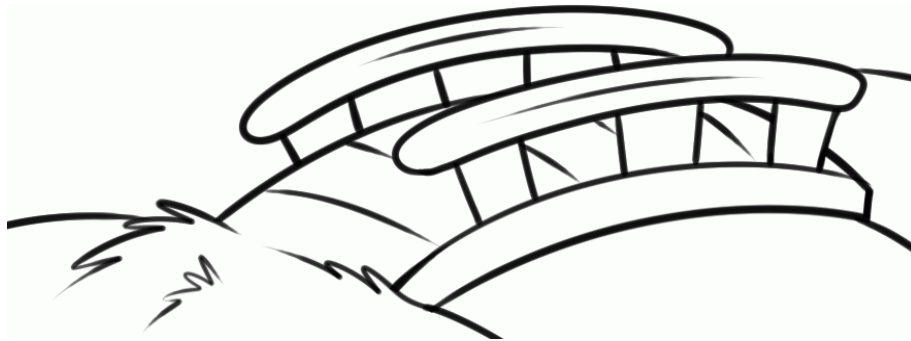


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# BUILDING A BRIDGE BETWEEN 'NEW WAYS OF WORKING' (NWW) AND LEADERSHIP

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AN EMPIRICAL STUDY IN THE SERVICE INDUSTRY



Master thesis | Paddy Heuver | University of Twente  
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## ACKOWLEGDEMENTS

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This Master Thesis is the last assignment to conclude my master Business Administration at the University of Twente. I followed the specialization track Human Resource Management. During a period of six months I have been studying “New Ways of Working”. I preferred to write my Master Thesis about this topic since this is an actual topic and will be of more importance in the (near) future. Completing my Master Thesis would not be possible without the aid and support of many people. Therefore, I would like to take this opportunity to thank some people in advance.

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After all these words of thanks, you can finally start to read this Master Thesis. Hopefully, you are as enthusiastic as I am.

Hengelo, May 2015  
Paddy Heuver

## SUMMARY

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The (1) knowledge economy, (2) modern technologies and (3) capitalism led to the introduction of 'New Ways of Working' (NWW) in organizations. Currently, organizations see the potential opportunities of implementing NWW in their organizations. This led to a rapidly increased number of organizations with an implemented form of NWW. NWW can be divided into the pillars: bricks, bytes, and behavior. There is still greater knowledge necessary about how to manage NWW (behavior). Therefore, this Master Thesis explains components of NWW and tests its relationship with possible organizational outcomes of NWW, namely productivity and organizational commitment. Leadership is another important aspect of this Master Thesis. In this research, theory about leadership and leadership competencies are explained. Also, leadership as a moderator between NWW and its outcomes was tested. The purpose of this Master Thesis is to examine if the HR factor leadership moderates the relationship to NWW as a whole and its outcomes productivity and organizational commitment. By examining this, the following research question was answered: 'To what extent does leadership contribute to the organizational outcomes of NWW?'.

The study's participants were 347 employees from 13 organizations in the Netherlands. The data was collected through structured online surveys. The middle management, subordinates, and office workers of the participating organizations were approached to fill in the online survey.

The results indicate the importance of the various components of NWW on the outcomes productivity and organizational commitment. Teleworking and IT contribute to employees' productivity, whereas flexible working places at work and flexible working hours do not. Furthermore, the study shows that flexible workplaces at work, flexible working hours, and IT contribute to organizational commitment, whereas teleworking does not significantly contribute. NWW as a whole contributes to both productivity and organizational commitment. Surprisingly, leadership is not a moderator between NWW and productivity and organizational commitment. However, the leadership competencies of leaders do have an influence on productivity and organizational commitment and even show a higher correlation with productivity and organizational commitment than the components of NWW.

The findings of this study should be interpreted carefully, since this study has focused on one moment in time. The findings may not display the actual relationship between (components of) NWW, the leadership competencies, and the outcome variables. Other limitations are the difficulty of measuring various effects, generalizability and the use of a survey.

Based on these findings, some practical implications are given. When organizations implement components of NWW in order to increase productivity, teleworking and IT are of importance among other. When organizations implement components of NWW to increase organizational commitment, the components flexible workplaces at work, flexible working hours and IT are of importance among other. However, leaders also have an important role in increasing productivity and organizational commitment. If employees feel empowered, and trusted by both the management and their colleagues, the productivity will increase even if they work at home or from another location. Steering on output is not essential for increasing employees' productivity. Whereas, all four competencies (empowerment, trust in management, trust between colleagues, and steering on output) contribute to organizational commitment.

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# 1. INTRODUCTION

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The current economy has changed from agriculture and industrial manufacturing towards a knowledge driven and information society. Knowledge is seen as the driver of economic growth and productivity (Organization for Economic Co-operation and Development, 1996). According to Gates (2005) the economy has moved to being less centralized and more fluid. Blok, Groenesteijn, Berg, & Vink (2011) add to this that through the economic change, organizations need to react more quickly to customer needs and they feel the pressure of becoming more customer centered. "The value of customers and employees is becoming more prominent" (Blok et al., 2011, p.3). In conclusion, the (1) knowledge economy, (2) modern technologies and (3) capitalism led to the introduction of 'New Ways of Working' (NWW) in organizations (Verbruggen-Letty & Thunissen, 2010). In essence, in the last decades, how we work, where we work, when we work, and what we do for work has changed more than any time in history (McKinsey, 2007).

## 1.1 PROBLEM STATEMENT

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Nowadays, more and more organizations see the potential opportunities in the application of NWW in organizations. This has led to a rapidly increased number of organizations with an implemented form of NWW (Blok et al., 2012). In 2007 (CBS, 2009), 49% of the organizations in the Netherlands used teleworking which increased to 59% in 2012 (CBS, 2013). Teleworking is one of the most important components of NWW.

According to many authors (Baane, Houtkamp, & Knotter, 2010; Kok, Koops, & Helms, 2014), NWW can be divided into the following pillars: bricks, bytes and behavior. Kok et al. (2014) divide the pillars as follows (i) Bricks, the physical dimension, addresses all aspects of the physical work environment, (ii) Bytes, the technological dimension, addresses all aspects concerning the use and application of ICT, and (iii) Behavior, the personal dimension, which addresses all aspects concerning the manager-employee relationship and the way the employee works and experiences his work. Empowering is an important subject of NWW as well (Blok et al., 2012).

This research develops the behavioral side of NWW, as many authors state that this is an important pillar because traditional HