate to get in contact with me!

Kind regards,
Chris Seelig

1 INTRODUCTION

The 'New Way of Working' (NWoW) appears to be a popular term on the workplace nowadays, though not much is written in scientific literature. Is NWoW really a new way of working or just a hype that will fade out in a short period of time? First, the initiative of NWoW will be given with corresponding popular literature.

The whitepaper has been the trigger for many organizations to get involved in this concept. NWoW unfolds in a virtual organization that supports place and time unbound working and has room for flexibility and employee creativity. Looking back into history makes us aware of the fact that Microsoft was not the first one to use this alternative way of working. Earlier in time, a Dutch company called Interpolis had a vision that radically changed the 9 to 5 working mentality. A huge reorganization project in 1994/1995 caused the dismissal of 1/3 of the organization. A change project to boost Interpolis' image and work more customer oriented, and the formation of a new revolutionary headquarters in Tilburg, were the foundation for NWoW in 1996 (Bijl, 2009).

According to Bijl (2009), the definition of NWoW is a vision to work effectively and efficiently. Furthermore work needs to be enjoyable for the organization as well as for the employees. The vision can be realized when employees have freedom in working methods, place of work, time of work, and direct working partners (within organizational boundaries). The method that is used most of the time is comparable to the model designed by Erik Veldhoen (Bijl, 2009). This model consists out of three major components (Bijl, 2009; Van de Haterd 2010; Veldhoen 2005):

- Virtual: ICT is important in NWoW. Its function is to support place and time independency in every possible situation;
- Physical: Veldhoen (2005) stated that the workplace is becoming a workspace which entails a new vision on the design of space to work;
- Mental: This encloses the organization and the employees. The organization and employees need to adapt to the changes that come along with NWoW.

The virtual, physical, and mental components cannot be separated from each other when implementing NWoW, because all three are part of an integral approach that should fit in order to succeed (Veldhoen, 2005). Though, this research needs a focus because exertion of the whole model is too comprehensive and therefore the mental environment is emphasized. The employee is crucial in this model while the remaining components support the employee to perform at best.

This was a brief introduction of some of the popular literature regarding NWoW. Chapter 2 will elaborate on this introduction by defining a typology of NWoW as a result of the popular literature. The typology is necessary for the clarification of NWoW in this research because NWoW is not empirically tested in a scientific method. This research takes place during an internship at the University Medical Centre (UMC) Utrecht. Before the description of the problem statement and research objectives will be given, a brief introduction of the organization is presented. This brief introduction contains background information and is meant to give an impression of the organization.

1.1   BACKGROUND OF UMC UTRECHT

The UMC Utrecht is one of the largest public healthcare centres in the Netherlands. Approximately 10,000 employees (November, 2010) strive to ensure good healthcare at all-time using keynotes like knowledge and people. Without new knowledge on diseases and health, healthcare cannot be improved. Without people who are able to generate, apply, and transfer this knowledge, patients cannot be offered better healthcare. With this, the core activities UMC Utrecht are shown: Patient care, research, and education. These three tasks are the foundation for the company's mission statement, core values, ambitions, and strategy. To be able to perform the three core tasks in an adequate way, departments are needed to provide non-core business related support, including the Facility Department (see appendix 1 for the organizational chart).

The Facility Department supports UMC Utrecht in executing its primary tasks: medical and nurse care of patients, research, and education of students. A large range of products and services is supported to fulfil this need. In general the Facility Department takes care of the security, property management, cleaning, energy supply, medical technology, and a large amount of other facility related tasks regarding patients, personnel, and visitors of the UMC Utrecht. Through the use and improvement of specific knowledge the Facility Department maintains a provider of high quality services. The Facility Department strives to customer satisfaction, professionalism and innovation at all time.

1.2   PROBLEM DEFINITION

There was a time that the size of a hospital was inextricably bounded to the quality of healthcare, larger is better. Unfortunately, nowadays the opposite is true. During interviews and meetings it became clear that UMC Utrecht frequently deficits in housing. Solutions in general were most of the time ad-hoc. Furthermore, non-health care activities are inferior to health care activities and become second in line. The Facility Department also notices that healthcare activities are dependent on non-healthcare activities. Because of this dependency they define it important that housing problems need to be solved structurally instead of with temporary solutions. At this moment a housing deficit appears and three sub-departments are forced to reallocate. Because of specific expenditure on housing UMC Utrecht has to make more efficient use of square meters in order to be able to spend more on healthcare and innovation. This change requires another vision on working and housing. The Facility Department already faces a deficit in working space and therefore becomes the pilot environment.

UMC Utrecht already started the development of a new, revolutionary building under the name of 'Zandplaat'. Three out of 14 sub-departments, hierarchical within the Facility Department, are meant to continue their work related activities at the 'Zandplaat' starting December 13, 2010. These sub-departments are: Gebouwen, Beheer & Inrichting (GB&I), Veilige Werkomgeving (VWO), and Inkoop. From that day approximately 120 employees will have to work according to the rules and standards of NWoW using 96 computer workplaces.

For most employees this means a different way in working and thereby a different way in thinking how to organize work related activities. Management recognizes those differences and acknowledges that most employees need a certain extent of guidance. Pointing out employees in the right direction should improve overall efficiency and effectiveness.

Based on the description of the problem background and the research motive the problem statement can be clarified. The starting point of this research implies that organizations are dealing with changes (e.g. mental and skills) before, during, and after the implementation of NWoW. Employees within an organization have to deal with mental changes even as the ability to perform with NWoW. The ability can be described as a competence that an employee needs to perform properly in NWoW. The meaning of the competencies is often discussed in literature and therefore needs a clear definition in this research. Competencies[2] are a set of behaviours that

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[2] http://wiki.answers.com/Q/What_is_the_definition_of_the_word_competencies

include skills, knowledge, abilities, and personal attributes that together are needed to perform a job successfully.

1.3   RESEARCH OBJECTIVES

This research has taken place, as said before, during an internship at UMC Utrecht, therefore the objectives are bilateral. From the academic perspective the master thesis research needs to incorporate scientific literature in a thorough manner and build results on those findings. Furthermore, UMC Utrecht needs a more practical solution that suits their situation. In order to satisfy both perspectives, theory is used to build a framework on which a questionnaire will be developed that support organizations in maturing employees in their NWoW skills. UMC Utrecht will be used as pilot organization to obtain understanding in and need for such a questionnaire. Although such instruments exist, none of them are scientifically designed. The research that is performed for UMC Utrecht is also performed at Alliander. This is done by a fellow classmate. Alliander N.V. is a network company, located in Arnhem within the Netherlands. Alliander N.V. is the heir of the former energy company N.V. Nuon. On June 29th, 2009 N.V. Nuon separated the commercial activities (Nuon Energy) from the network activities (Alliander).

In addition, the results of this report and the outcomes of the questionnaire within the UMC Utrecht can serve as an example for organizations that deal with the same problem. Based on the above description, the following research objectives can be formulated:

- Relate popular literature to NWoW to create a typology applicable on Dutch organizations;
- Create a theoretical framework that includes scientific and popular literature and covers the major differences between the traditional way of working and NWoW, competencies of employees needed for successful NWoW, and competencies of managers needed for successful NWoW;
- Develop a questionnaire that assesses managers and employees in their tasks regarding NWoW;
- A case study: UMC Utrecht versus Alliander;
- Provide an analysis containing the current extent to which competencies of managers and employees are ready for NWoW in terms of strong and weak points;
- Provide management an analysis with recommendations for improving employee and managerial competencies towards NWoW.

1.4   RESEARCH QUESTIONS

After defining the problem background, the problem statement, and describing the research objectives, the main research question can be formulated:

Which competencies do employees and managers at UMC Utrecht need to meet the performance goals of NWoW?

To be able to answer the main research question, the following sub questions should be answered:

At first it is important to know the characteristics of the different ways of working. Knowing what employees should change provides the possibility to react and manage if necessary. To be able to fit the main research question NWoW performance goals have to become clear and applicable on the case. To obtain this knowledge, the following sub-question is formulated:

1. *What is the difference between the Old Way of Working (OWoW)and the New Way of Working?*

Before a clarification of leadership needed within NWoW is given, a closer look to behavioural attitudes of employees is required. A new way of working may require another way in thinking, therefore it is necessary to

explore whether employees need different skills crucial for the success of NWoW. To answer this, the following sub-question is formulated:

2. *What competencies do employees need to meet the performance goals of NWoW?*

Another way in working may require another type of leadership. As superior to the employee he/she can steer and coach the subordinate in the right way. Therefore it is necessary to investigate what characteristics are needed to be an effective leader within the context of NWoW. To answer this, the following sub-question is formulated:

3. *What competencies do managers need to meet the performance goals of NWoW?*

Finally, the gathered knowledge should enable the researchers to provide a clear recommendation on the improvement and the effectiveness when dealing with NWoW.

4. *Which steps can be taken at UMC Utrecht to (further) enhance competencies of managers and employees to improve the outcome of the performance goals?*

1.5   RESEARCH DESIGN

This research is set up from an explorative perspective. NWoW is a new and unknown area for many researchers and therefore seeks explanations. From this exploratory view, a quantitative survey is developed that investigates the relationship between the most important aspects of NWoW.

In order to start with the quantitative survey strategy, theory is needed on the subject of NWoW. This theory provides a conceptual research model. The model is used for the visualization of the constructs and will be extended during the literature review.

2   THEORETICAL FRAMEWORK

The literature on NWoW is widespread nowadays. Unfortunately, none of this literature has a scientific foundation. First the difference between the OWoW and NWoW will be explained. This explanation is necessary for the creation of a typology of NWoW with its characteristics. The typology consists of some scientific literature that comprises elements of NWoW that are in accordance with the popular literature. All this together consolidates the term NWoW. Thirdly, the sub questions regarding employees and managerial competencies will be answered. Finally, the assumed research model will be presented to give a schematic view of the relationships between the competencies of employees and manager and the popular defined characteristics of NWoW.

2.1   ORGANIZATIONAL DESIGN: EVOLUTION OF WORK

Answering the question 'What is the difference between OWoW and NWoW?'

Before the elements of both ways of working are being discussed, the history of 'work' needs to be explained. First of all work has a lot of translations, a broad view of the definition is the performance of activities that are useful for the ones that accomplish work for his or hers environment and the society (Mok, 1994). This means that everybody who wants to live needs to work. According to Watson (2003), work stands for carrying out tasks that offer the possibility for humans to earn money within the social and economic context in which they are established. This is a definition that is more aimed at the social environment than the definition from Mok (1994). A complicated definition is given by de Sitter (1981); according to him work is a process that is built by a range of human activities which are involved in the social environment. This definition is complicated because the explanation of work is not given. A lot of activities could be clustered underneath this definition. A more restricted meaning of work is given by Gorz (1987), he stated that an activity that is being paid for is on the account of a third. There is more than work that is being paid for so this definition is not complete. For this paper the definition of Watson (2003) is chosen because of the similarities compared to NWoW. The focus in this definition is on the human as is the focus within NWoW, as stated in the introduction where the employee is in the centre of the approach within NWoW (Bijl, 2009). Moreover, the definition of work is necessary for the discussion about workflows later on.

Organization design and management practices have varied over time, in response to changes in the society. In the 19th century, Frederick Winslow Taylor (1911) introduced the so called 'classical management perspective' also known as scientific management. Taylor explains how a company should implement job design to make the organization successful. To use this job design, managers must simplify each task, reduce conflicts, cooperate, increase output, and develop people to their highest capabilities. Taylor believed that the organization would most benefit when employees would do their job in "one best way" (Kanigel, 1997). Furthermore, Taylorism led to enormous gains in productivity and according to Taylor (1911), this was essential for a successful organization. The foundation for modern management was formed by Henri Fayol. He defined fourteen principles of management (Wren, Bedeian & Breeze, 2002). For example, "Unity of Command'', the purpose of this principal is that every subordinate obtains orders from only one boss. Another is example is "Unity of direction", the meaning of this principle is that comparable job activities should be done in groups under one superior. The system of Fayol was a closed system management perspective that focussed on the whole organization and could only be developed from the insight of specialists. Whereas, scientific management concentrated mainly on jobs performed on the shop floor, administrative principles covering the design and functioning of the organizations as a whole. Both approaches gave organizations basic ideas for a high productivity and in the end, a successful organization. Moreover, the principles from Fayol were a contribution to the progress of bureaucratic organizations. According to Weber (1947), bureaucracy is the most efficient system of organizing because organizations function more efficient in business and government settings. Mintzberg (1979) suggested a typology of five basic organizations structures, under which three

bureaucratic configurations. For example the machine bureaucracy, this configuration was very successful in mass production based organizations. All these approaches were successful, especially during the Industrial Revolution. The hierarchy of authority and precise rules and procedures provided an effective way to prevent abuse of authority. However, all the approaches mentioned before in this chapter failed to comply with the aspects of the human needs. Although Weber (1947) stated that bureaucracy is a threat to personal independence, the system had many advantages.

A major breakthrough took place during a series of experiments, known as the Hawthorne Studies (Roethlisberger & Dickson, 1939). These experiments led to the conclusion that positive treatment of employees improved their motivation and productivity. The results of these experiments were publications of the findings and became the foundation for further research on the studies of human relations and behavioural approaches. However, the bureaucratic approaches and hierarchal systems that were developed during the Industrial Revolution remained as approaches during the 20th century (Daft, 2007). For most organizations these ways of working worked until the end of the 20th century. Environmental challenges in combination with advances in technology, globalization, rapid social and economic changes, and the internet demand more flexible approaches to organizational design and new management perspectives (Daft, 2007). That is where Information Technology (IT) comes along. IT has become important because the world is rapidly changing and the machine bureaucracy is not working for organizations to face the challenges anymore. Global competition and uncertain environments makes working with increased formalization, hierarchy of authority and professional staff ratios difficult. Furthermore, IT has had a major change effect on the coordination of group tasks, functions, or the extent to which people have to physically meet. In former times the physical meetings were demanded from the organization for the coordination or production. The aspects of information technology can be defined as "*computers, communications, video conferencing, artificial intelligence, virtual reality, fax, cellular and wireless phones and pagers and so on*" (Lucas & Baroudi, 1994, p. 13). These aspects cannot be neglected in organization design nowadays and the consequence of these developments is that the structure of organizations needs to be changed. For example the fact that many people work in virtual teams that exceed distance, time zones, and organizational boundaries (Lipnack & Stamps, 1997). Virtual teams can be relative stable relationships or project teams changing on a regular basis within organizations, or an inter-organizational cooperation between multiple organizations. Employees within virtual teams operate either from close distance or geography dispersed at the same or a different time (Kimble, 2011). Due to the growth in information sharing capabilities and communication technologies a virtual world was created that shifted face to face collaboration to technology based collaboration. Most definitions state that the virtual team is a kind of team relying on its technology instead of face to face collaboration to accomplish tasks. Technology is here seen as a substitute for face to face interaction. The focus of researchers therefore shifted away from defining virtual teams as a difference to traditional or conventional face to face teams to the extent of "virtualness" as a characteristic of teams in general. This extent of virtualness is influenced by the nature of the tasks, technological resources and workers' skills and capabilities (Martins, Gilson, & Maynard, 2004).

As stated before, work stands for carrying out tasks that offer the possibility for humans to earn money within the social and economic context in which they are established (Watson, 2003). To accomplish a set of tasks, coordination is needed to incorporate or connecting together different parts of an organization (Van de Ven et al., 1976). Build upon typologies of long-linked, intensive, and mediating technologies that characterize the workflow process (Thompson, 1967), Van de Ven, Delbecq, & Koenig (1976) describe task interdependence along four different kind of workflows, starting with the most independent and ending with the most interdependent. The first one is called pooled, because tasks are performed on an individual basis and then combined into a finished product. Sequential means that output for one team member is input for another. The reciprocal workflow is categorized trough the mutual flowing of tasks between team members. The final and most interdependent type is the intensive workflow, this means that team members must diagnose, problem solve, and collaborate as a team to accomplish tasks. Besides the workflows, team task requirements are distinct through task environment, external and internal coupling. These characteristics together conceptualize task complexity along a continuum ranging from low to high complexity. Less complex tasks require little collaboration, information sharing among members, and are loosely coupled to the external context. These tasks are typically defined as pooled or sequential. On the other hand, more complex tasks are tightly coupled, with synchronous collaboration and a high extent of information sharing. These tasks are typically defined as reciprocal of intensive.

The combination of characteristics that comprise workflows set constraints on the competencies of employees and managers. Furthermore, Bijl (2009) stated that not every job can be performed place and time independent. The plumber for instance still needs to fix the leak at the specific location. On the other hand, the financial administration of the same plumber can be done time and place independent. For this reason we will investigate the influence of task interdependence as a moderator on the performance goals of NWoW.

In answer to the question 'What is the difference between the OWoW and NWoW', there are many different forms of organizational design developed through time. The major change has occurred through the introduction of IT and its possibilities. The virtual organization is the most on IT-depended form. Later on, it became clear that the difference between virtual teams and traditional teams is very vague and could be identified though the extent of virtualness (Martins et al., 2004). From our point of view, this way of reasoning makes the answer to the sub question brief. The difference between the OWoW and NWoW can be stated as the extent to which virtualness is used within an organization. A high extent of virtualness is a high extent of NWoW in the organization. So, a low extent of virtualness complies with the OWoW. It is difficult to conclude where the OWoW stops and NWoW begins. This is mostly determined by the nature of the tasks, technological capabilities and competencies of employees and managers.

2.2   TYPOLOGY OF NWOW

As mentioned in the introduction, this chapter will explain the typology of NWoW. During their research, Baane, Houtkamp, and Knotter (2010) examined the core aspects of NWoW. They have found four working principles that characterize NWoW when applied collectively and to a full extent. These working principles are:

1   Time and place independent working;
2   Managing results;
3   Access and connectivity to knowledge;
4   Flexible employment relationships.

Time and place independent working
Reports on flexibility, globalization, digitalization, and e-commerce are widely discussed in media nowadays. Resources are small, fast, and therefore mobile, which make time and place a relevant issue to be considered. Under these conditions, employees and managers should be able to perform their work at home, at a client's office or underway, just as well as the 'home' office. These alternatives make place no issue anymore (Vos& Van der Voordt, 2001). According to Gibson (2003) time and locational flexibility allows employees to choose the time and place that best fits their work. This dimension of flexibility offers an ideal work-life balance for employees who want to optimally fit their personal environment and work related activities (Gibson, 2003). Although time and place are no issue anymore, this does not mean that employees can't work from 9 to 5 anymore. Employees can work at the time and in the place that bests fit the situation, whether it is between 9 and 5 somewhere around the office or on a Saturday night at home (Bijl, 2009). Employees for example can schedule appointments with clients at a time where delays due to traffic jams are reduced to a minimum (Baane et al., 2010). Furthermore, the disappearance of static workplaces and the appearance of a dynamic office environment can reduce costs on housing between 30% and 40%. This automatically enhances cost savings in the reduced needed cooling capacity and heating consumption. Another important aspect within cost savings is the reduction in travel expenses and travel times by working place independent. (Bijl, 2009) Employees of KPN for example reduced the carbon dioxide emission of its cars by 29% (Van de Haterd, 2010).

The highly fluctuating and changing markets require flexible employees for the organization to maintain a competitive position. Although home working is just as much flexible working as working somewhere in the home office, this was treated as a different issue. The research of Felstead, Jewson, & Walters (2004) showed that a loss in visibility and presence of employees had forced managers to compensate this with trust. The reciprocal moral responsibility between manager and employee should cover the absence of visibility and physical presence (Felstead, et al., 2004). Besides this, employees want to individually determine in what way

they contextually perform their work. Therefore managers need to steer on output rather than on presence (Baane et al., 2010).

Managing results

Employees who are managed on output have more space and freedom to perform their work, because they can determine where and how the work is done. To manage these employees, a different kind of control is needed. This control shifts from a presence-oriented to an output-oriented form of control (Vos & Van der Voordt, 2001) and requires a situational form of anticipation in which employees being granted a more personal form of guidance to the necessary extent (Baane et al., 2010). This same freedom leads to more employee satisfaction and ultimately results in better customer satisfaction, which at the end results in more employee productivity. After all, a satisfied employee will treat his customers in a better way (Bijl, 2009). Bijl (2009) proves his reasoning with examples from Interpolis and Microsoft. Employee satisfaction is significantly improved, respectively from a 6,1 in 1996 to an 8,4 in 2009 in case of Interpolis and from a 5,5 in 2005 to an 8,3 in 2009 in case of Microsoft. As said before, time spent on certain work related activities is no real concern anymore, what matters is the result. This requires a vision of managers in which they manage at distance and inspire and coach on quality and on result (Baane et al., 2010). Bijl (2009) adds that an employee should be able to function optimally, thus being more effective and therefore being granted enough freedom, challenge, and responsibility. An important effect of additional freedom and responsibility is an increase in organizational commitment (Bijl, 2009). Depending on the situation this requires that the manager acts as a coach, mentor, or even a service provider.

Looking back in history the leadership skills of managers can be linked to the theory Y of McGregor (1960). McGregor (1960) stated that in theory Y it's assumed that workers are ambitious and self-motivated. When given the right conditions, workers like to do well at work. This satisfaction of doing a good job is a strong motivation. Baane et al. (2010) suggests that more employee autonomy will lead to better insight and more professionalism. Employees therefore will be more productive, because their involvement in the decision-making process is enhanced. Furthermore, autonomy increases employee interaction and flattens the organization. This involves making better use of knowledge in the organization (Baane et al., 2010).

Access and connectivity to Knowledge

Knowledge can be distinct in two separate aspects, explicit and tacit. Explicit describes the knowledge that is easily transmittable in a formal, systematic way whereas tacit knowledge is characterized trough the skills, attitudes and experience of an individual. Tacit knowledge therefore is more difficult to write down and can be shared through extensive communication resulting in mutual understanding (Nonaka, 1994). Baane et al. (2010) supports this way of thinking and stated that (virtual) collaboration, brainstorming and co-creation as a part of knowledge sharing is required to stimulate creativity. Creativity and innovation as well are developed through autonomous genesis of (informal) networks and collaboratively oriented partnerships (Baane et al., 2010). Unlimited access means being able to gain knowledge anywhere and anytime. Hardcopy knowledge is a source that has its limitations in accessibility and needs to be physically stored. Digital knowledge on the other hand has an unlimited availability and therefore allows employees to connect anywhere and anytime. Furthermore, employees can work faster, more efficient, and more effective (Bijl, 2007) which results in cost savings, because more can be achieved with less employees (Baane et al., 2010).

To realize this unlimited access and connectivity Web 2.0 applications like social media (LinkedIn, YouTube, Twitter, & Facebook) function as an important enabler for NWoW. A precursor of LinkedIn is Philips' Yellow page system that allows employees to find individuals with specific knowledge, projects and résumés. These technologies are the major driver in enhancing collaboration and knowledge sharing (Baane et al., 2010).

Flexible employment relationships

NWoW expects a mature relationship between employee and employer in which mutual agreement and understanding feeds collaboration. The "traditional" working conditions are not natural anymore. Working conditions are to be flexibly applied to fit a personally desired work-life balance (Baane, 2010). Furthermore, young workers choose their employer based on flexible working arrangements. Companies therefore need to invest in order to be attractive to the future workforce (Deusen, James, Gill, &McKechnie, 2008), but also for today's young worker (Bijl, 2009). Flexible working arrangements thus shift from a preference to a necessity

(Deusen, James, Gill, & McKechnie, 2008). Most exposed organizations in the research of Baane et al. (2010) allow employees to choose their package of working conditions and fit it more or less to their personal preferences.

ABN Amro for example developed an online application that allows employees to spend the total value of their working conditions in the way that best fits their preferences. These preferences can be, among others, educationally oriented (education and seminars), days off, (parental leave, child day-care, and flexible working times), and special rewards (profit-sharing plans and share plans). Employees can change these preferences on a daily basis and observe real-time the financial effects of these alterations. Besides attractiveness to employees this also cuts administrative costs (Baane et al., 2010).

The four working principles that characterize NWoW will be further mentioned as the intensity of NWoW, as in the extent the concept of NWoW is applied. When an organization collectively and to a full extent applies NWoW, this will lead to increase of various performance goals.

2.3   PERFORMANCE GOALS OF NWOW

The performance goals as defined in the typology will be further explained in this section.

Work-life balance

Hill, Ferris and Märtinson (2003) investigated the effects of work-life balance on virtual, traditional, and home offices. The outcome showed that virtual workers were significantly less work-life balanced than home or traditional office workers. A possible reason is the lack of physical boundaries. Virtual workers may encounter difficulties distinguishing whether they are at work or at home. Furthermore, the best working hours are not always between 9 and 5. For instance, a strategic idea might pop-up in the weekend and an important report could be better written in the evening rather than during working hours accompanied with all its interruptions. Similarly, personal/family hours don't have to occur outside normal working hours. Scheduling work at the best time, regardless of the hour, could create a better work-life balance (Hill et al., 2003). From the typology NWoW it becomes clear that work-life balance is seen as an important performance goal in which employees are granted freedom and flexibility to fit their ideal situation. Two important aspects here are work and family. Conflicts between these two can be seen from a family and a work related perspective. This interference occurs when (a) time dedicated, (b) strain from participation, and (c) specific behaviours to the requirements of family makes it difficult to fulfil needs of work and vice versa (Baltes & Heydens-Gahir, 2003). In their research, Baltes and Heydens-Gadir (2003) found that there is a relation between behaviours specified by a life management strategy entitled selection, optimization, and compensation (SOC) and work–family conflict. Their results suggest that the use of SOC behaviours in work as well as family domain reduces family and work stressors and subsequently reduces work-family conflicts.

According to Clutterbuck (2003) work-life balance is the condition of an individual in which he or she manages potential conflicts regarding time and energy in order to obtain self-fulfilment otherwise seen as the absence of unacceptable levels of conflict between work and live demands (Greenblatt, 2002). From a reciprocity perspective, exchange theory stated that individuals will return what they have or perceived to have received. A greater work-life conflict implies a feeling that the organization is treating not well enough, which results in less commitment (Siegel et al., 2005).

Overall Productivity

In the human capital theory, people have knowledge, skills and abilities (KSAs) that are a value to an organization. Because of this value, the KSAs need to be increased by means of investing, for example through HRM. These investments involve direct and indirect opportunities and costs and are only justified if future returns will be produced in the form of increased worker productivity and overall organizational performance (De Winne & Sels, 2003). As stated in the typology, employee productivity is an indicator whether NWoW is effective. Therefore, productivity has been chosen as a performance goal for NWoW. According to Neufeld &

Fang (2005) individual productivity is the effectiveness which an employee applies his or her talents and skills to perform work, using available materials within a specific time. Furthermore, the individual productivity has been identified as an important individual outcome for example telecommuters (Neufeld & Fang, 2005). Neufeld & Fang (2005) also stated that some researchers have reported that increased productivity may occur due to reduced work interruptions and use of optimally efficient hours, which is in line with NWoW. In this research, employee productivity is defined as an employees' belief about its effectiveness, self-efficacy and work quality (Staples et al., 1999).

Commitment

Commitment is the psychological status that relates an individual to an organization (Van Vuuren, 2006). It is seen as the relative strength to which an individual identifies him or herself with and is involved within an organization (Mowday, Steers, & Porter, 1979). Van Vuuren (2006) clarifies this description by adding that there is a distinction in focus of commitment. Employees can be committed to an organization or to a profession. When employees are committed to a profession, the organization is not important as long as the work complies with the desired profession. This distinction complies with the Bergman et al. (2000)'s distinction between profession commitment and organizational commitment. Commitment can be split into affective and normative commitment. Affective commitment is stated as the connection with and dedication of an individual to an organization (Van Vuuren, 2006), thus an affective link between individual and organization (Pratt, 1998). The effect of affective commitment is an employee's desire to participate in realizing organizational goals and thus acting in the best interest of the organization (De Ridder, 2004). Normative commitment represents the obligation to maintain active in a specific organization (Meyer, Stanley, Herscovitch, & Tolponytski, 2002). An employee can for instance feel obligated to repay an internal education by maintaining within the organization or be influenced by family norms outside the organization. According to Meyer & Allen (1991), commitment can be split up into affective, continuance, and normative commitment, which together represents Allen and Meyer's three component model. This third form of commitment stated that employees stay because leaving would cost more than it gains. Liability and relevance of this form of commitment is doubtable (Van Vuuren, 2006). Continuance commitment doesn't relate individuals with an organization and therefore is placed outside of this research's scope.

To provide a clear overview of the characteristics of NWoW in relation to the performance goals, as explained in this chapter, a schematic reproduction is presented below.

Intensity of NWoW:

- Time and place independent working
- Managing results
- Access and connectivity to knowledge
- Flexible employment relationship

Leads to

Performance goals:

- Work-life balance
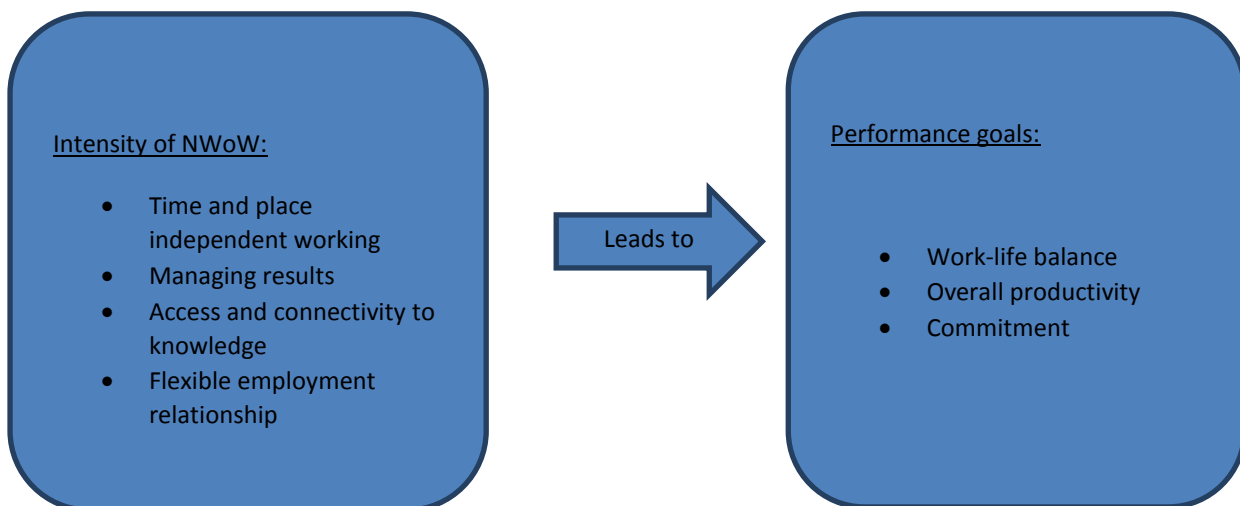- Overall productivity
- Commitment

FIGURE 1: PERFORMANCE GOALS OF NWOW

2.4   PERFORMANCE GOALS VERSUS EMPLOYEE COMPETENCIES

This chapter answers the sub question: *Which competencies do employees need to meet the performance goals of NWoW*.

Many organizations have responded to the competitive pressure by downsizing, restructuring, and transformation (Bergmann, Lester, De Meuse, & Grahn, 2000). Thus, security of employee loyalty through job security guarantees is past tense. Many employees therefore feel victimized through broken promises. Modern organizations therefore face the challenge of committing employees in the current business environment. In today's working environment employees encounter more uncertainty in their daily activities, and with no on-going employment assurance, employees raise their expectations in other fields. Among others, this includes pleasant working conditions, training and development opportunities, and balance between work and employees' commitment outside the workplace (Bergmann et al., 2000). Section 2.1 described the performance goals of NWoW. The next section will elaborate on these findings by examining the competencies required to meet those performance goals. To repeat once more, the performance goals are: work-life balance, commitment, and overall productivity.

The exchange theory, built upon the reciprocity principle, stated that individuals will give what they perceive to have been granted. Positively as well as negatively. A major work-life conflict will result in a major perceived feeling that the organization doesn't treat its employees well (Siegel, Brockner, Fishman, Post, & Garden, 2005). As a result, employees become less committed to their employers which manifests – among others - in increased absenteeism, and reduced effort and performance (Mowday, Porter, and Steers, 1982).

According to Bass & Avolio (1994) and Avolio (1999) organizational commitment is influenced by encouraging employees to think using new approaches, involvement in the decision-making processes, inspiring loyalty, and recognizing and appreciating the variety of needs to develop personal potential. Within the transformational leadership theory the role of empowerment is emphasized as a core utility of building to the organization's objectives (Avolio, 1999; Bass, 1999). Grover and Crooker (1995) stated in their research that employers who are offered benefits that are family responsive, seem more committed to the organization and have less interest in looking for a new job regardless whether those benefits will be used or not. Similarly, Thompson, Beauvais, and Lyness (1999) stated that having benefits available is related to lower work-life conflict, less intention to abandon the organization, and a higher extent of affective commitment.

An organization's ability to integrate and apply knowledge of organizational members is important to create and sustain competitive advantage. The challenge of knowledge management is rather emphasized on capture and integration than on creation. Thus, knowledge has few organizational value when it is not shared (Grant, 1996). Furthermore, the use of knowledge of employees to enable other employees to make use of it results in more work effectiveness and productivity. The information technology present in organizations nowadays has expanded a lot (Venkatesh, Morris, Davis, and Davis, 2003). Following the knowledge sharing needs of NWoW, employees have to comprehend unlimited access and connectivity to knowledge by using Web 2.0 applications. For technologies to increase productivity it is important that they are accepted by employees (Venkatesh et al., 2003).

Three competencies can now be distinguished: empowerment, knowledge sharing and employee acceptance of IT. These competencies will be explained in the next section.

2.4.1. EMPLOYEE COMPETENCIES

Empowerment

Empowerment is a concept that consists of four dimensions: meaning, competence, self-determination and impact (Spreitzer, 1995). Impact will be explained within the managerial practises; therefore the focus will be on meaning, competence, and self-determination. Meaning can be defined as the value of a work goal or principle in relation to the ideas or standards from an individual (Thomas & Velthouse, 1990). Besides this, meaning entails a fit between the requirements of a work role and beliefs, values, and behaviours (Brief & Nord, 1990; Hackman & Oldham, 1980). Previous research also linked empowerment meaning to work satisfaction (Hackman & Oldham, 1980; Spreitzer et al., 1997). When work is more meaningful to an employee it will show an increase in employee satisfaction, which results in a higher extent of commitment. The empowerment competence is often directed to as sell-efficacy, which means the degree to which the employee beliefs he or she can competently perform tasks or activities when he or she tries (Thomas & Velthouse, 1990). The employees who feel competent about their work will be more satisfied with the work and this directs to positive employee satisfaction. Bijl (2009) stated that employee satisfaction will result in enhanced employee productivity. Self-determination refers to skilfulness of behaviour, the sense of an individual who has a choice in initiating and regulating actions (Deci, Connell & Ryan, 1989). The reflection of self-determination is the autonomy in the initiation and continuation of work behaviour and processes. Examples are decision-making about work methods and effort (Bell & Staw, 1989; Spector; 1986). Thompson and Prottas (2005) state that employees with a higher amount of autonomy, defined as the way in which the job will be performed, are better able to manage their work-family balance. In NWoW employees need to be empowered through job autonomy. Spreitzer (1995) refers to this as self-determination. The following hypotheses are formulated.

Hypothesis 1a: Empowerment positively influences the relation between the intensity of NWoW and commitment.

Hypothesis 1b: Empowerment positively influences the relation between the intensity of NWoW and overall productivity.

Hypothesis 1c: Empowerment positively influences the relation between the intensity of NWoW and work-life balance.

Knowledge sharing among employees

Knowledge sharing is achieved through the process of acquiring, organizing, and communicating knowledge. The purpose is for employees to share knowledge to enable other employees to make use of this knowledge and be more productive and effective in their work (Alavi & Leidner, 1999). Knowledge is not a commodity to be passed freely. To learn from each other, thus to share knowledge, it is needed to reconstruct knowledge. In other words, it takes knowledge to acquire knowledge and therefore to share knowledge. The process of knowledge sharing is made up from two sub processes: externalization and internalization. The process of externalization occurs where those that possess knowledge share with others. Those others represent the process of internalization. The process of internalization occurs by those that seek to acquire knowledge (Hendriks, 1999).

Knowledge management (KM) systems are a type of information systems used to support the process of knowledge creation, storage, transfer, and application (Alavi & Leidner, 2001). Two models of KM systems can be distinguished: The repository model and the network model. The repository model, which corresponds with Hanssen's, Nohria's, and Tierney's (1999) codification approach, emphasizes codification and storage of explicit knowledge to enable reuse. Second, the network model, corresponding with Hanssen et al. (1999)'s personalization approach, emphasizes the linkage among individuals enabling tacit knowledge sharing. An important technological component is a directory with the location of expertise, thus knowing which person possesses certain knowledge (Kankanhalli, Tan, & Wei, 2005). From NWoW perspective this means that with digitalized knowledge employees has access to explicit knowledge anywhere and anytime. Furthermore, yellow page systems allow employees to gather tacit knowledge from other employees or supervisors. In NWoW

employees need to share knowledge excessively in order to meet the standards of the unlimited access and connectivity to knowledge (Baane, 2010). Therefore we hypothesize that sharing knowledge among employees positively contributes to the relation between the intensity of NWoW and the performance goals of NWoW.

Hypothesis 2: Knowledge sharing among employees positively influences the relation between the intensity of NWoW and overall productivity.

Employee acceptance of IT

Today's workplace is becoming more flexible and virtual. The need for face to face collaboration between managers and subordinates can be conducted by means of IT (Bailey & Kurland, 2002; Garrett & Danziger, 2007; Belanger & Allport, 2008).The definition of technology is given in chapter 2.1, moreover as stated before the structure of organizations needs to be changed in order to anticipate on the aspects of technology. For example, the lack of user acceptance when new information systems are implemented. The goal of new IT is to improve the job performance but if employees within an organization do not accept the IT there will not be an increase in job performance (Davis, 1991). Davis (1991) distinguished perceived usefulness and perceived ease of use. Perceived ease of use is the extent to which employees believe that using a certain system enhances their productivity. Perceived ease of use on the other hand defines the extent to which employees are able to easily adopt the new technology without a lot of effort. In NWoW employees need to accept new IT resources in order to improve job performance. Therefore we hypothesize that employee acceptance of IT positively contributes to the relation between the intensity of NWoW and the performance goals of NWoW.

Hypothesis 3: Employee acceptance of IT positively influences the relation between the intensity of NWoW and overall productivity.

In answer to the question "Which competencies do employees need to meet the performance goals of NWoW?" it can be stated that the competencies empowerment, knowledge sharing, and user acceptance of IT should be present among employees to cope with the performance goals of NWoW. These three competencies are needed to a certain extent for organizations to better handle with the challenges of NWoW. Furthermore, it is expected that all competencies positively influence the relation between the intensity of NWoW and the performance goals of NWoW as stated in chapter 2.

2.5 PERFORMANCE GOALS VERSUS MANAGERIAL COMPETENCIES

In this section the sub question 'Which competencies do managers need to meet the performance goals of NWoW?' will be answered.

The nature of work in nowadays organizations is changing. The corporate activities from organizations are more global, increase more competition and there is a change from production to knowledge-based work environments (Townsend, DeMarie, and Hendrickson, 1998). Furthermore, Drucker (2000) stated that the major earning of management in the 20th century is the improvement in productivity of labour workers. The challenge for the 21st century is the same improvement in productivity for knowledge workers.

In response to these changes, organizational design, structures and processes need to become more flexible and adaptive (Bell & Kozlowski, 2002). This also means that the role of leadership needs to adapt to these changes because leadership is widely recognized as a critical success factor for the development of new services (Bass & Avolio, 1994; Howell & Avolio, 1992, Yukl, 2002). According to Yukl (2002) leaders have a strong influence on employees' work behaviours.

Leadership is extensively discussed in the literature and has many definitions. Most definitions of leadership describe that it involves a process whereby intended influence is applied to one person over other people to lead, structure and facilitate activities and relationships in a group or organization. Moreover, definitions vary whether leadership is primarily descriptive or normative in nature as well as in their relative emphasis on behavioural styles (Den Hartog & Koopman, 2001). Table 1 presents several definitions of leadership.

Defining leadership: definitions of leadership
Leadership is the influential increment over and above mechanical compliance with the routine directives of the organization (Katz & Kahn, 1978).
Leadership is the process of influencing the activities of an organized group toward goal achievement (Rauch & Behling, 1984).
Leadership is defined as the process of influencing others to understand and agree about what needs to be done and how it can be done effectively. Furthermore, the process of facilitating individual and collective efforts to achieve the shared objectives (Yukl, 2002).
Leadership is defined in terms of a process of social influence whereby a leader steers members of a group towards a goal (Bryman, 1992).
Leadership is the ability of an individual to motivate others to forego self-interest in the interest of a collective vision, and to contribute to the attainment of that vision and to the collective by making significant personal self-sacrifices over and above the call of duty, willingly (House & Shamir, 1993).

TABLE 1: DEFINING LEADERSHIP (DEN HARTOG & KOOPMAN, 2001)

As stated before, leadership is widely regarded in the literature. There appears to be a discussion about what comprises good leadership. Furthermore, Tichy & Devanna (1986) and Kotter (1990) illustrate that there is a difference between leadership and management. According to these authors, management is concerned with maintaining the existing organization by setting goals, organizing and monitoring while leadership is more concerned with change by developing a vision and communicating it to co-workers/employees. In addition according to Bennis & Nanus (1985) management is about doing the things right and leadership is about doing the right things. It can be stated that leading and managing are distinct processes but it cannot be assumed that leaders and managers are different people (Bass, 1990; Kotter, 1988, Mintzberg, 1973). In the end, leadership and management are related to behaviour that could improve or reduce the behaviour of employees. For this paper, it is important that the competencies are being recognized that managers need for

NWoW. To avoid confusion, we consistently speak of leadership and leaders but it includes managerial practices as well.

According to Kotter (1990), managers are in the best position to provide the leadership that is required to ensure their work to be successful. Before competencies can be clarified, the leadership styles during the past years will be given in order to give a complete view.

2.5.1. LEADERSHIP STYLES

Early work on leadership suggested that some styles were superior to others (Hayes, 2010). Lewin, Lippitt, & White (1939) did research about the effect of leadership styles in classroom situations and terminated that democratic leadership was more effective than autocratic leadership. Years later, Fleishman, Harris, & Burtt (1955) stated that there are two dimensions of leader behaviour that seems to influence the performance. The study was focused on the extent to which supervisors had relationships that were described by mutual trust, respect for subordinates, and their selflessness about their feelings. As well as to which extent the leader is intending to define the work for the subordinate. The findings of this study suggested that effective leadership is high when leaders focus on selflessness and structure. Research of Blake & Mouton (1964) concluded that team management is the most effective leadership style.

There were four main trends in leadership theory and research throughout the years. A historical overview with the main trends is described in table 3. The different trends of leadership do not imply that another trend is completely deserted, rather a shift in emphasis occurred (Bryman, 1992).

Trends in leadership theory	
Up to late 1940s	Leaders are born; leadership as an innate ability
Late 1940s to late 1960	What do they do; effectiveness has to do with how the leader behaves
Late 1960s to early 1980s	It all depends; effectiveness of leadership is affected by the situation/context
Nowadays	Leaders convince through vision and inspire loyalty and emotional attachment

TABLE 2: TRENDS IN LEADERSHIP THEORY (ADAPTED FROM BRYMAN, 1992)

The emphasis of this study is on NWoW so that is why the new leadership approach is chosen. This approach, is the trend 'nowadays', as stated in table 3.

2.5.2. NEW LEADERSHIP APPROACH

Based on the work from Bass (1985) and Burns (1978), Bryman (1992) distinguished a more traditional theory of leadership and the new-genre leadership theory. According to Bryman (1992) the new leadership approach involves developing and articulating an exciting vision of future opportunities. Terms to describe this approach are charismatic, transforming, inspirational, visionary and value-based leadership. Together, these theories try to explain how certain leaders are able to accomplish extraordinary levels of subordinate performance. Davis (2003) stated that the term new leadership implies movement, leading the organization or some part of it in a new direction, solving problems, being creative, initiating new programs, building organizational structures, and improving quality. Den Hartog & Koopman (2001) also stated that regardless of the broad terms that are

used, there seem to be more similarities than differences between the views of leadership. In literature the terms transformational and charismatic are the most often used terms referring to this type of leadership (Hunt, 1999). An important distinction has to be made between transactional and transformational leadership. Transactional leadership mostly referred to traditional leadership that focuses on goal setting, direction, support, reinforcement and relatively less on the performance outcome (Bryman, 1992). Whereas, charismatic and transformational leadership are positively related with e.g. job satisfaction, motivation, self-confidence and performance (Avolio, Walumbwa & Weber, 2009). According to Bass (1997) there are four dimensions within transformational leadership (1) charisma (2) inspirational motivation (3) intellectual stimulation and (4) individualized consideration. Charismatic leadership is build up from transformational leadership (Burns, 1978), especially the ability to motivate and empower others. According to Avolio et al. (2009) charismatic leadership emphasizes charismatic symbolic leader behaviour, visionary inspiring, emotional feelings, ideological and more values, individualized attention and intellectual stimulation. Bolden (2004) points out that the popularity of charismatic leadership is a result of a solution for the demoralizing effects of organizational restructuring, competition and redundancies. The charismatic leader can be seen as someone who can rebuild morale and offer a positive vision of the future. Together, the literature about the new leadership approach attempts to explain how certain leaders are able to achieve extraordinary levels of subordinates' performance. Furthermore, to be effective, leaders must be able to motivate and direct subordinates towards performance goals, mission or vision and be able to maintain stability and group harmony (Yukl, 2002).

2.5.3. PERFORMANCE GOALS VERSUS MANAGERIAL COMPETENCIES

As stated before, the aim of this paper is to find competencies that are needed to meet the performance goals of NWoW. To recapitulate, the performance goals of NWoW are work-life balance, commitment and productivity.

Based on the ideas of the new leadership approach, Bryman, Stephens & à Campo (1996) derived several behavioural dimensions. According to Bryman et al. (1996) these dimensions are typically new leadership findings. Bass (1997) confirms four of the dimensions within the transformational leadership theory. One of these dimensions is individualized consideration, which means understanding and sharing others' concerns and developmental needs and treating each individual uniquely. For example, linking individual's needs to the organization's mission. Whereas, congruence between an individual and organizational needs is crucial to the transformational leader's success (Avolio and Bass, 2004). Furthermore, organizational commitment is influenced by encouraging employees to think about using new approaches, involvement in the decision-making processes, inspiring loyalty, and recognizing and appreciating the variety of needs to develop personal potential (Avolio, 1999; Bass, 1999).

Within the transformational leadership theory the role of empowerment is emphasized as a core utility of building commitment to the organization's objectives. The significance of empowerment can be determined to the fact that the New Leadership approach is associated with empowerment of subordinates rather than power retention on the part of the leader (Bryman, 1992, p. 111). For example empowerment impact is positively related to the effectiveness of a subordinate. Another important enabler for effective leadership is trust (Kouzes and Posner, 1993). Since the fact that trust is a component of the creditability of a manager. Bennis and Nanus (1985) argue that trust 'is the emotional glue that binds followers and leaders together' (1985, p. 153). When leaders trust their followers, followers trust their leaders. Yukl (1989b) stated that followers feel trust and respect toward the leader; they are motivated to go beyond the expectations.

In chapter 2.4.1 an explanation is given for the competencies knowledge sharing and employee acceptance of IT. These two competencies are not only for the employee but also for the manager, in the way of supporting the employees in optimal use of knowledge sharing and IT, given that managers support their subordinates towards a goal (Bryman, 1992; Rauch & Behling, 1984). As stated in the typology, the research of Felstead, Jewson, & Walters (2004) showed that a loss in visibility and presence of employees had forced managers to compensate this with trust. Moreover, the type of control needs fit with the loss in visibility and presence, so a

more output-oriented form of control is needed (Vos & Van der Voordt, 2001). For employees this form of control is necessary in NWoW since the fact that they can decide where, whenever, and however the work is performed. This dimension of flexibility offers an ideal work-life balance for employees who want to optimally fit their personal environment and work related activities (Gibson, 2003).

In the next section the six competencies will be explained with hypotheses regarding the relations between the competencies and the relation between the intensity of NWoW and the performance goals of NWoW. These hypotheses are based on theoretical findings by others researchers.

2.5.4. MANAGERIAL COMPETENCIES

Individualized consideration

Individualized consideration refers to leaders who deal with their subordinates as individuals, consider their individual desires, abilities and aspirations, listen carefully, improve their development, advice, teach and coach (Bass, 1997). A less precise definition of individualized consideration is given by Judge& Piccolo (2004). According to them, individualized consideration is the degree to which leaders attend to the needs of their subordinates, act like a mentor or coach and listen to the concerns of their subordinates. Bryman et al. (1996) declare that a leader should deal with their subordinates as individuals. It can be stated that individualized consideration focuses on personal growth and recognition of their subordinates. Individualized consideration is one of the four dimensions within transformational leadership (Bass, 1997). Only this dimension is chosen because of the fact that the focus is on the subordinate and achieving their fullest potential (Yammario & Bass, 1990b). In NWoW the employees are in the centre of the organization (Bijl, 2009) whereas the manager can significantly contribute on the development of their employees. Therefore we hypothesize that managers who have individualized consideration contribute to the relation between the intensity of NWoW and commitment

Hypothesis 4 - Individualized consideration positively influences the relation between the intensity of NWoW and commitment.

Trust

Trust can be seen as the extent to which an individual is willing to have good intentions and a confidence in words and actions of other people (Cook and Wall, 1980). According to Bryman et al. (1996) creating trust means that the leader should consistently seeks to create a climate of trust that is the social knot between a trustor and trustee (Mayer, Davis, & Schoorman, 1995). These relations are often referring to the attitude of the trustor towards the trustee. Furthermore, trust is a predictor of job satisfaction. Driscoll (1978) found that trust in decision makers increased job satisfaction. In another study, Lagace (1991) found that reciprocal trust increased the job satisfaction. Rich (1997) studied the relationship between trust, job satisfaction and performance and concluded that trust in the manager is positive related to performance and job satisfaction of the subordinates. In NWoW, the managers need to trust their subordinates because of the time and place independent working. Felstead et al. (2004) stated that managers need to trust their subordinates in order to compensate the loss in visibility and presence. Therefore we hypothesize that managers who have trust in their subordinates contribute to the relation between the intensity of NWoW and overall productivity.

Hypothesis 5 - Trust positively influences the relation between the intensity of NWoW and overall productivity.

Empowerment

Since the eighties empowerment is widely conversed in the literature of Human Resource Management. There are many definitions of empowerment. For example, according to Bryman et al. (1996), empowerment is the strategy of a leader that is regarded to provide subordinates with power to perform their work completely.

Empowerment is a concept that consists of four dimensions: meaning, competence, self-determination and impact (Spreitzer, 1995). The first three dimensions are assigned to competencies of employees (see chapter 2.4.1). Empowerment impact is the degree to which an individual can power the strategic, administrative or

operating results at work (Ashforth, 1989). This dimension of empowerment is positively related to effectiveness. Managers who perceive can make an impact in the organization with their work will be more likely to work harder. Roueche, Baker & Rose (1989) found that leaders are most effective when they empower others. Therefore we hypothesize that managers who empower their subordinates contribute to the relation between the intensity of NWoW and overall productivity.

Hypothesis 6 - Empowerment impact positively influences the relation between the intensity of NWoW and overall productivity.

Supporting employees acceptance of IT
Today's workplace is becoming more flexible and virtual. The need for face to face collaboration between managers and subordinates can be conducted by means of IT (Bailey & Kurland, 2002; Garrett & Danziger, 2007; Belanger & Allport, 2008).The definition of technology is given in chapter 2.1, moreover as stated before the structure of organizations needs to be changed in order to anticipate on the aspects of technology. According to Daft (2007) the advances in technology demand a more flexible approach to new management perspectives but there are some problems. For example the lack of user acceptance when new information systems are implemented (Davis, 1991). The goal of new IT is to improve the job performance but if employees within an organization do not accept the IT there will not be an increase in job performance. Another problem is that with technology the impact on the corporate performance is difficult to find. This is the so called IT productivity paradox (Brynjolfsson, 1993). The paradox refers to the lack of the relationship between IT investments and corporate performance. The research of Brynjolfsson and Hitt (1998) and Dedrick, Gurbaxani & Kraemer (2003) showed that an increase in IT productivity was only achieved when the IT investments were accompanied by investments in organizational change, training and work redesign. Nevertheless, managers have to comprehend unlimited access and connectivity Web 2.0 applications because it is an important enabler for NWoW as stated in the typology (chapter 2.2). Therefore we hypothesize that managers who support their subordinates to accept the use of IT contribute to the relation between the intensity of NWoW and overall productivity.

Hypothesis 7 - Supporting employees acceptance of IT positively influences the relation between the intensity of NWoW and overall productivity.

Supporting knowledge sharing among employees
Knowledge sharing is achieved through the process of acquiring, organizing, and communicating knowledge. The purpose is for employees to share knowledge to enable other employees to make use of this knowledge and be more productive and effective in their work (Alavi & Leidner, 1999). To achieve this, managers need to support their employees to share knowledge. Knowledge isn't a commodity to be passed freely. To learn from each other, thus to share knowledge it is needed to reconstruct knowledge. In other words, it takes knowledge to acquire knowledge and therefore to share knowledge. This means that managers have to share their knowledge in order to support their employees with knowledge sharing. In NWoW managers need to support their subordinates to share knowledge because of the unlimited access and connectivity to knowledge (Baane, 2010). Therefore we hypothesize that managers who support their subordinates to share knowledge contribute to the relation between the intensity of NWoW and overall productivity.

Hypothesis 8 -Supporting knowledge sharing positively influences the relation between the intensity of NWoW and overall productivity.

Output control
The competence output control (e.g. managing at distance) is derived from the dimension time and place independent working and managing results (Baane, 2010). As stated in the typology, the form of control needs to be changed for a successful NWoW. This control shifts from a control of staff presence to an output-oriented form of control (Vos & Van der Voordt, 2001). Ouchi (1978) stated that in organizational evaluation there are two kinds of phenomena which can be monitored: behaviour and outputs which result from behaviour. A manager can observe his or her subordinates and count the number of times that they engage in any particular behaviour. Otherwise, the manager may be able to measure performance less obstructively by monitoring the

aftereffects of behaviour, which are the outputs of the productive process (Ouchi, 1978). Thus, the manager is able to monitor behaviour or the aftereffects of behaviour, it is the question whether evaluation is possible. The measures of behaviour may be used for evaluation only if the technology is sufficiently understood that behaviour is recognized. If the behaviour is not known then the observations of the actual behaviour are in no use for control purposes. As for the aftereffects of behaviour, these can be evaluated if there are valid representations of goal achievements. If these observable outputs are representative for the desired objectives, output control is possible (Ouchi, 1978), since there is less need for face-to-face interaction between managers and subordinates. Communication can be conducted through means of IT (Bailey & Kurland, 2002; Garrett & Danziger, 2007; Belanger & Allport, 2008) and this is in line with output control. For example, in virtual teams the shift from control is emerged in the literature of virtual teams whereas managing at distance is necessary. A few studies have examined the role of leadership in virtual teams. According to Zigurs (2003) the studies showed the important aspects for leadership including: having frequent communication, having face-to-face interaction at the beginning of a team's life and creating awareness and visibility of team members and their tasks. The competence output control is a consequence of time and place independent working. Managers do not have another option when their subordinates can work time and place independent. As stated before, managers need to trust their subordinates in order to compensate the loss in visibility and presence (Felstead et al., 2004). Therefore we hypothesize that managers who use output control to evaluate their subordinates contribute to the relation between the intensity of NWoW and work-life balance.

Hypothesis 9- Output control positively influences the relation between the intensity of NWoW and work-life balance.

In answer to the question "Which competencies do managers need to meet the performance goals of NWoW?", it can be stated that individualized consideration, trust, empowerment impact, supporting employees acceptance of IT, supporting knowledge sharing among employees, and output control are needed for NWoW. Furthermore, it is expected that all the competencies have a positive influence on the relation between the intensity of NWoW and the performance goals of NWoW.

2.6   RESEARCH MODEL
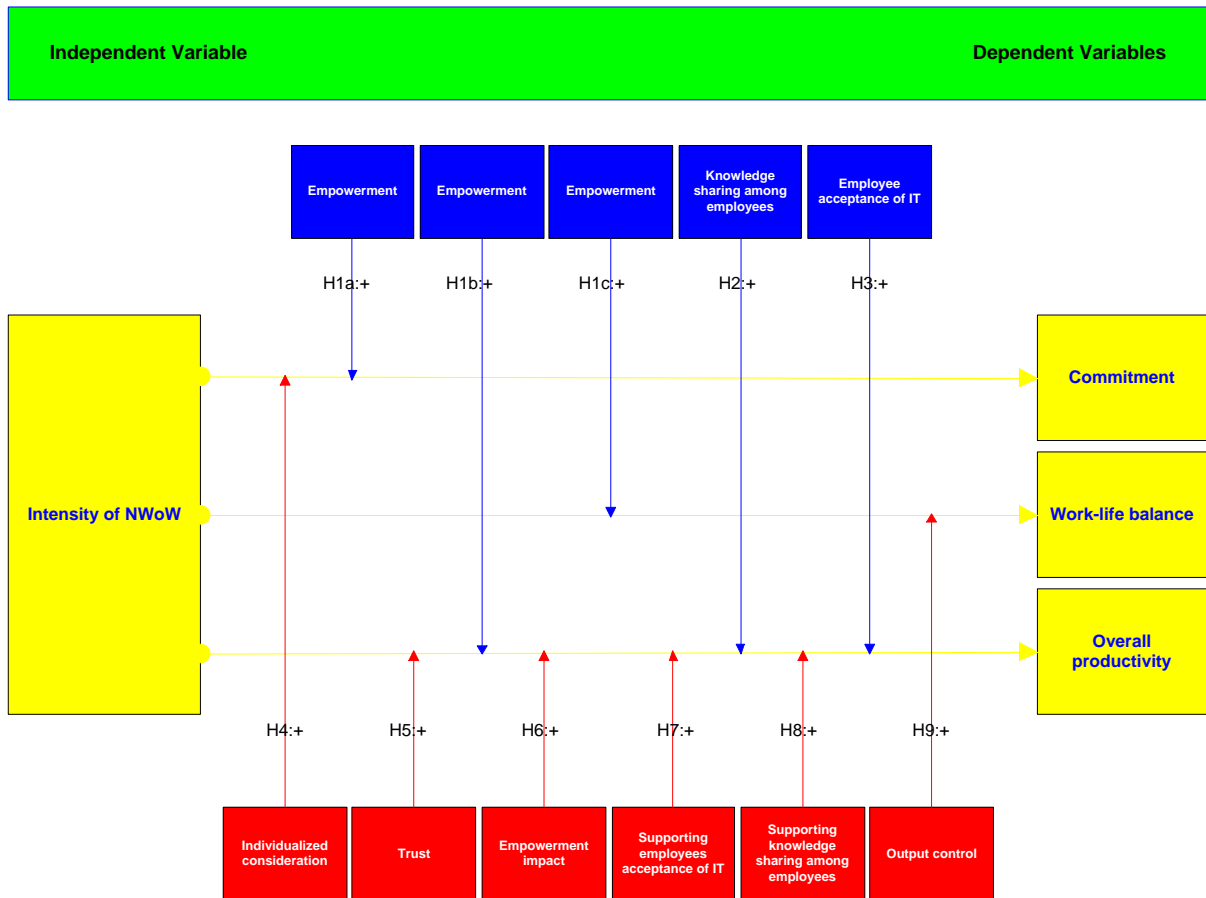
FIGURE 2: CONCEPTUAL RESEARCH MODEL

In the research model the relation between the intensity of NWoW (independent variable) that are needed to meet the performance goals of NWoW (dependent variables) will be tested. This means that the dependent variables are those which are influenced by the independent variables. They are the outcome or the effect of the independent variable on the performance goals of NWoW. Furthermore, it is expected that the relation between the intensity of NWoW and the performance goals of NWoW will be influenced by the moderator task complexity and the competencies of employees and managers.

3   METHODOLOGY

In this chapter the research design will be described and selection of the method to verify the conceptual research model. The choice of research method will be discussed in 3.1. The research design and the procedures that will be adopted to maximize research validity and reliability in section 3.2. In section 3.3 the population of the research and the selection of the sample will be given with the response strategy. Finally in 3.4 the operationalization of the constructs will be illustrated in order to create the items for the study.

3.1   RESEARCH METHOD

In the section arguments will be given for the appropriateness of a cross-sectional survey as the research method for this study. A survey is a systematic way to collect from a sample to construct quantitative descriptors of the larger population (Groves, Fowler, Couper, Lepkowski, Singer, & Tourangean, 2004).

This research is set up from an explorative perspective. NWoW is a new and unknown area for many researchers and therefore seeks explanations. From this exploratory view, a quantitative survey is developed that investigates the relationship between the most important aspects of NWoW. Looking to the research question, "which competencies do employees and managers need to meet the performance goals of NWoW", the goal of this survey is to provide organizations the opportunity of knowing their position regarding NWoW. Thus, knowing to what extent they comply with the demands of NWoW and how well their performance goals are achieved. Additionally, the results of the survey show the extent to which the employees and managers in combination with the task complexity influence this relation.

Survey research seems well suited for this research because it is the most proper research method to collect views from a larger group. Other advantages are that there is no time pressure, low costs, more privacy for the respondents, and absence of interviewer bias. In this research there is no budget available thus low costs are required. Looking at the time for this research (9 months) a survey is the best solution to gather information from a larger group of people. Two surveys were developed, one for the employees and one for the managers. Both surveys can be found in appendix 2 and 3. The questions are mostly multiple choice questions. Not only the interview bias is prevented but the respondents can also fill in the survey wherever, whenever and however they want as is in line with NWoW. Of course within the time that the survey is opened.
A disadvantage of surveys is that it cannot congregate qualitative data from depth questions and observations. However, on the topic of this study and the benefits from the fact that surveys can be done time after time, survey research fits best. For this study the survey will be exported a single point in time because of the limited time, a longitudinal study is not possible. This means that it is a cross-sectional study (Babbie, 2007).

Furthermore, it is important that the respondents actually complete the survey. Surveys include the use of a questionnaire, this is an instrument specifically designed to elicit information that will be used for the analysis (Babbie, 2007). There are three main methods of managing survey questionnaires to a sample of respondents: self-administered questionnaires, survey administered by interviews in face-to-face encounters and surveys conducted by telephone (Babbie, 2007). For this study a self-administered questionnaire is used because this a good technique for web surveys. In the next sections, the reliability and validity of the web survey will be clarified.

3.2 RESEARCH DESIGN

The research design has an influence on the reliability and validity of the research. This section elaborates on the strategies that will be used in order to increase the reliability and validity of this research.

Strategies to increase the reliability

Reliability is the quality of measurement method that suggests that the same data will be collected each time in repeated observations of the same phenomenon (Babbie, 2007). It can also be stated that reliability means nothing else than consistency (Shadish, Cook & Campbell, 2002). The most frequently and commonly used technique to assess internal-consistency is with the Cronbach's alpha (Cronbach, 1951). Nunally's (1978) recommends an Alpha of .7. Others (e.g. Gulliksen, 1950) state that there are no concrete arguments that a somewhat lower alpha is also acceptable. According to Baarda, de Goede & van Dijkum (2003) it is desirable that the Cronbach's alpha is at least .6. For that reason, for this research an alpha of .6 is acceptable. There will be newly-developed scales, therefore an alpha of .6 is acceptable for this research. When this is not possible a Cronbach's alpha of .6 it is possible to delete items of some scales to increase that Alpha until an acceptable level is reached.

Strategies to increase the validity

Validity is a term describing a measure that accurately reflects the concept it intends to measure. It can be distinguished into internal, external, statistical conclusion, and construct validity (Shadish et al., 2002).

External validity is validity of inferences about whether the cause and effect relationship holds over variation in persons, settings, treatments and measurements (Shadish et al., 2002). To increase the external validity, the sample needs to represent the population and is independent of time and setting. The intention for conducting this survey is that it is generalizable to all Dutch organizations so it is necessary that the sample represents the population. For conducting a survey, it is important that the survey generates exact information which reflects the visions of a given population, therefore it is necessary to minimize all four types of survey error: coverage, sampling, non-response and measurement (Salant & Dillman, 1994). To minimize these types of errors, the Tailored Design Method (TDM) is used (Dillman, 2007). In section 3.3 the choices regarding sampling and response strategies will be given. Internal validity is the validity of inferences about whether the relationship between two variables is causal (Shadish et al., 2002). In this research the relationship between the independent and dependent is established after the literature review. The same counts for the moderator variables in relations to the dependent variables. Taking the fact of an explorative research into account, the threats for internal validity cannot be prevented because the independent variable is not scientifically proved. Construct validity is the degree to which the variance is really explained by the measure (Shadish et al., 2002). The constructs that are used to conduct the survey are derived from the theory and some constructs are self-developed. These constructs are necessary for a complete view of NWoW. In order to increase the construct validity, factor loadings are used. Statistical conclusion validity is the validity of inferences about covariation between two variables (Shadish et al., 2002). In order to increase the statistical conclusion validity, control variables are used. Furthermore, appropriate statistical tests will be used in order to analyze whether there is covariation between the independent and dependent variables.

Control variables

Within research control variables are used to test for confounding factors that might alter the outcome of the effect on the dependent variable. Control variables do increase the statistical conclusion validity, because it provides understanding in the unsolved variance of the dependent variable. Glass & Camarigg (1992) show that woman experience larger extents of work-life conflict than man do and should therefore be distinct to explain possible variance in the results. Furthermore, employment contract is added to see if there is any difference in the acceptance of NWoW between fulltime and part-time employees and managers. The same variances are expected for function and department. Finally, job tenure for employees and management experience for managers are added.

Testing for moderating variables

Following Kankanhalli et al. (2005) the moderated multiple regression is used to test the interaction affect. Moderated multiple regression is a hierarchical procedure that is to designed to first tests the relationship between the independent construct, the intensity of NWoW and the dependent construct, the performance goals of NWoW, and then tests the relationship between interaction terms and the dependent construct (Sharma, Durand, and Gur-Arie, 1981); Kankanhalli et al., 2005).

3.3 SELECTION OF SAMPLE AND POPULATION

The data for this study are collected from UMC Utrecht. As stated before, UMC Utrecht already implemented the concept of NWoW and all these employees work on the "Zandplaat". This location is used for this research. Furthermore, to increase the N, an additional department is added to the sample. The department Revalidatie, Verpleging, and Sport (RV&S) is interested in NWoW and thinking of implementing it. From the research perspective it is interesting to see whether differences occur between departments working according to NWoW and a department considering an implementation of NWoW. In total, this contains 182 people and can be subdivided into 166 employees and 16 managers. Given the fact that the sample for managers is 16 it is necessary to aggregate the data from UMC Utrecht with the data of Alliander. This will be required for further analysis. Aggregating means that groups of cases are combined in order to analyse them at a less detailed level (Huizingh, 2007). In this research aggregating is necessary since the fact that the useful response is particularly low for managers at UMC Utrecht (N=16). The data from the survey for employees will be aggregated as well. All together, the sample for this research will be 1132 employees and 88 managers.

It is important to keep the survey errors in mind, since that fact that it concerns the construct validity of the measurement (De Leeuw, Hox, & Dillman (2008). When only a subset of employees of all the employees is actually surveyed, sampling error can occur (Dillman, 2007). Coverage error occurs when some members of the population have a zero probability of being selected in the sample of the survey (De Leeuw et al., 2008). In this research the complete NWoW population of UMC Utrecht is used, which makes it hard to generalize to the complete organization. In this research it is acceptable that errors can't be covered because this survey is the first to validate the survey as an instrument. Future use of the survey in other situations should make it more generalizable to other type of organizations as well.

Response strategy

Non-response error occurs when some of the sampled units do not respond and when these units are different from those who do and in a way relevant for the research (De Leeuw et al., 2008). To reduce non-response error, the procedures of the TDM are used (Dillman, 2007). This method is developed in order to enhance the response in surveys and is based on Social Exhange Theory. Three elements are central in the social exchange theory: rewards, costs and belief. These three elements must be kept in mind during the design and implementation of a survey. Maximizing the rewards, minimizing the costs and maximizing the trust of respondents that the rewards will indeed come to pass (De Leeuw, Hox, & Dillman (2008). UMC Utrecht fully supported this research and so I could use the format of the web survey from an online tool called NetQ. This format is well known by all the employees of UMC Utrecht, because it is often used when surveys are spread throughout the organization and is therefore trusted. Additionally, the company supervisor supports the research by means of a pre notice towards all people, employees and managers, working at the "Zandplaat". This should increase the response, because of management support. Most of the respondents were aware of the research and the excess value for them personally and for UMC Utrecht. Finally, incentives for the respondents can only be seen in the form of being able to enhance the working condition for employees and managers, but no tangible assets are given in return. The surveys were send to UMC Utrecht in a format of web surveys; this means that an e-mail was send with a link of the survey to the respondents. A reminder was send after 1,5 week to the respondents with the announcement that the survey was almost closed. During the research we received e-mails from respondents for further information about NWoW but not about the survey itself.

3.4   OPERATIONALIZATION OF THE CONSTRUCTS

In this section, the operationalization of the constructs is described with the items that were used and their source. All the constructs are derived from the theoretical framework. In appendix 4 the survey items for employees are given and in appendix 5 the survey items for managers are given.

Intensity of the New Way of Working (NWOW) is a scale which consists of eleven items. NWoW has not been researched in an excessive way, therefore all items are self-developed. This scale examines the extent to which NWoW is present in the organizations. Nine of eleven items are evaluated on a five-point Likert-scale (1="strongly disagree", 5="strongly agree"). The two remaining questions allow respondents to fill out the presence of certain NWoW technologies and applications. Multiple answers can be filled out here. These answers will be used to gain an impression of the available resources. For further research these two items are transformed into a five-point Likert-scale, allowing the researchers to measure the extent of availability of these items and with that the overall mean extent of all items together. To provide a full insight items will be clustered into the four dimensions of Baane et al. (2010). NWOW01, NWOW02, and NWOW03 become "Time and place independent". NWOW04, NWOW05, and NWOW06 are transformed into "Access and connectivity to knowledge". Items NWOW07, NWOW08, and NWOW09 become "Managing results", and NWOW10 reflects "Flexible employment relationship".

The four dimensions of (psychological) *Empowerment* (EMPO) are measured using the multidimensional measure method of Spreitzer (1995). Besides the fact that this method is widely used throughout the literature (Spreitzer, Kizilos & Nason, 1997; Siegall & Gardner, 2000; Drake, Wong & Salter, 2007) the construct validity of the scale has been verified in several independent studies (Spreitzer, 1995; Kraimer, Seibert & Liden, 1999; Liden, Wayne & Sparrowe, 2000). The dimensions *meaning, competence, and self-determination* are used for the employee's questionnaire because the items entail self-efficacy and job autonomy. The fourth dimension *Empowerment impact (*EMIM) is used for the manager questionnaire. In total, eight items are used of the four dimensions of empowerment and are measured using a five-point Likert scale (1="strongly disagree", 5="strongly agree").

Individualized consideration (INCO) is measured with three items from the Multifactor Leadership Questionnaire (MLQ). The MLQ is developed by Bass and Avolio (1989a) and is translated into Dutch by Den Hartog (1997). The three items are chosen because Den Hartog (1997) categorized these three items under individualized consideration. According to Bass and Avolio (1989a), there are more items to measure individualized consideration but these items do not fit the context of NWoW. The questions ask the managers whether they care about their subordinates concerns and developmental needs. The items are evaluated on a five-point Likert scale (1="strongly disagree", 5="strongly agree").

Trust (TRST) is measured with one self-developed item. This item is based on one item of the MLQ, to be exact "demonstrates total confidence in me", since the fact that this question is asked to subordinates about their manager the question needs to be turned into a question that could be asked to a manager. The self-developed question is precise in order to specifically ask for the trust in the competences of employees (e.g. empowerment self-determination and empowerment competence).The item of trust is evaluated on a five-point Likert scale (1="strongly disagree", 5="strongly agree").

Output Control (OUCO) is measured with two items from Ouchi (1978). These items are based on organizational control, which consists of output control and behaviour control. Managers were asked the following questions: For output control given: "When you are evaluating the people who report directly to you for raises or promotions, how much weight do you give to their output records?" with response 7= "Decision based entirely on output records" and 1="Output records are not considered at all in the decision." For behaviour control given: "How often do you see each of the people who reports directly to you?" with response 7 ="They are almost never out of my sight," and 1 = "I see each person less than once a week."

Employee acceptance of IT (EAIT) is a scale measured using nine items. These items are adapted from Davis (1991). One item is self-developed and added to support the items of Davis (1991). These questions ask respondents to rate their ability to use technical resources and the perceived ease of use. All items are evaluated on a five-point Likert scale (1="strongly disagree", 5="strongly agree").The scales used in literature are modified to technical resources. The context of Davis' (1991) original scale is electronic mail which is changed to fit the context of this research.

Supporting employees acceptance of IT (SEIT) is measured with a self-developed scale to investigate the extent to which managers encourage employees to make use of the technical resources. All items are evaluated on a five-point Likert scale (1="strongly disagree", 5="strongly agree").

Knowledge sharing among employees (KNSH) is measured using five items. These items are adapted from Bock et al. (2005) and intend to measure the knowledge sharing intention and skills of employees. All items are measured using five-point Likert scale (1="strongly disagree", 5="strongly agree").

Supporting knowledge sharing among employees (SKSE) consists of three, self-developed items in order to examine managers' behaviour in stimulating and encouraging knowledge sharing. All items are measured using five-point Likert scale (1="strongly disagree", 5="strongly agree").

The construct *Work-life balance* is (OWLB) adapted from Hill et al. (2001) and entails five items. This construct measures the family life, private life and home obligations in contrast to the work dimension. The items are evaluated on a five-point Likert scale (1="strongly disagree", 5="strongly agree").

Overall Productivity (OVPR) is measured using five items from 'Overall Productivity' developed by Staples et al. (1999). The items used to measure the overall productivity construct determine the individual's general productivity. The items are evaluated on a five-point Likert scale (1="strongly disagree", 5="strongly agree").

Commitment (COMM) is measured using seven items of Mowday et al. (1979). Six of these items are used in both the manager and the employee questionnaire. The seventh item is altered to fit the context of the manager in which it allows him/her to answer the question as a manager dealing with top management. The items are evaluated on a five-point Liker scale (1="strongly disagree", 5="strongly agree").

The moderator variable *task complexity* (TACO) is measured with a three item scale. Two of these items are adapted from Ouchi (1978) and one item is self-developed. The two items from Ouchi (1978) are evaluated on a five-point Likert Scale. For interdependence: To what extent does your performance depend upon how well others do their job?" with response 5 = "A very great deal," and 1 ="Almost none." For routine: "What percentage of your time on the job do you spend carrying out routine tasks?" with response 5= till 100% and 1= till 0%. The last item is self-developed because the existing measures do not cover fully cover the variable task complexity. The self-developed item is "My tasks as a whole are complex with response" with response 5="Totally agree", and 1='Totally disagree'. Although both surveys contain of the same questions, the content is slightly different. The manager is asked to answer the questions on behalf of the employees in his or her department.

4   DATA ANALYSIS

This chapter describes the findings gathered using the managers and employees questionnaires at UMC Utrecht and Alliander. Section 4.1 will explain the outcomes measured at both organizations together. The following section will explain the variances in outcome. After describing the total results a detailed analysis is done using the data of UMC Utrecht. After explaining the results, the constructs are verified using reliability and validity tests. Finally, the hypotheses are tested to explain the relation between the variables (constructs) and with that the correctness of the research model is verified. Additionally, the revised research models are presented in the post-hoc analysis.

4.1   ANALYSIS OF THE RESPONSE

In section 3.3 the response strategy is described. A detailed overview of the response is given in table 3. The total population that received the survey was 166 employees and 16 managers. In total 91 employees and 8 managers filled out the survey for UMC Utrecht. None of the surveys were incomplete so a missing value analysis is not necessary. The response rate is above the average 40% response rate for e-mail surveys (Dillman, 2007). The relatively high response rate is a sign of a low non-respondents error.

UMC	Population	Useful response	Response rate
Employees	N=166	91	54,82%
Managers	N=16	8	50,00%

TABLE 3: RESPONSE STATISTICS

As stated before, for further analysis the data from Alliander are aggregated with the data from UMC Utrecht. To evaluate the non-respondents bias the demographic data (part of them are control variables) are analyzed. The results are presented in table 4. The left table shows the outcomes for employees and the right table shows the outcomes for managers.

Control Variables	Class	UMC Utrecht	Alliander
Gender	Male	45	376
	Female	46	92
Age	under 30	14	66
	30 - 45	49	195
	above 45	28	207
Education	VMBO-T (Of Mavo)	3	4
	HAVO/VWO	3	32
	MBO	15	81
	HBO	46	229
	WO	24	122
Employment contract	Fulltime	45	387
	Parttime	46	81
Job tenure	les than 6 months	5	38
	6 months - 1 year	7	41
	1 to 5 years	27	144
	5 - 10 years	23	56
	10 - 20 years	13	33
	20 years or longer	16	156
Department	GB&I	36	
	Inkoop	11	
	Not Known	1	3
	RV&S	34	
	VWO	9	
	Assetmanagement		62
	HRM		54
	IM&ICT		250
	Klant & Markt		77
	Regulering & MVO		22

Control Variables	Class	UMC Utrecht	Alliander
Gender	Male	5	26
	Female	3	8
Age	under 30		
	30 - 45	3	15
	above 45	5	19
Education	VMBO-T (Of Mavo)		
	HAVO/VWO		1
	MBO		
	HBO	3	18
	WO	5	15
Employment contract	Fulltime	5	30
	Parttime	3	4
Job tenure	les than 6 months		2
	6 months - 1 year		
	1 to 5 years	3	6
	5 - 10 years	3	7
	10 - 20 years	2	11
	20 years or longer		8
Department	GB&I	3	
	Inkoop	2	
	Not Known		
	RV&S	3	
	VWO		
	Assetmanagement		6
	HRM		5
	IM&ICT		18
	Klant & Markt		4
	Regulering & MVO		1

TABLE 4: DEMOGRAPHICS OF UMC UTRECHT AND ALLIANDER

4.2   QUESTIONNAIRE RESULTS UMC UTRECHT AND ALLIANDER

The results on the independent variable Intensity of NWoW show that both organizations have a moderate extent of NWoW implemented. The mean value of UMC Utrecht is for employees 2.95 and for managers 2.99, which means that employees and managers share the opinion that the overall intensity of NWoW is moderate. At Alliander a slight difference is observed between employees (mean=3.41) and managers (mean=3.67). The employees of UMC and Alliander show an observed mean difference of .459 The two-sample t-test confirms that we can be 95% confidence that the true mean difference lies between .38 and .54. This means that the mean difference is significant. The observed mean difference e between the managers is even more, namely .69. Here it can be said with a 95% confidence interval that the true mean difference lies between .26 and 1.11.

Both organizations also show a spread in means when analysing the different dimensions that all together form the Intensity of NWoW. The results in appendix 6 and 7 show that at UMC Utrecht as well as Alliander time and place independent working and access and connectivity to knowledge score lower than the other two dimensions which ultimately leads to a moderate value for Intensity of NWoW These difference have proven to be extremely statistically significant. Furthermore, all mean outcomes are also shown in appendix 6 and 7. The radar visualized in figure 3 gives a schematic overview of the differences between employees and managers for both organizations together.
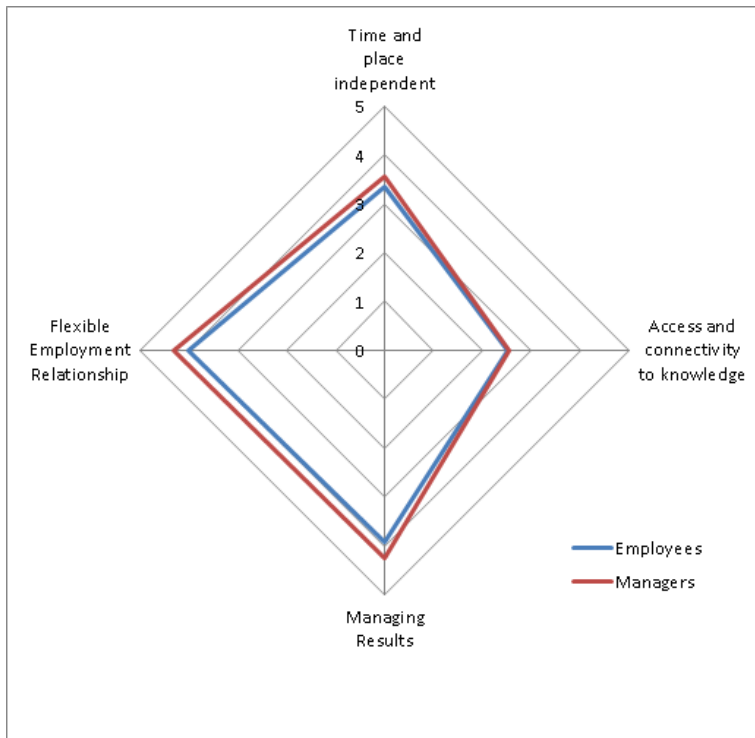
FIGURE 3: RADAR DIMENSIONS OF NWOW UMC UTRECHT AND ALLIANDER TOGETHER

The common values or differences between employees and managers will be explained in the section covering the results of the separate organizations.

Moderator variables
The first assumed moderator is task complexity. For employees, it appears that there is quite a difference between the two organizations. The employees within Alliander have a low task complexity (mean=2) whereas the results show that the task complexity is rather high (mean=3.36) at UMC Utrecht, this difference is significant (p <.000). The results for the managers are also different. At Alliander the managers state that the task complexity for employees is rather low (mean=2.12), whereas the managers at UMC Utrecht find that task complexity is higher (mean=3.04) for their employees. The results show that the employees within Alliander have a lower task complexity than UMC Utrecht. This is confirmed by the t-test, the difference is significant (p<.000).

The second assumed moderator is empowerment. For employees the results show a small difference, comparing both organizations. UMC Utrecht (mean=4.09) scores lower than Alliander (mean=4.21) on empowerment. This means that the employees within Alliander have more control over the competence empowerment. This slight difference is significant (p=.007). For managers, the score for empowerment impact at UMC Utrecht (mean=3.42) is almost the same as Alliander (mean=3.44), this mean difference is not significant.

The third assumed moderator is individualized consideration. This construct is measured in the survey for managers. The managers at Alliander have a higher individualized consideration (mean=4.55) than the managers at UMC Utrecht (mean=4.04).This difference is significant.

The fourth assumed moderator that has been analysed is trust. This construct is measured in the survey for managers. On this construct Alliander (mean=4.06) has a higher score than UMC Utrecht (3.88). It seems that the managers at Alliander have more trust in their employees when they perform their tasks than at UMC Utrecht. The t-test shows that this difference is not significant.

The fifth assumed moderator is knowledge sharing among employees for employees and supporting knowledge sharing among employees for managers. For employees the employees within Alliander (mean =

3.99) have a slightly better knowledge sharing among employees than UMC Utrecht (mean=3.83), this mean difference is proved significant. The same counts for the support from managers, UMC Utrecht (mean=4.13) scores lower than Alliander (mean=4.52). This is difference is significant as well.

The sixth assumed moderator is employees acceptance of IT for employees and support employees acceptance of IT for managers. The score for employees at Alliander (mean=3.52) are lower than at UMC Utrecht (mean=3.57), this difference is not significant. Conversely, the managers at Alliander (mean=3.79) support their employees more to accept IT than the managers at UMC Utrecht (mean=3.67). This difference is also not significant.

The seventh assumed moderator is output control. This construct is measured in the survey for managers. The managers at Alliander (mean = 3.34) control more on output than the managers at UMC Utrecht (mean=3.06). When performing the t-test it becomes clear that although the observed difference is present, it is not significant.

Dependent variables
The results of questionnaires on the dependent variables show that all dependent variables score rather positive. Tables 5 and 6 show the outcomes for these variables. Interesting to see are the differences between employees and managers for both organizations. Commitment, overall productivity, and work-life balance all, except work-life balance at UMC Utrecht (employees: 3.479 and managers: 3.25), score higher on managers than on employees. The t- tests show that all differences are significant except the commitment difference between employees of UMC Utrecht and Alliander.

UMC Utrecht	Employees			Managers		
	N	Mean	Std. Deviation	N	Mean	Std. Deviation
Commitment	91	3,044	0,351	8	3,250	0,356
Overall Productivity	91	3,565	0,486	8	3,625	0,518
Work-life Balance	91	3,479	0,607	8	3,250	0,278

TABLE 5: PERFORMANCE GOALS UMC UTRECHT

Alliander	Employees			Managers		
	N	Mean	Std. Deviation	N	Mean	Std. Deviation
Commitment	468	3,029	0,352	34	3,745	0,477
Overall Productivity	468	3,791	0,432	34	3,935	0,282
Work-life Balance	468	3,316	0,332	34	3,624	0,732

TABLE 6: PERFORMANCE GOALS ALLIANDER

4.3 ANALYSIS OF RESULTS UMC UTRECHT

Intensity of NWoW (independent variable)
The radar in figure 4 shows that that time and place independent and access and connectivity to knowledge score substantially less than managing results and flexible employment relationship. This relative low mean of 2.696 for employees and 2.75 for managers is mainly caused by the low value on item "I can decide on my own where I want to work" (NWoW01; employees: 1.319 and managers: 1.375). This item investigates the amount of different places an employee or manager is able to perform his/her work. This means that employees and managers can work time and place independent within the boundaries of the office. Detailed results can be found in appendix 7.
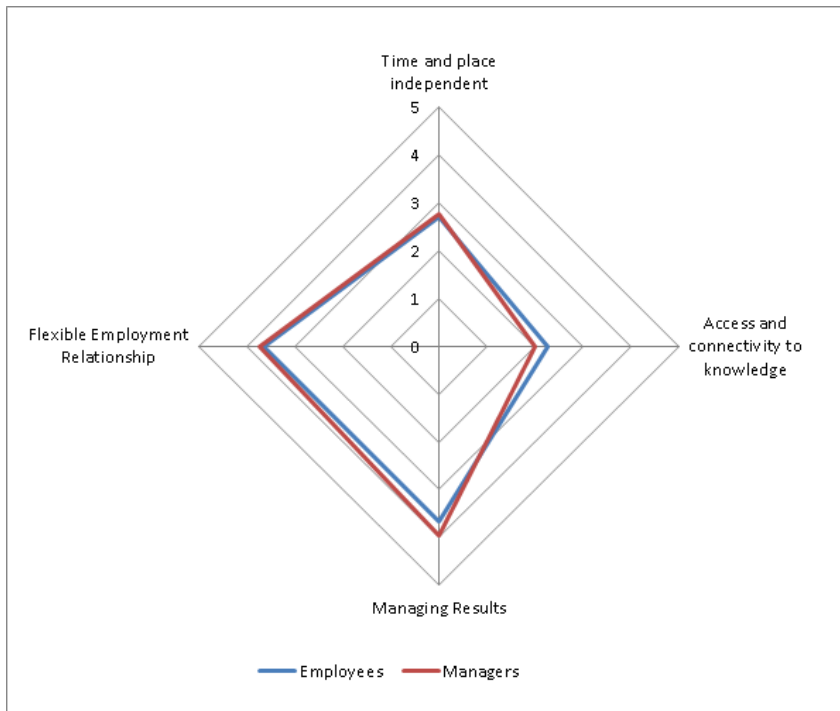
FIGURE 4: RADAR NWOW DIMENSIONS UMC UTRECHT

Access and connectivity of knowledge owes its low score to very low scores on items "What IT technologies are available to perform your tasks" (NWOW04) and "What applications and/or social media do you use to share knowledge" (NWOW05). These items questioned the respondents to select respectively the technological assets (hardware) and applications (software). Employees score respectively a mean of 1.648 and 1.209 and managers score on both items a mean of 1.125. Most respondents (employees and managers) have a desktop computer and a smart phone or a mobile phone. This explains the low values on available technological assets. Furthermore, the applications that are used can be limited to the use of a hard disk space on the network and intranet. Few to none respondents use social media like Twitter or MSN to share knowledge. A difference between the employees and managers that occurs is the use of LinkedIn. 37,5 % of the managers use LinkedIn to share knowledge against 18,7% of the employees. The most important comparison is the departmental comparison between the departments of the "Zandplaat" and RV&S. The "Zandplaat" has already implemented NWoW and RV&S has considered implementation and currently engages in an orientation phase. First of all, for employees the Pearson's Chi-square test results in a relationship between "Access and connectivity to knowledge" and "department" (p <.000). This relationship is not present between the managers. Secondly, there is a difference between the intensity of NWOW between RV&S (average: 2.82) and the departments of the "Zandplaat" (2.997, 3.078, and 3.055). This low average is caused by time and place independent (2.412) and access and connectivity to knowledge (2.059). So it is fair to conclude that intensity of NWoW depends on the extent to which it is implemented.

Competencies (moderator variables)
The assumed moderator variables, which are the employee competencies and managerial practices, and should influence the relationship between the intensity of NWoW and the performance goals. Tables 7 and 8 display the outcome of the competencies. Task complexity shows a rather high mean value. This means that employees as well as the managers' perception about their employees have few routine activities and are dependent on each other and perceive a high rate of complexity. After analyzing whether this rates can be clarified through the control variables, it seems that woman perceive more task complexity than man. Men, aged fewer than 30 perceive less task complexity compared to their gender while females under 30 perceive more task complexity compared to their gender. Departmental differences are also hard to disco ver. GB&I: 3.42, RV&S: 3.21, VWO: 3.37, and Inkoop: 3.42.

UMC Utrecht	Employees		
	N	Mean	Std. Deviation
Task complexity	91	3,36	0,53
Empowerment	91	4,09	0,35
Knowledge sharing among employees	91	3,83	0,42
Employees accceptance of IT	91	3,57	0,65

TABLE 7: EMPLOYEE COMPETENCIES UMC UTRECHT

UMC Utrecht	Managers		
	N	Mean	Std. Deviation
Task complexity	8	3,04	0,68
Empowerment Impact	8	3,42	0,43
Individualized consideration	8	4,04	0,55
Trust	8	3,88	0,64
Supporting knowledge sharing among employees	8	4,13	0,25
Supporting employees accceptance of IT	8	3,67	0,40
Output Control	8	3,06	0,68

TABLE 8: MANAGERIAL COMPETENCIES UMC UTRECHT

Empowerment at employees rated higher than empowerment impact of managers which means that employees perceive to have control (4.09) over their work related activities and are able to perform these adequately. Managers believe to have impact on what happens in their department (3.417), but is still considerably less than the amount of control employees have. Individualized consideration, trust, and output control are additional competences that only a manager needs to possess. Individualized consideration and trust score a value of 4.04 and 3.88, which are acceptable values considering the fact that 5 is the maximum score. Output control on the other hand scores a value of 3.06. This is rather low, when considering that output control is an important element in NWoW. The literature on NWoW (see section 2.2) stated that managers will need to control more on output and less on presence and time spent on work related activities. Knowledge sharing among employees and employees acceptance of IT are closely linked to supporting knowledge sharing among employees and supporting employees acceptance of IT. The managerial competences in these two cases are needed to support the employees in developing their competencies. Knowledge sharing among employees shows no significant differences between the control variables, employees acceptance of IT on the other hand shows that employees older than 45 have significant less IT acceptance (3.22) compared to the other two age groups (3.77 and 3.72). This difference can't be detected among managers. Although the value of supporting employees acceptance of IT is less (3.667) than employees (3.57). When comparing gender, it seems that employees acceptance of IT scores a higher value at men (3.87) than women (3.33).

Performance goals (dependent variables)
To recapitulate, the means of the dependent variables are shown in table 5 on page 28. Commitment shows a moderate mean of respectively for employees 3.04 and managers 3.25. The relative moderate mean is explained through items "I would accept almost any type of job assignment in order to keep working for this organization" (COMM02), "I could just as well be working for a different organization as long as the type of work was similar" (COMM05), and "It would take very little change in my present circumstances to cause me to leave this organization" (COMM06). Items COMM05, and COMM06 are reversed questions, and together with COMM02, representing on one end of the continuum commitment towards work and on the other end commitment to the organizations. These results show that when comparing the kind of work to be performed with the organization, work is considered more important. COMM02 scores 2.264, COMM05 scores 2.46, and COMM06 scores 2.48. During analyzing also no significant differences can be found using control variables age and gender.

The overall productivity constructs scores a rather high value of 3.57 for employees and 3.63 for managers. So employees and managers perceive to be approximately equally productive to employees. When digging deeper into the construct of employees it can be observed that there is according to Pearson's Chi square test a significant relation (p <.018) between gender and "Among my work group, I would rate my performance in the top quarter" (OVPR01). It seems that woman perceive to be less productivity than men. These significant differences can't be found at the managers. A possible explanation for this observation is the low N (8). The results on work-life balance show that there is a significant relation between education and item "I have sufficient time away from my job to maintain an adequate balance between my work and personal and family life" (WLBA02) with a p <.002. This relation doesn't affect the outcome in a negative way. The mean value for employees (3.32) as well as for managers (3.62) describe that a moderate to good work-life balance is perceived by the respondents.

4.4   ASSESSING RELIABILITY AND VALIDITY

In this section, the reliability and validity of survey is being assessed. Before it is possible to test whether a significant relationship is present within the structural model, it is necessary to test the level reliability and validity of the measurement model (Fornell & Larcker, 1981).

Reliability

The Cronbach's alpha is used to assess the internal consistency and the assumption of unidimensionality. The assumption of unidimensionality is based on the critical and basic assumption of measurement theory that the set of items that form the instrument measure one thing in common (Anderson & Gerbing, 1988). The values of the Cronbach's alpha needs to have a value of at least .6 for the research to provide reliable results. In table 9 the descriptive statistics and the Cronbach's alpha are given for the dataset of employees and in table 10 for managers. The constructs of the employees' survey meet the criterion for an alpha of .6. However, a small amount of items needed to be deleted in order to meet the criterion. In appendix 8 these items are shown. The constructs of the managers' survey, four from the eleven constructs do not meet the criterion for an alpha of .6. The constructs that meet the criterion are used for further elaboration of this research and these items are shown in table 6. The constructs that are deleted are shown in appendix 9.

Construct	Item	M	SD	Range	α
Intensity of NWoW	10	3,33	0,39	1-5	.605
Task complexity	2	4,19	0,39	1-5	.683
Empowerment	5	4,16	0,48	1-5	.761
Knowledge sharing among employees	3	3,69	0,93	1-5	.708
Employee Acceptance of IT	4	3,81	0,73	1-5	.878
Work-life balance	5	3,64	0,55	1-5	.645
Overall productivity	5	3,75	0,45	1-5	.771
Commitment	2	3,37	0,58	1-5	.616

TABLE 9: DESCRIPTIVE STATISTICS OF THE CONSTRUCTS AND CRONBACH'S ALPHA

Construct	Item	M	SD	Range	α
Intensity of NWoW	10	3,54	0,46	1-5	.737
Task complexity	2	2,38	0,85	1-5	.638
Empowerment Impact	3	3,35	0,58	1-5	.646
Supporting knowledge sharing among employees	3	4,44	0,42	1-5	.758
Supporting employees acceptance of IT	3	3,77	0,76	1-5	.738
Work-life balance	5	3,55	0,68	1-5	.744
Commitment	6	3,65	0,49	1-5	.601

TABLE 10: DESCRIPTIVE STATISTICS OF THE CONSTRUCTS AND CRONBACH'S ALPHA

Validity
To assess validity a confirmatory factor analysis is performed. Appendix 10 shows the results of this confirmatory factor analysis. According to Kankanhalli et al. (2005) item loadings between 0.45 and 0.54 are considered fair, item loadings between .055 and 0.62 are considered good, item loadings between 0.63 and 0.70 are considered very good, and item loadings of 0.71 or higher are considered excellent. Hair, Anderson, Tatham, and Black (1998) apply a different criterion. They suggest that item loadings above 0.3 comply with the minimum level, between 0.4 and 0.5 are considered more important, and above 0.5 are practically significant.

Employee

The results of the pattern matrix show that most items load on a single factor except NWOW09. Furthermore, NWOW05, NWOW07, and NWOW10 do not load on any factor. Taking a closer look to NWOW, it becomes clear that the items load on three different factors. This can be explained with the fact that this is a newly developed scale which will need to prove itself by further testing in the future. Another possible explanation is the fact that this intensity of NWoW as a concept describes a broad spectre that might be dividable in separate constructs, for example in the four dimensions that are given in the typology (section 2.2) For this research the intensity of NWoW will be used as one construct because of the explanation about the fact that it is a newly developed scale which will need to prove itself by further testing in the future (longitudinal study).

The WLBA items are split into two separate clusters loading on different factors. A possible explanation for this diversification is the fact that items WLBA01 and WLBA04 reflect a more emotional/ personal perspective of work-life balance while the other 3 items comply with a more structural side of work-life balance. Similar to the loading issues of work-life balance is empowerment. The items are clustered into two separate factors. Empowerment for employees originally counted three different elements (empowerment meaning, empowerment competence, and empowerment self-determination) which had to be grouped together because of the limited amount of items. In this case empowerment meaning (EMPO01 and EMPO02) does not load on the same factor as the other three items. According to the literature the dimensions of empowerment belong together which is the reason that this research continues to treat empowerment as one construct. Work-life balance will also be grouped, because this is an existing construct that has proved its reliability and validity.

Managers

According to Kline (1994) a sample of 100 is sufficient, as long as there are at least twice as many respondents as variables. In this research, the N is 34 so a factor analysis cannot be performed. It is possible to find out if there are relations between the different constructs with a correlation matrix. The assumed moderators empowerment impact, support knowledge sharing among employees, support employee acceptance of IT and task complexity show acceptable correlations. The same counts for the dependent variable work-life balance. The variables intensity of NWoW and commitment show disturbing correlations. For intensity of NWoW, NWOW01, NWOW02, NWOW05 & NWOW06 are correlated. NWOW03 & NWOW04 show a high correlation and the same counts for NWOW09 & NWOW10. NWOW07 is negative correlated with NWOW08. This difference with correlation is the same as for employees: intensity of NWoW is a newly developed scale which will need to prove itself by further testing in the future. For this research the intensity of NWoW will be used as

one construct. For the construct commitment the items COMM03 and COMM04 show a correlation. The same counts for COMM01 and COMM06, COMM04 and COMM05 and COMM03 en COMM06. This means that the construct commitment should be divided into four constructs instead of one. Therefore the construct commitment cannot be used for this research and will be deleted from now on for this research. This means that the variable work-life balance is the only dependent variable left. According to the theory, work-life balance is associated with output control. Considering the information that output control is deleted after the reliability analysis it is not possible to further analyze the data from the managers. Hypotheses 4, 5, 6, 7, 8 & 9 cannot be tested and will therefore be terminated from this research.

4.5   TESTING HYPOTHESES

Before it is possible to test the hypotheses it is necessary to investigate the moderator variables for employees (empowerment, knowledge sharing among employees, employees acceptance of IT) and to define the regression equation. The investigation of the moderator variables is done according to the four steps of Sharma et al. (1981). Sub groups analysis and moderated regression analysis (MRA) are two basic methods they distinguish to identify the presence of moderator variables. To prepare for the MRA new variables are created that form the interaction effect and is done through multiplying all moderator variables with the independent variable (e.g. EMPO*NWOW and KNSH*NWOW).

When using the MRA method the test the moderated variables, three regression equations have to be examined in order for the regression coefficients to be assessed (Sharma et al., 1981).
1. $Y = a + b_1x$;
2. $Y = a + b_1x + b_2z$;
3. $Y = a + b_1x + b_2z + b_3xz$.

The first equation explains the relation between the independent and the dependent. In the second equation the moderator variable is added and in the third equation the interaction effect between the independent and moderator variable is added. If equations 2 and 3 do not show significant differences, then the moderator variable is just an independent variable. If equation 3 is significantly different while equation 1 and 2 are not then the moderator variable is a pure moderator. When all three equations are different, the moderator variable is classified as a quasi-moderator. The second method is the subgroup analysis and splits up the sample into separate groups based upon the hypothesized moderator (Sharma et al., 1981). The moderators now will be determined according to the four steps of Sharma et al. (1981).

Step 1. The MRA method shows that the interaction effects are not significant. The equation shows no significant differences when the interaction variables are added.

Step 2. Step 2 is normally used when significant differences in step 1 are found and thus to determine whether the moderator variable is related to the dependent variable. In this case no significant differences are found and therefore step 2 is skipped.

Step 3. No significant interaction effects were found in the previous step , so it is necessary to determine whether the employee competencies are significant related to either the independent variables or the dependent variables. Table 11 shows that all relations are significant. Therefore we can conclude that z is not a moderator variable and do not have to perform the subgroup analysis of step 4. Finally we can determine whether z is an exogenous, predictor, intervening, antecedent, or a suppressor variable. In this case z is an antecedent variable which means that it influences both the dependent and the independent variable.

Relationships	R^2	Sig.
EMPO to NWOW	0,057	0,000
KNSH to NWOW	0,076	0,000
EAIT TO NWOW	0,069	0,000
EMPO to COMM	0,092	0,000
EMPO to OVPR	0,166	0,000
EMPO to WLBA	0,03	0,000
KNSH to OVPR	0,029	0,000
EAIT to OVPR	0,03	0,000

TABLE 11: SIGNIFICANT RELATIONSHIPS DEPENDENT/INDEPENDENT ON MODERATOR

4.5.1 THE REGRESSION EQUATION

Regression is stated as a causal relation between dependent variable Y and independent variable X. This is considered an asymmetric relation in which the dependent variable is influenced by the independent (De Vocht, 2008). The equation of the regression model is as followed: $Y = a + b_1X_1$. Y is the predicting independent variable, a = the constant or otherwise called the intercept, b is the regression coefficient, otherwise known as the slope (Foster, Barkus, & Yavorski, 2006; De Vocht, 2008). During multiple regression the same method compared to the simple regression method is used. The regression line can't be visualized two dimensional like the simple regression method, but the computation remains the same. For example: $Y = a + b_1X_1 + b_2X_2 + … + \varepsilon$

Filling the equation for the three dependent variables results in the following equations:

$Y_1 = 2.641 + .076z_1;$
$Y_2 = 2.7 + .067z_1;$
$Y_3 = 2.889 + .082z_1 - .024z_2 + .004z_3.$

Where

Y_1 = Commitment
Y_2 = Work-life balance
Y_3 = Overall productivity
Z_1 = Empowerment * Intensity of NWoW
Z_2 = Knowledge sharing among employees * Intensity of NWoW
Z_3 = Employees acceptance of IT * Intensity of NWoW

Based on the results, the above regression equation will be evaluated. From the different steps from Sharma (1981) it is known that the assumed moderators are antecedent variables. Considering the fact, that an antecedent variable influences both the dependent and the independent variable, the interaction effect between the independent, in this case intensity of NWoW and the antecedent variable has an influence on the dependent variables. The results show that all equations are significant, the p value is lower than an α of 0.05. Commitment: F=57.137, df=1, p=.000, R^2= .093; Work-life balance: F= 49.822, df=1, p =.000, R^2 = .082; Overall productivity: F= 24.995, df=3, p =.000, R^2 = .119. The F-statistic for the last equation lower than the other two. The F-statistic is probably lower because Z_3 has a low value. This low value is confirmed by the t-test for the R^2 which shows that Z_3 not significant (t = .526, p= .599). Therefore the construct employees acceptance of IT is excluded for further research. This means that hypothesis 3 is terminated from this research.

4.5.2 HYPOTHESES

Twelve hypotheses were formulated in the theoretical framework. As explained in the process, only four of them can be tested. As explained earlier it is not possible to determine the effect of the moderator(s) on the relation between the intensity of NWoW and in the three dependent variables. Therefore frequency tables, histograms, and descriptives are used to explain why a regression analysis doesn't provide significant relationships when testing the hypotheses.

Hypothesis 1a: Empowerment positively influences the relation between NWoW Intensity and commitment.

When observing the histogram of commitment (see appendix 11, figure 10) it becomes clear that there seems to be a relative normal distribution with a peak value. A kurtosis value of 1.954 confirms this observation and provides information that is difficult to do a regression analysis with a variable not fulfilling the assumption of multicollinearity and homoscedasticity. Furthermore, kurtosis (-.063) and skewness (.427) at the empowerment construct fulfill the assumptions needed to perform statistical tests, but frequency tables show that variance in results is minimal. Therefore it is impossible to test the extent to which empowerment strengthens the relation between the independent variable and commitment. Hypothesis 1a is rejected. Empowerment is reliable and the factor analysis shows a considerable amount of correlation between the items. Therefore, it is still interesting to see the potential added value of empowerment that was found in the regression equation. The interaction effect between the intensity of NWoW and empowerment has an influence on commitment ($F=57.137$, df=1, $p=.000$, $R^2= .093$). The relation between the interaction effect and commitment is significant but the regression coefficient shows that there is a relationship but that it is not linear. The F-statistic is high, and this high value is confirmed by the t-test for the R^2 which shows that the interaction effect is significant ($t = 7.559$, $p<.05$).

Hypothesis 1b: Empowerment positively influences the relation between NWoW Intensity and overall productivity.

The construct overall productivity produces a relative high mean value of 4.19 which in the beginning doesn't have to be bad. Troubling is the amount of variances observed in the histogram as displayed in appendix 11, figure 9. A kurtosis of 3.461 is observed and explains the curve of the histogram. Few variances in a dependent variable means few observed values that can be explained by the independent or moderator variables. As mentioned before, empowerment shows few variance in results which means that it is impossible to test the extent to which empowerment strengthens the relation between the independent variable and overall productivity. Hypothesis 1b therefore is rejected. The explanation of hypothesis 1a is the same for this hypothesis: it is still interesting to see the potential added value of empowerment. The interaction effect between the intensity of NWoW and empowerment has an influence on overall productivity ($F=70.030$, df=1, $p=.000$, $R^2= .112$). The high F-statistic is being confirmed by the t-test for the R^2 which shows that the interaction effect is significant ($t = 8.368$, $p<.05$).

Hypothesis 1c: Empowerment positively influences the relation between NWoW Intensity and work-life balance.

Work-life balance as a construct has an almost perfect normality curve. The observed data do not show signs of threats to the rules of thumb. Unfortunately this hypothesis can't be test either because empowerment does not meet the necessary requirements as mentioned above. Therefore hypothesis 1c is rejected. Again, the same explanation can be given about the interaction effect. . The interaction effect between the intensity of NWoW and empowerment has an influence on work-life balance ($F= 49.822$, df=1, $p =.000$, $R^2 = .082$). The high F-statistic is being confirmed by the t-test for the R^2 which shows that the interaction effect is significant ($t = 7.058$, $p<.05$).

Hypothesis 2: Knowledge sharing among employees positively influences the relation between NWoW Intensity and overall productivity.

The fourth hypothesis contains knowledge sharing among employees. Kurtosis and skewness here are acceptable but the frequency table show that 81% of all values fall between 4.0 and 5.0, which means that there is very little variances in the results. For this reason, hypothesis 2 is rejected. On the other hand, knowledge sharing among employees is reliable and the factor analysis shows a considerable amount of correlation between the items. Therefore, it is still interesting to see the potential added value of knowledge sharing among employees that was found in the regression equation. The interaction effect between the intensity of NWoW and knowledge sharing among employees has an influence on overall productivity (F= 25.362, df=1, p =.000, R^2 = .044). The F-statistic is not so high in comparison to the previous three hypotheses. While the low value is not being confirmed by the t-test for the R^2 which shows that the interaction effect is significant (t = 5.036, p<.05).

There is not a hypothesis for task complexity because it is not an essential point for this research. Nevertheless, some interesting results need to be mentioned. The interaction effect of intensity of NWoW and task complexity is tested for each dependent variable. The results show that the interaction effect has an influence on all three dependent variables (commitment F= 4.997 , df=1, p =.026, R^2 = .009; work-life balance F= 21.818 , df=1, p =.000, R^2 = .038; overall productivity F= 21.684 , df=1, p =.000, R^2 = .037). The F-statistics are rather low, especially for commitment but the t-values show that the interaction effects are significant.

4.5.3   POST-HOC ANALYSIS

After testing the hypotheses, the model is tested again to see how the results are if the number of variables are reduced. In the post-hoc model the following has been tested: the interaction effect of the independent variables {empowerment *intensity of NWoW} and {knowledge sharing among employees *intensity of NWoW} on the tree dependent variables. These dependent variables are not changed. It is interesting to see that the regression coefficients are higher with the interaction effect. The R^2 for commitment has changed from R^2 = .092 to R^2 = .093, work-life balance from R^2 = .0.03 to R^2 = .082 and overall productivity (interaction effect knowledge sharing among employees and intensity of NWoW) from .029 to R^2 = .044 and (interaction effect empowerment and intensity of NWoW) R^2=.166 to R^2 =.112. This means that only the last regression coefficient in the previous row is lower than before. The lower R^2 means that the effect from only empowerment is higher than the interaction effect of empowerment and intensity of NWoW. Based on the results of the regression analysis the theoretical model needed to be revised. The revised model is divided into three separate models and presented in figure 5, 6, and 7. The model is based on the post-hoc analysis.
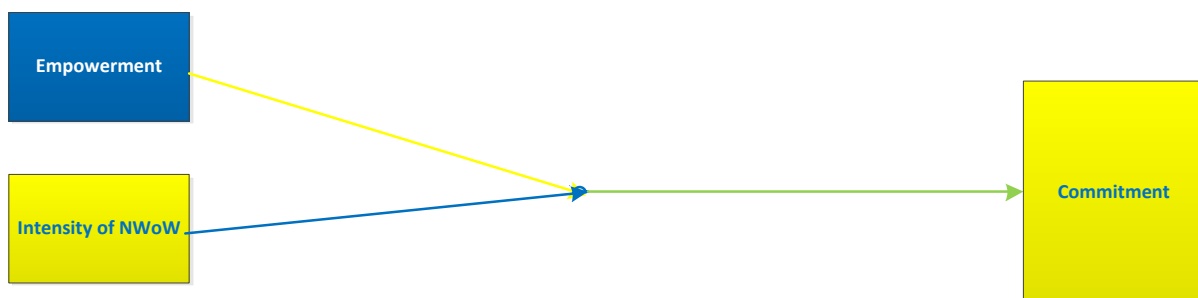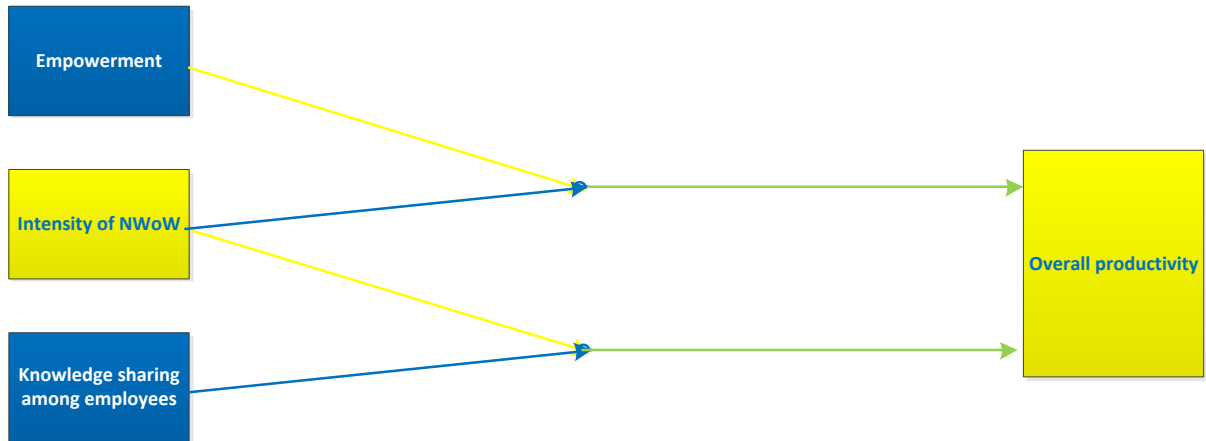

FIGURE 5: REVISED RESEARCH MODEL COMMITMENT

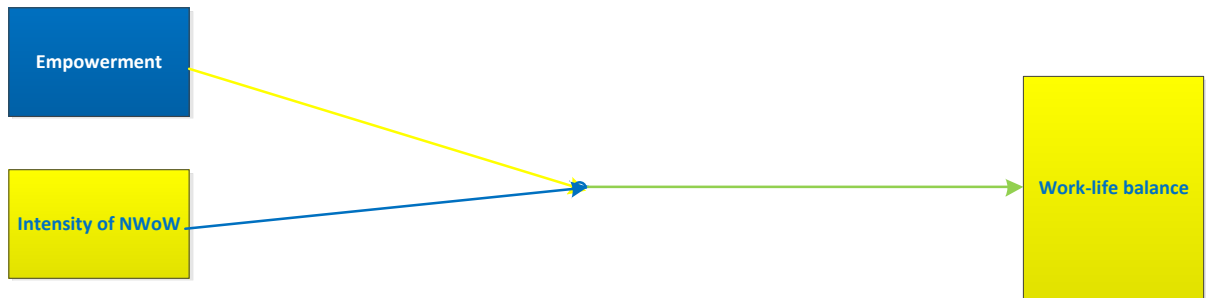FIGURE 6: REVISED RESEARCH MODEL OVERALL PRODUCTIVITY

FIGURE 7: REVISED RESEARCH MODEL WORK-LIFE BALANCE

5   CONCLUSION

This chapter describes the conclusions of the research findings. First, the discussion gives an overview of the results linked to interesting viewpoints. Second, based on these results recommendations for UMC Utrecht (sub question 4) will be presented. Subsequently, the conclusions and limitations, and finally directions for further research are given.

5.1   DISCUSSION

The results from the questionnaire showed quite some differences between the dimensions within the intensity of NWOW at Alliander compared to UMC Utrecht. Although it is clear that at UMC Utrecht the concept of NWoW is applied and at Alliander it is considered but not implemented at all, the overall intensity of NWoW is approximately the same. Martins et al. (2004) suggested that the difference between virtual teams and traditional teams appears to be rather vague and could be identified though the extent of virtualness. It seems that Alliander already implemented some of the characteristics of NWoW without using the concept. For example, time and place independent working is implemented at UMC Utrecht without the possibility - for the majority - of working at home (16%), while Alliander (80%) is able to work at home. According to Baane et al. (2010) NWoW needs to be applied collectively and to a full extent to be successful as a concept. Furthermore, within UMC Utrecht, there is an observable and statistically significant difference between the extent of NWoW implemented at the Zandplaat and RV&S as department considering NWoW. Nevertheless, RV&S does show signs of NWoW characteristics. On basis of these results it is reasonable to say that an extent of virtualness – as stated by Martins et al. (2004) - is more likely to count for a way of working than NWoW as an opposite to OWoW.

A preliminary research showed that the average occupancy of GB&I, Inkoop, and VWO are respectively 41,1%, 48,9%, and 34,4%. The peak occupancy lies at respectively 70%, 70,2%, and 85% measured at different moments in time, which on average is a peak of 75,1%. To recapitulate, Bijl (2009) stated that the implementation of dynamic workplaces could create a 30% to 40% cost reduction in housing. Employees and managers at the Zandplaat use dynamic workplaces for quite some time now and a deficit in workplaces has not occurred yet. 96 dynamic workplaces for a total of 120 employees and managers complies with a maximum occupancy of 80%. Still almost 5% reduction on housing can be achieved when considering the peak values and even more when considering the average values. The questionnaire showed that some employees were not enthusiastic about this new approach and preferred returning to the way it was. A citation from the questionnaire was: "NWoW with its dynamic workplaces is worthless. I do not understand why this concept is chosen and I am glad that I will retire soon. One of the aspects presented by Erik Veldhoen (2005) was mental change. Bijl (2009) concluded that employees and managers are conditioned through industrial thinking. This thinking is based upon fear to the unknown and distrust towards other persons, which is the main reason why people hold on to old habits, even when they are less effective. This is called social behaviour and is a human characteristic (Donkin, 2001). It therefore is important to prepare employees and managers for the change that is going to occur. Preparation at the Zandplaat took place through several workshops and presentation in which employees and managers were shown what was going to change, how it was going to change and how they could benefit from it.

Additional to the preparation of employees and managers for a change process it needs to be mentioned that not every individual has the same willingness and speed to change. Knowing this offers the opportunity to identify those individuals and provide them with more personal guidance. Performance reviews and performance appraisals provide handles to identify the extent of extra guidance employees and managers may need. Furthermore, training on the job during regular meetings can further increase willingness and speed top change. From a more organizational perspective it is important that besides employees and managers the

organization itself will benefit from the implementation of NWoW. According to Baane et al. (2010) NWoW needs to be applied collectively and to a full extent to be successful as a concept. It is thus important that UMC Utrecht benefits from the deficit in housing costs and secondary savings like less hardware and software licences, because – as mentioned in the problem definition – at the Zandplaat 120 employees and managers work using 96 computers. On the other hand, employees and managers experience a deficit in privacy which should be compensated by allowing them to work wherever and whenever they feel like, even if this means working outside the office walls. Although it seems beneficial to allow employees and managers to fully work time and place independent it is again another change that needs to be adopted. This is the main reason why UMC Utrecht denied the majority of employees and managers to work at home. Second is the responsibility of UMC Utrecht to facilitate a save working environment, for example through health and safety approved materials like chairs and adjustable desks.

Within UMC Utrecht a continuum of diversity in functions is present to a large extent. The physiotherapist of RV&S is in function totally different compared to a regular day on the office of a project leader within GB&I. Bijl (2009) stated that not every task can be performed place and time independent. The nurse for instance still needs to help the patient at the specific location. On the other hand, the administrative tasks of the same nurse can be done time and place independent. Still all, the project leader, the physiotherapist as well as the example of the nurse, have less complex tasks that can be performed at a random chosen moment in time without the interaction with other employees or managers. In conclusion, time and place independency is entirely dependent on function, tasks and contingent teams of employees or managers.

Working according to the characteristics of NWoW has shown within this research that employees and managers at UMC Utrecht will need certain competencies to be effective and successful. In total employees need three additional competencies and managers need six additional competencies. According to the results these competencies are present to certain extent. Still, these competencies need to be developed to further improve the successfulness and effectiveness of NWoW. Is this a realistic amount, or is this just too much for a person to develop at once? Scientific literature doesn't provide clear answers to this question. Popular scholarly literature stated that it is important not to develop too much competencies at the same time. Furthermore, when developing multiple competencies at once it is important to develop those competencies that can be clustered because of a related nature. According to Ulrich, competencies need to be aligned with the business strategy to provide focus and energy (Ulrich, 1999, cited in Cortada & Woods, 1999). This provides opportunities for and expects results and input from employees. Therefore, employees also need to understand what the long-term goals, objectives and vision of the organization are. Thus, in order to contribute to the organization's innovativeness, employees have to know the organizational strategic goals and objectives. Competence profiles are selection instruments used at UMC Utrecht to ensure managerial quality. From the competencies examined in this research empowerment impact is already among the testing competencies when assigning a new manager. This is not the case for employees but does have considerable added value. Added value can be created by subjecting new employee to cognitive assessment tests and with that employing the employees possessing the competencies needed to be successful in NWoW.

The employee and managerial competencies are important because they can lead to the improvement of work life balance, commitment and overall productivity. This research proved that empowerment does contribute to the success. Nevertheless, the relationship isn't very strong so it is plausible that the success of NWoW is determined by other influential factors. As mentioned before, the mental change process that takes place at the acquaintance of UMC Utrecht with NWoW, during the implementation, and even the first months after the implementation does influence the success. Months before the implementation UMC Utrecht started a trajectory in which employees and managers were prepared for the changing roles they were going to fulfil. The transaction went well, so it has proven to be beneficial and should therefore be repeated at every implementation. Furthermore, the major driver of organizational and individual performance is a corporate culture (Carleton and Lineberry, 2004). Change models emphasize that before change can successfully occur, organizations have to be clear on context, (the why), the content (the what), and the process (the how) of any action they intend to take and decisions are dependent upon the knowledge of the content (the what) of the culture to be changed (Cartwright and Cooper, 1993).

5.2   ADVICE FOR UMC UTRECHT

Before the conclusion can be given, the last following sub question needs to be answered:

Which steps can be taken at UMC Utrecht to (further) enhance competencies of employees and managers to improve the outcome of the performance goals?

From the data that are analysed in section 4.2.1 it becomes clear that the Zandplaat within UMC Utrecht has still several opportunities to increase the intensity of NWoW. The most obvious improvement contains three elements. First, the results show that time and place independent working scores rather low. This is caused by the fact that very few employees and managers are allowed to work at home or any other place different from the office. Supporting and stimulating working at home and on additional locations that allow work to continue will substantially increase the overall value of time and place independent working. Working at home was denied, because it would lead to too much change at once and it would held UMC Utrecht responsible for the health and safety when working at home. Nowadays, employees and managers are used to dynamic workplaces so allowing working at home is just a small step. Furthermore, the occupancy will be reduced which makes it possible to integrate another department on the Zandplaat. Before this integration takes place it is wise to perform another occupancy test to investigate the extent to which the occupancy is decreased with working at home included. The second and third elements are embraced by access and connectivity to knowledge. Technological means as well as application can be a used more excessive. Examples of technological means are the absence of Ipads and laptops. Ipads can increase the productivity of employees and managers, because they for instance no longer have to write a report after a meeting but instead write it during the meeting. Furthermore, applications like social media can increase knowledge sharing and problem solving, because employees and managers now have more resources to their disposal. Managerial support on employees acceptance of IT and access and connectivity to knowledge are of great importance to convince, employees who do not embrace the advantages of unlimited access to knowledge yet, otherwise.

This research investigated the influence of three employee competencies and six managerial competencies. Due to a limited response it was hard to draw statistical conclusions for all competencies. Two statistically significant relation were found at the employee competencies, namely: empowerment and knowledge sharing among employees. First an advice will be given how to deal with these two competencies, before we will go back to the bigger picture. As shown in the post-hoc analysis in section 4.5.3 empowerment and knowledge sharing among employees contribute positively to the performance goals of NWoW. Empowerment already scores rather high, but there is always room for improvement. It is therefore important that employees find meaning in the work they do. Thus, finding the value of a work goal or principle in relation to the ideas or standards from an individual. Furthermore, competence and self-determination as a part of empowerment are important stimulators. Providing employees with enough freedom and responsibilities will lead them to better stabilizing work and life. Enough freedom begins at the moment where employees can decide for themselves at what time they start working at the office and eventually stop working and leave. This includes working at home. In this scenario it is important that managers radiate trust. Trust from managers is a non-verbal signal to employees that they are considered competent in how and in what way they perform their tasks. Employees who feel competent will be more productive. It is therefore wise to continue stimulating employees to develop their cognitive capacities. Knowledge sharing among employees is an important aspect for NWoW to be successful. This competency becomes more important when time and place independent is fully implemented. In the current situation it is relatively easy for employees to share knowledge, because all are still working in the same building. When fully implemented, it is necessary to optimally use applications like social media and IT to gain desired knowledge.

Although results for managers do not show significant outcomes, based on the results from the data analysis it is possible to provide some advice. As mentioned above, it is important that employees improve empowerment and knowledge sharing among employees. Nevertheless, from a theoretical perspective it can be stated that all competencies contribute to the success of NWoW and therefore should not be ignored. Instead, it is wise to examine the possibilities of embedding these competencies in a competency profile as a part of the hiring process. Managers are already tested on their skills and some competencies even seem closely related to the

ones used in this research, but they should be tightened to fit the concept of NWoW. Furthermore, such a test should be introduced for employees as well. Additionally, managers play a crucial part in the developing of these employee competencies. They need to stimulate the use of social media as well as granting the freedom employees need to optimally perform their job. In addition, managers have to become more a facilitator and a coach where they convince employees of their capabilities by providing them the right means and incentives.

Last but not least is the change that is going to happen at RV&S. These employees and managers are soon facing the implementation of NWoW. For them it is important that in the introduction phase enough attention is paid to the change that will take place after the implementation. Theoretical preparation is important but practical preparation just as much. Therefore it is relevant for RV&S to perform their daily tasks one time in the introduction phase at the Zandplaat. Furthermore, the training and workshops that were granted to the employees and managers of the Zandplaat should be followed as well. In this way the employees and managers of RV&S will be optimally prepared for the near future and possible resistance can be even more decreased in this preliminary phase.

5.3   CONCLUSIONS

The main research question of this study was: *'Which competencies do employees and managers need to meet the performance goals of NWoW?'* Answering this question is done through several sub questions. The results from the first research question indicate that NWoW as a concept is not a new way of working, but just a combined set of organizational characteristics that exist to a certain extent in every organization. The difference between OWoW and NWoW is thus the extent to which virtualness is embedded within the organization. A high extent of virtualness corresponds with a high extent of NWoW in the organization. Furthermore, the success of NWoW characterizes itself through the achievement of work-life balance, commitment, and overall productivity as performance goals. The organizations ability of working according to the concept of NWoW depends on the nature of tasks, technological capabilities and competencies of employees and managers. The employee and managerial competencies needed to meet the performance goals of NWoW are the results of sub questions two and three. To rephrase, these questions were: what competencies do employees (question 2) and managers (question 3) need to meet the performance goals of NWoW. From a theoretical perspective it can be stated that empowerment, knowledge sharing, and user acceptance of IT are seen as competencies that need to be present to a certain extent in order to meet the performance goals of NWoW. Furthermore, managers should possess individualized consideration, trust, empowerment impact, supporting employees acceptance of IT, supporting knowledge sharing among employees, and output control as competencies to be successful in NWoW as a manager.

Before research model studying could take place, the data from UMC Utrecht and Alliander have been aggregated. This was necessary to create a significant N. The model has been studied in two separate settings, one for employees and one for managers. Unfortunately, due to a lack in reliability and validity several managerial competencies were dropped from the research. Furthermore, due to the presence of heteroscedasticity and multicollinearity in the results it was hard to draw any statistical conclusion. Therefore, all competencies failed the statistical requirements and needed to be dropped. The findings show, despite these flaws in assumptions, significant results for empowerment and knowledge sharing among employees. Nevertheless, these outcomes should be interpreted with caution.

To come back to the main research question, it can be stated that for employees empowerment and knowledge sharing positively contribute to the success of NWoW at UMC Utrecht. Furthermore, a secondary objective is achieved. To recapitulate, this objective was developing a questionnaire that allows organizations to visualize their current position around NWoW and discover change possibilities.

5.4   LIMITATIONS AND FURTHER RESEARCH

This research had several limitations that have to be discussed. A limitation of the study is the small number of respondents for the managers. Aggregating the data was necessary but unfortunately the N for the managers remained too low to perform statistical tests. The data from UMC Utrecht for employees also had a low number of respondents. Therefore the data for employees were aggregated as well.

Another limitation of this study was that some questions of the questionnaire were too vague for the employees. For instance, the question about the IT resources, where the respondent could choose a desktop as resource. Instead of choosing a desktop, some respondents filled in the open area, computer. The same vagueness counts for the question about applications and or social media.

Further research
The data are collected with a cross-sectional study (e.g. self-administered questionnaire). This study makes it possible to draw conclusions about the causality. However, in a qualitative study the respondents give their reasoning behind the answers so more detailed information can be gathered. For example, a starting point can be group discussions or in-depth interviews within the organization. This will give the researcher an impression

about the opinions of the employees and managers, thus, from observations to general principles (Babbie, 2007).

The subject NWoW is a relatively new and unknown area for many researchers. This research has tried to explain the most important aspects of NWoW. Still, a longitudinal study is needed to come up with more evidence for these important aspects. For example the relation between some control variables and constructs. More extensive research should investigate if these constructs are actually dependent on the control variables. More important, because testing the relationship of the constructs for managers could not be done, researchers should focus more on gaining enough managers respondents. Regarding the complexity of the model and considering the rules of thumb there should be at least 100 managers to test the model.

In addition to obtaining a higher amount of managers it is wise to examine the flaws in the current questionnaire. Some constructs failed the reliability and validity assumptions and should be altered before a retest can take place. The managerial construct trust needs to be reconsidered and researchers should seek to develop a multiple item scale. Felstead et al. (2004) stated that the loss in visibility through flexible working should be compensated by trust. It is therefore wise to investigate whether the constructs output control and trust can be merged. The items used for the construct individualized consideration should be expanded to obtain a sufficient alpha. Furthermore, empowerment – measuring impact(manager), meaning (employee), competence (employee), and self-determination (employee) – should be restored to its original scale. This creates sufficient items for the sub elements of empowerment to be analyzed separately. Finally, the employee construct commitment is reduced to two items to obtain a sufficient alpha. For this reason we advise that commitment for both the employee and managerial questionnaire will be restored to the original size as developed by Mowday et al. (1979)

An interesting fact that became visible through the survey results is the education level of the respondents. 70 out of 91 respondents have received higher education, which means that NWoW is successful in an environment surrounded by higher educated people regardless of contextual tasks. For this research, task complexity has been investigated and shows that the interaction effect on the performance goals is significant. Nevertheless, further research on this topic needs to give more evidence whether or not task complexity significantly influences the relation between intensity of NWoW and the performance goals.

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Raad van Toezicht

Raad van Bestuur

Medezeggenschap
- Clientenraad
  Academische
  Ziekenhuizen
- Ondernemingsraad
- Faculteitsraad

Advies
- Ledenraad
- Verpleegkundig
  Convent

UMC Utrecht
Participaties

UMC Utrecht
Exploitatie B.V.

Concernstaf
Raad van Bestuur
- Beleidsstaf
- Interne & Externe
  Communicatie
- Levensoriëntatie &
  Geestelijke Verzorging
- Vastgoed & Huisvesting

Directie Informatie-
voorziening & Financiën

Directie Personeel
& Organisatie

Directie Facilitair Bedrijf

Directie Informatie
Technologie

Onderzoeksprogramma's
- Biomedische
  Beeldwetenschappen
- Biomedische Genetica
- Cardiovasculaire
  Wetenschappen
- Immunologie en
  Infectieziekten
- Klinische Epidemiologie
- Neurowetenschappen
- Oncologie

Divisies
- Beeld
- Biomedische Genetica
- Hart & Longen
- Heelkundige Specialismen
- Hersenen
- Intensive Care Centrum
- Interne Geneeskunde en
  Dermatologie
- Julius Centrum voor Gezond-
  heidswetenschappen en
  Eerstelijnsgeneeskunde
- Kinderen
- Laboratoria en Apotheek
- Perioperatieve Zorg en
  Spoedeisende Hulp
- Vrouw & Baby

Directie Onderwijs &
Opleidingen
- Geneeskunde
- Biomedische
  Wetenschappen
- Algemene Gezondheids-
  wetenschappen
- Opleidingscentrum
- Expertisecentrum

FIGURE 8: ORGANIZATIONAL CHART

Appendix 2 – Survey employees

Geachte collega,

Mijn naam is Chris Seelig en het afgelopen half jaar ben ik in het kader van mijn studie bezig geweest om te onderzoeken welke competenties kunnen bijdragen aan het succes van het concept 'Het Nieuwe Werken'.

Voor dit onderzoek zijn twee vragenlijsten ontwikkeld, één voor medewerkers en één voor leidinggevenden. Op deze manier geeft het onderzoek een compleet beeld wat betreft de kansen die 'Het Nieuwe Werken' effectiever, efficiënter en plezieriger kunnen maken voor zowel medewerkers als leidinggevenden. Ik zou het op prijs stellen wanneer u mij, en daarmee uzelf, wilt helpen door het invullen van deze vragenlijst.

Door op onderstaande link te klikken wordt u automatisch doorverwezen naar de vragenlijst voor medewerkers. Deze vragenlijst neemt ongeveer 10 minuten van uw tijd in beslag en zal anoniem en vertrouwelijk worden behandeld. De inhoud van de vragenlijst bestaat hoofdzakelijk uit meerkeuze vragen waarnaast u, in het kader van verbeteringsmogelijkheden, de gelegenheid wordt geboden opmerkingen te plaatsen dan wel suggesties te doen.

<Link>

Voor eventuele vragen of onduidelijkheden verzoek ik u een e-mail te sturen naar c.seelig@umcutrecht.nl. Ik dank u alvast hartelijk voor uw medewerking.

Met vriendelijke groet,

Chris Seelig

Achtergrondgegevens:

Wat is uw geslacht?
- ☐ Man
- ☐ Vrouw

Wat is uw leeftijd?
- ☐ < 30 jaar
- ☐ 30 – 45 jaar
- ☐ > 45 jaar

Wat is de hoogste opleiding die u heeft afgerond? (Staat uw opleiding er niet tussen, kies dan degene die er het dichts bij in de buurt komt)
- Basisonderwijs (Lagere school)
- VMBO (Of LBO)
- VMBO-T (Of MAVO)
- HAVO/VWO
- Middelbaar beroepsonderwijs (MBO)
- Hoger beroepsonderwijs (HBO)
- Wetenschappelijkonderwijs (WO)

Werkt u…?
- ☐ Voltijd
- ☐ Deeltijd

Hoelang bent u reeds in dienst van deze organisatie?
- ☐ Minder dan 6 maanden
- ☐ 6 maanden tot 1 jaar
- ☐ 1 jaar tot 5 jaar
- ☐ 5 tot 10 jaar
- ☐ 10 tot 20 jaar
- ☐ 20 jaar of langer

Wat is uw functie?

[   ]

Op welke afdeling bent u werkzaam?

[   ]

De volgende vragen gaan over de mate waarin de eigenschappen van 'Het nieuwe werken' aanwezig zijn bij uw organisatie.

Ik kan zelf bepalen waar ik wil werken (Hier zijn meerdere antwoorden mogelijk):
- ☐ Vaste werkplek op kantoor
- ☐ Flexwerkplek op kantoor
- ☐ Thuis
- ☐ Onderweg
- ☐ Bij klanten/ opdrachtgevers
- ☐ Elders, namelijk: [   ]

Ik kan zelf bepalen wanneer ik werk (kantooruren, tijd of dag):
- ☐ Nooit
- ☐ Zelden
- ☐ Soms
- ☐ Vaak
- ☐ Altijd

Op de momenten dat ik werk bepaal ik zelf de volgorde van mijn werkzaamheden:
- ☐ Nooit
- ☐ Zelden
- ☐ Soms
- ☐ Vaak
- ☐ Altijd

Over welke ICT middelen beschikt u tijdens het uitvoeren van uw werkzaamheden (Hier zijn meerdere antwoorden mogelijk):
- ☐ Desktop computer
- ☐ Laptop
- ☐ Mobiele telefoon
- ☐ Smartphone (Een smartphone kan ook beschouwd worden als een handcomputer of PDAdie tegelijk ook een telefoon is)
- ☐ E-book reader (Een e-book reader is alleen bedoeld om op te lezen)
- ☐ Tablet (Op een tablet kunt u naast lezen ook documenten uploaden en lezen, vb: iPad)
- ☐ Video conferencing
- ☐ Anders, namelijk: [   ]

Welke applicaties en/of social media gebruikt u om informatie en kennis te delen voor uw taak?
- ☐ Skype
- ☐ MSN
- ☐ Hyves
- ☐ Facebook
- ☐ Yammer
- ☐ LinkedIn
- ☐ Twitter
- ☐ Youtube
- ☐ Netwerkschijf
- ☐ Intranet
- ☐ Anders, namelijk [   ]

De informatie die ik nodig heb om mijn werk uit te kunnen voeren is digitaal beschikbaar:
- ☐ Nooit
- ☐ Zelden
- ☐ Soms
- ☐ Vaak
- ☐ Altijd

Ik word beoordeeld op de resultaten die ik boek:
- ☐ Nooit
- ☐ Zelden
- ☐ Soms
- ☐ Vaak
- ☐ Altijd

Ik word beoordeeld op de tijd die ik aan mijn werk besteed:
- ☐ Nooit
- ☐ Zelden
- ☐ Soms
- ☐ Vaak
- ☐ Altijd

Ik heb de vrijheid om mijn (secundaire) arbeidsvoorwaarden naar eigen inzicht in te vullen middels cao a la carte (opleidingen, vakantiedagen, flexibele werkweek, eindejaarsuitkering):
- ☐ Nooit
- ☐ Zelden
- ☐ Soms
- ☐ Vaak
- ☐ Altijd

De relatie met mijn manager is gebaseerd op wederzijds respect en vertrouwen:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Er volgen nu drie vragen over uw werkzaamheden.

In welke mate hangt het resultaat van uw werk af van het resultaat van anderen?
- ☐ Nooit
- ☐ Zelden
- ☐ Af en toe
- ☐ Een matige hoeveelheid
- ☐ Een groot deel

Hoeveel procent van uw werk besteedt u aan routinematige taken? (Routinematige taken zijn de repeterende taken van een medewerker)
- ☐ 0-20%
- ☐ 21-40%
- ☐ 41-60%
- ☐ 61-80%
- ☐ 81-100%

Mijn taken zijn bij elkaar genomen erg complex (Denk hierbij aan de tijd die u nodig heeft om een ander uw taken te leren):

- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Er volgen nu vragen over de competenties die nauw samenhangen met 'Het Nieuwe Werken'.

Mijn werk is erg belangrijk voor me:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Het werk dat ik doe betekent veel voor me:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Ik heb vertrouwen in mijn bekwaamheid om mijn werk te doen:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Ik ben in het bezit van de vaardigheden die ik nodig heb om mijn werk uit te kunnen voeren:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Ik heb genoeg zelfstandigheid om mijn taken naar eigen inzicht uit te voeren:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Ik deel regelmatig kennis met collega's:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Kennisdelen met collega's is waardevol voor mij:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens

☐ Eens
☐ Helemaal mee eens

Ik ga in de toekomst mijn werkverslagen en officiële documenten nog meer met collega's delen:
☐ Helemaal niet mee eens
☐ Oneens
☐ Niet mee eens of oneens
☐ Eens
☐ Helemaal mee eens

Ik deel mijn know-where en know-whom altijd op verzoek van collega's (Know-where: Is weten waar kennis te halen is. Know-whom: Is weten wie over bepaalde kennis beschikt):
☐ Helemaal niet mee eens
☐ Oneens
☐ Niet mee eens of oneens
☐ Eens
☐ Helemaal mee eens

Ik probeer expertise die ik heb opgedaan tijdens opleidingen of trainingen op een effectieve manier met collega's te delen:
☐ Helemaal niet mee eens
☐ Oneens
☐ Niet mee eens of oneens
☐ Eens
☐ Helemaal mee eens

In één van de vorige vragen hebben we u gevraagd naar de aanwezige technologische middelen en social media. Onder deze technologische middelen en social media wordt verstaan: Smartphone, Laptop, Tablet, E-reader, Facebook, Hyves, LinkedIn, Skype, Twitter, Yammer, netwerkschijf, intranet, etc. Probeer deze technologische middelen in uw achterhoofd te houden wanneer u de volgende vragen beantwoordt:

Het gebruik van deze technologieën verbetert de kwaliteit van mijn werk:
☐ Helemaal niet mee eens
☐ Oneens
☐ Niet mee eens of oneens
☐ Eens
☐ Helemaal mee eens

Het gebruik van deze technologieën ondersteunt mij tijdens belangrijke aspecten van mijn werk:
☐ Helemaal niet mee eens
☐ Oneens
☐ Niet mee eens of oneens
☐ Eens
☐ Helemaal mee eens

Het gebruik van deze technologieën verhoogt mijn productiviteit:
☐ Helemaal niet mee eens
☐ Oneens
☐ Niet mee eens of oneens
☐ Eens
☐ Helemaal mee eens

Het is voor mij eenvoudig om deze technologieën te laten doen wat ik wil:
☐ Helemaal niet mee eens
☐ Oneens
☐ Niet mee eens of oneens
☐ Eens

☐ Helemaal mee eens

Het kost mij veel moeite om de benodigde vaardigheden voor het gebruik van deze technologieën onder de knie te krijgen:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

De volgende vragen gaan over de uitkomsten van 'Het Nieuwe Werken'. De onderwerpen van deze vragen zijn de balans tussen werk en privé, productiviteit, en de betrokkenheid bij uw organisatie.

Het is voor mij moeilijk om een goede balans te vinden tussen de behoeftes en vereisten van werk en privé:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Ik ben voldoende momenten met mijn privé leven bezig om mijn ideale balans tussen werk en privé te vinden en te behouden:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Wanneer ik verlofopneem, ben ik in staat om werk met rust te laten en mijzelf te vermaken:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Ik ben vaak uitgeput na een werkdag door stress en problemen:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Al met al, ben ik tevreden over mijn balans tussen werk en privé:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Binnen mijn afdeling behoren mijn eigen prestaties naar in mijn ogen tot de beste 25%:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Ik ben tevreden over de kwaliteit van mijn werkresultaten:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Ik werk erg efficiënt:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Ik ben een zeer productieve medewerker:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Mijn leidinggevendevindt dat ik een efficiënte medewerker ben:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Ik ben bereid om meer energie dan nodig in deze organisatie te steken wanneer dit leidt tot een succesvollere organisatie:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Het soort werk dat ik moet verrichten is minder belangrijk zolang ik in deze organisatie mag werken:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Mijn persoonlijke doelstellingen komen overeen met de doelstellingen van de organisatie:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Ik vertel mensen met trots dat ik werkzaam ben bij deze organisatie:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Het maakt mij niet uit waar ik werk, zolang het soort werk maar hetzelfde is:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Gezien de huidige omstandigheden is er voor mij niet veel nodig om de organisatie te verlaten:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

------------------ Einde vragenlijst ------------------

Hartelijk bedankt voor het invullen van de vragenlijst. Heeft u naar aanleiding van het invullen van de vragenlijst nog opmerkingen en/of suggesties?

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┌─────────────────────────────────────────────────────┐
│                                                       │
│                                                       │
│                                                       │
└─────────────────────────────────────────────────────┘
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Mocht u geïnteresseerd zijn in de resultaten van de vragenlijst, dan verzoek ik u hier uw e-mailadres in te vullen.

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┌──────────────────────────┐
│                          │
└──────────────────────────┘
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Appendix 3 – Survey managers

Geachte collega,

Mijn naam is Chris Seelig en het afgelopen half jaar ben ik in het kader van mijn studie bezig geweest om te onderzoeken welke competenties kunnen bijdragen aan het succes van het concept 'Het Nieuwe Werken'.

Voor dit onderzoek zijn twee vragenlijsten ontwikkeld, één voor medewerkers en één voor leidinggevenden. Op deze manier geeft het onderzoek een compleet beeld wat betreft de kansen die 'Het Nieuwe Werken' effectiever, efficiënter en plezieriger kunnen maken voor zowel medewerkers als leidinggevenden. Ik zou het op prijs stellen wanneer u mij, en daarmee uzelf, wilt helpen door het invullen van deze vragenlijst.

Door op onderstaande link te klikken wordt u automatisch doorverwezen naar de vragenlijst voor leidinggevenden. Deze vragenlijst neemt ongeveer 10 minuten van uw tijd in beslag en zal anoniem en vertrouwelijk worden behandeld. De inhoud van de vragenlijst bestaat hoofdzakelijk uit meerkeuze vragen waarnaast u, in het kader van verbeteringsmogelijkheden, de gelegenheid wordt geboden opmerkingen te plaatsen dan wel suggesties te doen.

<Link>

Voor eventuele vragen of onduidelijkheden verzoek ik u een e-mail te sturen naar c.seelig@umcutrecht.nl. Ik dank u alvast hartelijk voor uw medewerking.

Met vriendelijke groet,

Chris Seelig

Achtergrondgegevens:

Wat is uw geslacht?
- ☐ Man
- ☐ Vrouw

Wat is uw leeftijd?
- ☐ < 30 jaar
- ☐ 30 – 45 jaar
- ☐ > 45 jaar

Wat is de hoogste opleiding die u heeft afgerond? (Staat uw opleiding er niet tussen, kies dan degene die er het dichts bij in de buurt komt)
- Basisonderwijs (Lagere school)
- VMBO (Of LBO)
- VMBO-T (Of MAVO)
- HAVO/VWO
- Middelbaar beroepsonderwijs (MBO)
- Hoger beroepsonderwijs (HBO)
- Wetenschappelijk onderwijs (WO)

Werkt u…?
- ☐ Voltijd
- ☐ Deeltijd

Hoelang heeft u al een leidinggevende positie?
- ☐ Minder dan 6 maanden
- ☐ 6 maanden tot 1 jaar
- ☐ 1 jaar tot 5 jaar
- ☐ 5 tot 10 jaar
- ☐ 10 tot 20 jaar
- ☐ 20 jaar of langer

Wat is uw functie?

☐☐☐☐☐☐☐☐

Op welke afdeling bent u werkzaam?

☐☐☐☐☐☐☐☐

De volgende vragen gaan over de mate waarin de eigenschappen van 'Het nieuwe werken' aanwezig zijn bij uw organisatie.

Ik kan zelf bepalen waar ik wil werken (Hier zijn meerdere antwoorden mogelijk):
- ☐ Vaste werkplek op kantoor
- ☐ Flexwerkplek op kantoor
- ☐ Thuis
- ☐ Onderweg
- ☐ Bij klanten/ opdrachtgevers
- ☐ Elders, namelijk: [   ]

Ik kan zelf bepalen wanneer ik werk (kantooruren, tijd of dag):
- ☐ Nooit
- ☐ Zelden
- ☐ Soms
- ☐ Vaak
- ☐ Altijd

Op de momenten dat ik werk bepaal ik zelf de volgorde van mijn werkzaamheden:
- ☐ Nooit
- ☐ Zelden
- ☐ Soms
- ☐ Vaak
- ☐ Altijd

Over welke ICT middelen beschikt u tijdens het uitvoeren van uw werkzaamheden (Hier zijn meerdere antwoorden mogelijk):
- ☐ Desktop computer
- ☐ Laptop
- ☐ Mobiele telefoon
- ☐ Smartphone (Een smartphone kan ook beschouwd worden als een handcomputer of PDA die tegelijk ook een telefoon is)
- ☐ E-book reader (Een e-reader is alleen bedoeld om op te lezen)
- ☐ Tablet (Op een tablet kunt u naast lezen ook documenten uploaden en lezen, vb.: iPad)
- ☐ Video conferencing
- ☐ Anders, namelijk: [   ]

Welke applicaties en/of social media gebruikt u om informatie en kennis te delen voor uw taak?
- ☐ Skype
- ☐ MSN
- ☐ Hyves
- ☐ Facebook
- ☐ Yammer
- ☐ LinkedIn
- ☐ Twitter
- ☐ Youtube
- ☐ Netwerkschijf
- ☐ Intranet
- ☐ Anders, namelijk: [   ]

De informatie die ik nodig heb om mijn werk uit te kunnen voeren is digitaal beschikbaar:
- ☐ Nooit
- ☐ Zelden
- ☐ Soms
- ☐ Vaak
- ☐ Altijd

Ik word beoordeeld op de resultaten die ik boek:
- ☐ Nooit
- ☐ Zelden
- ☐ Soms
- ☐ Vaak
- ☐ Altijd

Ik word beoordeeld op de tijd die ik aan mijn werk besteed:
- ☐ Nooit
- ☐ Zelden
- ☐ Soms
- ☐ Vaak
- ☐ Altijd

Ik heb de vrijheid om mijn (secundaire) arbeidsvoorwaarden naar eigen inzicht in te vullen middels het cao a la carte (opleidingen, vakantiedagen, flexibele werkweek, eindejaarsuitkering):
- ☐ Nooit
- ☐ Zelden
- ☐ Soms
- ☐ Vaak
- ☐ Altijd

De relatie met mijn manager is gebaseerd op wederzijds respect en vertrouwen:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Er volgen nu drie vragen over de werkzaamheden van uw medewerkers

In welke mate zijn uw medewerkers afhankelijk van het resultaat van anderen?
- ☐ Bijna nooit
- ☐ Soms
- ☐ Ongeveer de helft van de tijd
- ☐ In hoge mate
- ☐ In zeer hoge mate

Hoeveel procent van het werk besteden uw medewerkers aan routinematige taken? (Routinematige taken zijn de repeterende taken van een medewerker):
- ☐ 0-20%
- ☐ 21-40%
- ☐ 41-60%
- ☐ 61-80%
- ☐ 81-100%

De taken van mijn medewerkers bij elkaar genomen zijn erg complex (Denk hierbij aan de tijd die er nodig is om een ander de taken te leren):
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Er volgen nu een aantal vragen over de competenties die nauw samenhangen met 'Het nieuwe werken'.

Ik luister naar zaken die voor mijn medewerkers van belang zijn:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Ik behandel mijn medewerkers als individuen in plaats van zomaar een lid binnen mijn afdeling:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Ik geef mijn medewerkers advies wanneer dat nodig is:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Ik heb volledig vertrouwen in mijn medewerkers (o.a. de taakuitvoering, zelfdiscipline, en zelfstandigheid):
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Ik heb veel impact op wat er binnen mijn afdeling of team gebeurt:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Ik heb een hoge mate van controle over wat ergebeurt binnen mijn afdeling of team:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Ik heb een grote invloed op de gebeurtenissen binnen mijn afdeling of team:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Ik deel kennis met mijn medewerkers:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Ik stimuleer mijn medewerkers om kennis te delen:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Kennisdelen met mijn medewerkers is waardevol voor mij:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

In één van de vorige vragen hebben we u gevraagd naar de aanwezige technologische middelen en social media. Onder deze technologische middelen en social media wordt verstaan: Smartphone, Laptop, Tablet, E-reader, Facebook, Hyves, LinkedIn, Skype, Twitter, Yammer, netwerkschijf, intranet, etc. Probeer deze technologische middelen in uw achterhoofd te houden wanneer u de volgende vragen beantwoordt:

Ik stimuleer mijn medewerkers om gebruik te maken van de aanwezige technologische middelen:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Ik vind dat mijn medewerkers effectief omgaan met de aanwezige technologische middelen:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Ik communiceer zelf regelmatig met mijn medewerkers via de aanwezige technologische middelen:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Wanneer ik medewerkers beoordeel (voor een opslag of promotie) laat ik de resultaten wat betreft werk meewegen:
- ☐ In het geheel niet gebaseerd op resultaat
- ☐ Beperkt gebaseerd op resultaat
- ☐ Deels gebaseerd op resultaat
- ☐ Voornamelijk gebaseerd op resultaat
- ☐ Volledig gebaseerd op resultaat

Hoe vaak ziet u uw medewerkers?
- ☐ Ik zie mijn medewerkers minder dan één keer per week
- ☐ Ik zie mijn medewerkers minstens één keer per week
- ☐ Ik zie mijn medewerkers een paar keer per week
- ☐ Ik zie mijn medewerkers bijna iedere dag
- ☐ Ik verlies mijn medewerkers bijna niet uit het oog

De volgende vragen gaan over de uitkomsten van 'Het nieuwe werken'. De onderwerpen zijn de balans tussen werk en privé, productiviteit en de betrokkenheid bij uw organisatie.

Het is voor mij moeilijk om een goede balans te vinden tussen de behoeftes en vereisten van werk en privé:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Ik ben voldoende momenten met mijn privé leven bezig om mijn ideale balans tussen werk en privé te vinden en te behouden:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Wanneer ik verlofopneem, ben ik in staat om werk met rust te laten en mijzelf te vermaken:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Ik ben vaak uitgeput na een werkdag door stress en problemen:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Al met al, ben ik tevreden over mijn balans tussen werk en privé:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Ik geloof dat ik een effectieve leidinggevende ben:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Binnen mijn collega leidinggevenden behoren mijn eigen prestaties naar in mijn ogen tot de beste 25%:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Ik ben tevreden over de kwaliteit van mijn werkresultaten:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Ik werk erg efficiënt:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Mijn leidinggevende vindt dat ik een efficiënte leidinggevende ben:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Ik ben bereid om meer energie dan nodig in deze organisatie te steken wanneer dit leidt tot een succesvollere organisatie:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Het soort werk dat ik moet verrichten is minder belangrijk zolang ik in deze organisatie mag werken:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Mijn persoonlijke doelstellingen komen overeen met de doelstellingen van de organisatie:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Ik vertel mensen met trots dat ik werkzaam ben bij deze organisatie:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Het maakt mij niet uit waar ik werk, zolang het soort werk maar hetzelfde is:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

Gezien de huidige omstandigheden is er voor mij niet veel nodig om de organisatie te verlaten:
- ☐ Helemaal niet mee eens
- ☐ Oneens
- ☐ Niet mee eens of oneens
- ☐ Eens
- ☐ Helemaal mee eens

----------------- Einde vragenlijst -----------------

Hartelijk bedankt voor het invullen van de vragenlijst. Heeft u naar aanleiding van het invullen van de vragenlijst nog opmerkingen en/of suggesties?

Mocht u geïnteresseerd zijn in de resultaten van de vragenlijst, dan verzoek ik u hier uw e-mailadres in te vullen.

Appendix 4- Items survey employees

Construct	Item	Question	Source
Intensity of NWoW	NWOW01	I can decide on my own where I want to work	Self developed
	NWOW02	I can decide on my own when I want to work	Self developed
	NWOW03	I determine the order of my tasks during the moments I work	Self developed
	NWOW04	What IT technologies are avaliable to perform your tasks	Self developed
	NWOW05	What applications and/or social media do you use to share knowledge	Self developed
	NWOW06	The information I need to accomplish my work has digital availability	Self developed
	NWOW07	I am assessed on my results	Self developed
	NWOW08	I am assessed on the time I spend on working	Self developed
	NWOW09	The relation between my managers and I is based on mutual respect and trust	Self developed
	NWOW10	I have flexibility to arrange my fringe benefits	Self developed
Task complexity	TACO01	To what extent does your performance depend upon how well others do their job?	Ouchi (1978)
	TACO02	What percentage of your time on the job do you spend carrying out routine tasks?	Ouchi (1978)
	TACO03	My tasks as a whole are complex	Self developed
Empowerment	EMPO01	The work I do is very important to me	Spreitzer (1995)
	EMPO03	The work I do is meaningful to me	Spreitzer (1995)
	EMPO04	I am confident about my ability to do my job	Spreitzer (1995)
	EMPO06	I have mastered the skills necessary for my job	Spreitzer (1995)
	EMPO07	I have significant autonomy in determining how I do my job	Spreitzer (1995)
Knowledge sharing among e	KNSH01	My knowledge sharing with other organizational members is good	Bock et al. (2005)
	KNSH02	My knowledge sharing with other organizational members is valuable to me	Bock et al. (2005)
	KNSH03	I will share my work reports and official documents with members of my organization more frequently in the future	Bock et al. (2005)
	KNSH05	I will always provide my know-where or know-whom at the request of other organizational members	Bock et al. (2005)
	KNSH06	I will try to share my expertise from my education or training with other organizational members in a more effective way	Bock et al. (2005)
Employee Acceptance of IT	EAIT01	Using technological resources improves the quality of the work I do	Self developed
	EAIT02	Technological resources support critical aspects of my job	Davis (1991)
	EAIT03	Using technological resources increases my productivity	Davis (1991)
	EAIT04	I find it easy to get the technological resources to do what I want it to do	Davis (1991)
	UAIT05	I find it takes a lot of effort to become skillful at using technological resources	Davis (1991)
Work-life balance	WLBA01	How difficult or easy is it for you to find a good balance between the demands of your work and your personal and family life?	Hill et al. (2001)
	WLBA02	I have sufficient time away from my job to maintain an adequate balance between my work and personal and family life	Hill et al. (2001)
	WLBA03	When I take a vacation, I am able to separate myself from work and enjoy myself	Hill et al. (2001)
	WLBA04	All in all, how successful do you feel in balancing your work and personal and family life	Hill et al. (2001)
	WLBA05	How often do you feel drained when you go home from work because of work pressures and problems?	Hill et al. (2001)
Overall productivity	OVPR01	Among my work group, I would rate my performance in the top quarter	Staples et al. (1999)
	OVPR02	I am happy with the quality of my work output	Staples et al. (1999)
	OVPR03	I work very efficiently	Staples et al. (1999)
	OVPR04	I am a highly productive employee	Staples et al. (1999)
	OVPR05	My manager believes I am an efficient worker	Staples et al. (1999)
Commitment	COMM01	I am willing to put in a great deal of effort beyond that normally expected in order to help this organization be successful	Mowday et al. (1979)
	COMM02	I would accept almost any type of job assignment in order to keep working for this organization	Mowday et al. (1979)
	COMM03	I find that my values and the organization's values are very similar	Mowday et al. (1979)
	COMM04	I am proud to tell others that I am part of this organization	Mowday et al. (1979)
	COMM05	I could just as well be working for a different organization as long as the type of work was similar (R)	Mowday et al. (1979)
	COMM06	It would take very little change in my present circumstances to cause me to leave this organization (R)	Mowday et al. (1979)
Gender	CTRL01	What is your gender?	
Age	CTRL02	What is your age?	
Education	CTRL03	What is your level of education?	
Employmentcontract	CTRL04	Do you work...?	
Job Tenure	CTRL05	How long have you been employed here?	
Function	CTRL06	What is your function?	
Department	CTRL07	At what department do you work?	

TABLE 12:ITEM SURVEY MATRIX (EMPLOYEES)

Appendix 5– Items survey managers

Construct	Item	Question	Source
Intensity of NWoW	NWOW01	I can decide on my own where I want to work	Self developed
	NWOW02	I can decide on my own when I want to work	Self developed
	NWOW03	I determine the order of my tasks during the moments I work	Self developed
	NWOW04	What IT technologies are avaliable to perform your tasks	Self developed
	NWOW05	What applications and/or social media do you use to share knowledge	Self developed
	NWOW06	The information I need to accomplish my work has digital availability	Self developed
	NWOW07	I am assessed on my results	Self developed
	NWOW08	I am assessed on the time I spend on working	Self developed
	NWOW09	The relation between my managers and I is based on mutual respect and trust	Self developed
	NWOW10	I have flexibility to arrange my fringe benefits	Self developed
Task complexity	TACO04	To what extent does the performance of your employees depend upon how well others do their job?	Self developed
	TACO05	What percentage of the time on the job do your employees spend carrying out routine tasks?	Self developed
	TACO06	My tasks of my employees as a whole are complex	Self developed
Individualized consideration	INCO01	Listens to my concerns	Den Hartog (1997)
	INCO02	Treats me as an individual rather than just as a member of a group	Den Hartog (1997)
	INCO03	Provides advice when it is needed	Den Hartog (1997)
Trust	TRST01	I have full confidence in my employees (e.g. performing tasks, empowerment and interdependence)	Self developed
Empowerment impact	EMIM01	My impact on what happens in my department is large	Spreitzer (1995)
	EMIM02	I have a great deal of control over what happens in my department	Spreitzer (1995)
	EMIM03	I have significant influence over what happens in my department	Spreitzer (1995)
Supporting knowledge sharing among employees	SKSE01	I share knowledge with my employees	Self developed
	SKSE02	I stimulate my employees to share knowledge	Self developed
	SKSE03	Knowledge sharing with my employees is valuable to me	Self developed
Supporting employees acceptance of IT	SEIT01	I stimulate my employees to use the available technological resources	Self developed
	SEIT02	My employees are effective with technological resources	Self developed
	SEIT03	I frequently communicate with my employees through the available technological resources	Self developed
Output Control	OUCO01	When you are evaluating the people who report directly to you for raises or promotions, how much weight do you give to their output records?	Ouchi (1978)
	OUCO02	How often do you see each of the people who reports directly to you?	Ouchi (1978)
Work-life balance	WLBA01	How difficult is it for you to find a good balance between the demands of your work and your personal and family life?	Hill et al. (2001)
	WLBA02	I have sufficient time away from my job to maintain an adequate balance between my work and personal and family life	Hill et al. (2001)
	WLBA03	When I take a vacation, I am able to separate myself from work and enjoy myself	Hill et al. (2001)
	WLBA04	All in all, how successful do you feel in balancing your work and personal and family life	Hill et al. (2001)
	WLBA05	How often do you feel drained when you go home from work because of work pressures and problems?	Hill et al. (2001)
Overall productivity	OVPR01	I believe I am an effective manager*	Staples et al. (1999)
	OVPR02	Among my colleque managers, I would rate my performance in the top quarter*	Staples et al. (1999)
	OVPR03	I am happy with the quality of my work output	Staples et al. (1999)
	OVPR04	I work very efficiently	Staples et al. (1999)
	OVPR05	My manager believes I am an efficient manager*	Staples et al. (1999)
Commitment	COMM01	I am willing to put in a great deal of effort beyond that normally expected in order to help this organization be successful	Mowday et al. (1979)
	COMM02	I would accept almost any type of job assignment in order to keep working for this organization	Mowday et al. (1979)
	COMM03	I find that my values and the organization's values are very similar	Mowday et al. (1979)
	COMM04	I am proud to tell others that I am part of this organization	Mowday et al. (1979)
	COMM05	I could just as well be working for a different organization as long as the type of work was similar (R)	Mowday et al. (1979)
	COMM06	It would take very little change in my present circumstances to cause me to leave this organization (R)	Mowday et al. (1979)
Gender	CTRL01	What is your gender?	
Age	CTRL02	What is your age?	
Education	CTRL03	What is your level of education?	
Employmentcontract	CTRL04	Do you work...?	
Management experience	CTRL08	How long do you have a manager's position?	
Function	CTRL06	What is your function?	
Department	CTRL07	At what department do you work?	

TABLE 13: ITEM SURVEY MATRIX (MANAGERS)

Appendix 6– Survey results Alliander

Alliander	Employees			Managers		
	N	Mean	Std. Deviation	N2	Mean2	Std. Deviation2
Time and place independent	468	3,47	0,58	34	3,75	0,53
Access and connectivity to knowledge	468	2,56	0,37	34	2,69	0,54
Managing results	468	3,97	0,53	34	4,32	0,51
Flexible Employment Relationship	468	4,07	1,02	34	4,44	0,66
Intensity of NWoW	468	3,41	0,36	34	3,67	0,34

TABLE 14: RESULTS ALLIANDER, INTENSITY OF NWOW

Alliander	Employees		
	N	Mean	Std. Deviation
Task complexity	468	2,00	0,56
Empowerment	468	4,21	0,40
Knowledge sharing among employees	468	3,99	0,43
Employees accceptance of IT	468	3,52	0,57

TABLE 15: RESULTS ALLIANDER, EMPLOYEES' COMPETENCIES

Alliander	Managers		
	N	Mean	Std. Deviation
Task complexity	34	2,12	0,62
Empowerment Impact	34	3,44	0,61
Individualized consideration	34	4,55	0,37
Trust	34	4,06	0,69
Supporting knowledge sharing among employees	34	4,52	0,42
Supporting employees accceptance of IT	34	3,79	0,82
Output Control	34	3,34	0,38

TABLE 16: RESULTS ALLIANDER, MANAGERIAL COMPETENCIES

Alliander	Employees			Managers		
	N	Mean	Std. Deviation	N2	Mean2	Std. Deviation2
Commitment	468	3,03	0,35	34	3,75	0,48
Overall Productivity	468	3,79	0,43	34	3,94	0,28
Work-life Balance	468	3,32	0,33	34	3,62	0,73

TABLE 17: RESULTS ALLIANDER, PERFORMANCE GOALS

Appendix 7– Survey results UMC Utrecht

UMC Utrecht	Employees			Managers		
	N	Mean	Std. Deviation	N2	Mean2	Std. Deviation2
Time and place independent	91	2,70	0,61	8	2,75	0,87
Access and connectivity to knowledge	91	2,26	0,31	8	2,00	0,53
Managing results	91	3,65	0,56	8	3,96	0,55
Flexible Employment Relationship	91	3,66	0,91	8	3,75	1,04
Intensity of NWoW	91	2,95	0,29	8	2,99	0,50

TABLE 18: RESULTS UMC UTRECHT, INTENSITY OF NWOW

Appendix 8– Confirmatory factor analysis

						Pattern Matrix					
						Factor					
Kolom1	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
EAIT01	0,867										
EAIT02	0,913										
EAIT03	0,878										
EAIT04	0,534										
OVPR01		0,454									
OVPR02		0,434									
OVPR03		0,687									
OVPR04		0,796									
OVPR05		0,624									
EMPO03			0,817								
EMPO04			0,798								
EMPO05			0,544								
TACO01				0,651							
TACO03				0,690							
NWOW01				0,544							
NWOW10											
NWOW7											
KNSH01					0,737						
KNSH02					0,747						
KNSH05					0,413						
WLBA02						0,643					
WLBA03						0,504					
WLBA05						0,621					
EMPO01							0,877				
EMPO02							0,649				
NWOW09				0,340				0,433			
NWOW3								0,453			
NWOW4								0,477			
NWOW5											
NWOW8								0,320			
COMM03									0,564		
COMM04									0,668		
WLBA01										0,365	
WLBA04										0,867	
NWOW2											0,474
NWOW6											0,443
Extraction Method: Principal Axis Factoring. Rotation Method: Promax with Kaiser Normalization.											
a. Rotation converged in 8 iterations.											

TABLE 19: CONFIRMATORY FACTOR ANALYSIS

Appendix 9– Items survey employees- revised

Construct	Item	Question	Source
Intensity of NWoW	NWOW01	I can decide on my own where I want to work	Self developed
	NWOW02	I can decide on my own when I want to work	Self developed
	NWOW03	I determine the order of my tasks during the moments I work	Self developed
	NWOW04	What IT technologies are avaliable to perform your tasks	Self developed
	NWOW05	What applications and/or social media do you use to share knowledge	Self developed
	NWOW06	The information I need to accomplish my work has digital availability	Self developed
	NWOW07	I am assessed on my results	Self developed
	NWOW08	I am assessed on the time I spend on working	Self developed
	NWOW09	The relation between my managers and I is based on mutual respect and trust	Self developed
	NWOW10	I have flexibility to arrange my fringe benefits	Self developed
Task complexity	TACO01	To what extent does your performance depend upon how well others do their job?(R)	Ouchi (1978)
	TACO02	What percentage of your time on the job do you spend carrying out routine tasks?	Ouchi (1978)
	TACO03	My tasks as a whole are complex®	Self developed
Empowerment	EMPO01	The work I do is very important to me	Spreitzer (1995)
	EMPO02	The work I do is meaningful to me	Spreitzer (1995)
	EMPO03	I am confident about my ability to do my job	Spreitzer (1995)
	EMPO04	I have mastered the skills necessary for my job	Spreitzer (1995)
	EMPO05	I have significant autonomy in determining how I do my job	Spreitzer (1995)
Knowledge sharing among e	KNSH01	My knowledge sharing with other organizational members is good	Bock et al. (2005)
	KNSH02	My knowledge sharing with other organizational members is valuable to me	Bock et al. (2005)
	KNSH03	I will share my work reports and official documents with members of my organization more frequently in the future	Bock et al. (2005)
	KNSH04	I will always provide my know-where or know-whom at the request of other organizational members	Bock et al. (2005)
	KNSH05	I will try to share my expertise from my education or training with other organizational members in a more effective way	Bock et al. (2005)
Employee Acceptance of IT	EAIT01	Using technological resources improves the quality of the work I do	Self developed
	EAIT02	Technological resources support critical aspects of my job	Davis (1991)
	EAIT03	Using technological resources increases my productivity	Davis (1991)
	EAIT04	I find it easy to get the technological resources to do what I want it to do	Davis (1991)
	EAIT05	I find it takes a lot of effort to become skillful at using technological resources®	Davis (1991)
Work-life balance	WLBA01	How difficult or easy is it for you to find a good balance between the demands of your work and your personal and family life? ®	Hill et al. (2001)
	WLBA02	I have sufficient time away from my job to maintain an adequate balance between my work and personal and family life	Hill et al. (2001)
	WLBA03	When I take a vacation, I am able to separate myself from work and enjoy myself	Hill et al. (2001)
	WLBA04	How often do you feel drained when you go home from work because of work pressures and problems? ®	Hill et al. (2001)
	WLBA05	All in all, how successful do you feel in balancing your work and personal and family life?	Hill et al. (2001)
Overall productivity	OVPR01	Among my work group, I would rate my performance in the top quarter	Staples et al. (1999)
	OVPR02	I am happy with the quality of my work output	Staples et al. (1999)
	OVPR03	I work very efficiently	Staples et al. (1999)
	OVPR04	I am a highly productive employee	Staples et al. (1999)
	OVPR05	My manager believes I am an efficient worker	Staples et al. (1999)
Commitment	COMM01	I am willing to put in a great deal of effort beyond that normally expected in order to help this organization be successful	Mowday et al. (1979)
	COMM02	I would accept almost any type of job assignment in order to keep working for this organization	Mowday et al. (1979)
	COMM03	I find that my values and the organization's values are very similar	Mowday et al. (1979)
	COMM04	I am proud to tell others that I am part of this organization	Mowday et al. (1979)
	COMM05	I could just as well be working for a different organization as long as the type of work was similar (R)	Mowday et al. (1979)
	COMM06	It would take very little change in my present circumstances to cause me to leave this organization (R)	Mowday et al. (1979)
Gender	CTRL01	What is your gender?	
Age	CTRL02	What is your age?	
Education	CTRL03	What is your level of education?	
Employmentcontract	CTRL04	Do you work...?	
Job Tenure	CTRL05	How long have you been employed here?	
Function	CTRL06	What is your function?	
Department	CTRL07	At what department do you work?	
*		User acceptance of IT is altered to fit the context	
		Grey items were deleted because of the low Cronbach alpha	

TABLE 20: ITEMS SURVEY EMPLOYEES- REVISED

Appendix 10– Items survey managers - revised

Construct	Item	Question	Source
Intensity of NWoW	NWOW01	I can decide on my own where I want to work	Self developed
	NWOW02	I can decide on my own when I want to work	Self developed
	NWOW03	I determine the order of my tasks during the moments I work	Self developed
	NWOW04	What IT technologies are avaliable to perform your tasks	Self developed
	NWOW05	What applications and/or social media do you use to share knowledge	Self developed
	NWOW06	The information I need to accomplish my work has digital availability	Self developed
	NWOW07	I am assessed on my results	Self developed
	NWOW08	I am assessed on the time I spend on working	Self developed
	NWOW09	The relation between my managers and I is based on mutual respect and trust	Self developed
	NWOW10	I have flexibility to arrange my fringe benefits	Self developed
Task complexity	TACO04	To what extent does the performance of your employees depend upon how well others do their job?(R)	Self developed
	TACO05	What percentage of the time on the job do your employees spend carrying out routine tasks?	Self developed
	TACO06	My tasks of my employees as a whole are complex®	Self developed
Individualized consideration	INCO01	Listens to my concerns	Den Hartog (1997)
	INCO02	Treats me as an individual rather than just as a member of a group	Den Hartog (1997)
	INCO03	Provides advice when it is needed	Den Hartog (1997)
Trust	TRST01	I have full confidence in my employees (e.g. performing tasks, empowerment and interdependence)	Self developed
Empowerment impact	EMIM01	My impact on what happens in my department is large	Spreitzer (1995)
	EMIM02	I have a great deal of control over what happens in my department	Spreitzer (1995)
	EMIM03	I have significant influence over what happens in my department	Spreitzer (1995)
Supporting knowledge sharing among employees	SKSE01	I share knowledge with my employees	Self developed
	SKSE02	I stimulate my employees to share knowledge	Self developed
	SKSE03	Knowledge sharing with my employees is valuable to me	Self developed
Supporting employees acceptance of IT	SEIT01	I stimulate my employees to use the available technological resources	Self developed
	SEIT02	My employees are effective with technological resources	Self developed
	SEIT03	I frequently communicate with my employees through the available technological resources	Self developed
Output Control	OUCO01	When you are evaluating the people who report directly to you for raises or promotions, how much weight do you give to their output records?	Ouchi (1978)
	OUCO02	How often do you see each of the people who reports directly to you?	Ouchi (1978)
Work-life balance	WLBA01	How difficult is it for you to find a good balance between the demands of your work and your personal and family life?	Hill et al. (2001)
	WLBA02	I have sufficient time away from my job to maintain an adequate balance between my work and personal and family life	Hill et al. (2001)
	WLBA03	When I take a vacation, I am able to separate myself from work and enjoy myself	Hill et al. (2001)
	WLBA04	All in all, how successful do you feel in balancing your work and personal and family life ®	Hill et al. (2001)
	WLBA05	How often do you feel drained when you go home from work because of work pressures and problems? ®	Hill et al. (2001)
Overall productivity	OVPR01	I believe I am an effective manager*	Staples et al. (1999)
	OVPR02	Among my colleque managers, I would rate my performance in the top quarter*	Staples et al. (1999)
	OVPR03	I am happy with the quality of my work output	Staples et al. (1999)
	OVPR04	I work very efficiently	Staples et al. (1999)
	OVPR05	My manager believes I am an efficient manager*	Staples et al. (1999)
Commitment	COMM01	I am willing to put in a great deal of effort beyond that normally expected in order to help this organization be successful	Mowday et al. (1979)
	COMM02	I would accept almost any type of job assignment in order to keep working for this organization	Mowday et al. (1979)
	COMM03	I find that my values and the organization's values are very similar	Mowday et al. (1979)
	COMM04	I am proud to tell others that I am part of this organization	Mowday et al. (1979)
	COMM05	I could just as well be working for a different organization as long as the type of work was similar (R)	Mowday et al. (1979)
	COMM06	It would take very little change in my present circumstances to cause me to leave this organization (R)	Mowday et al. (1979)
Gender	CTRL01	What is your gender?	
Age	CTRL02	What is your age?	
Education	CTRL03	What is your level of education?	
Employmentcontract	CTRL04	Do you work…?	
Management experience	CTRL08	How long do you have a manager's position?	
Function	CTRL06	What is your function?	
Department	CTRL07	At what department do you work?	
*		Items are changed to enable managers to answer this questions	
		Grey items were deleted because of the low Cronbach alpha	

TABLE 21: ITEMS SURVEY MANAGERS - REVISED

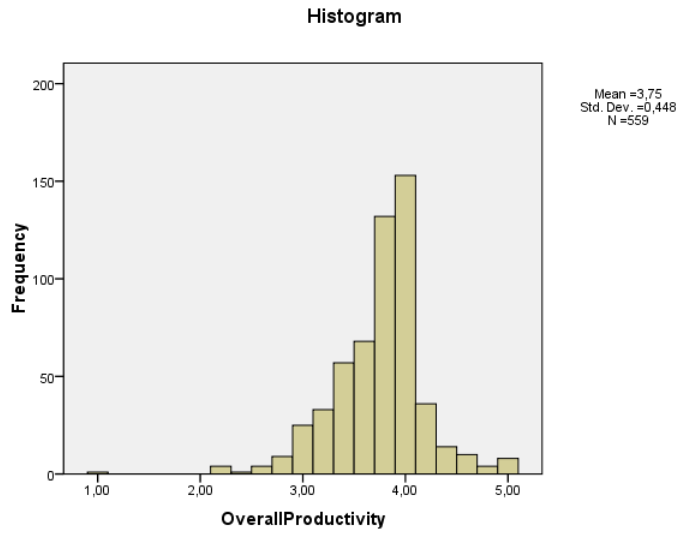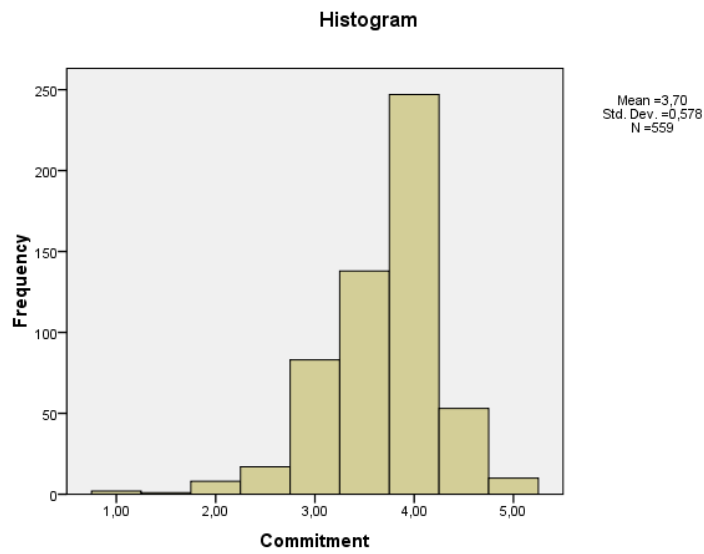## Appendix 11– Histograms overall productivity and commitment

FIGURE 9: HISTOGRAM OVERALL PRODUCTIVITY

FIGURE 10: HISTOGRAM COMMITMENT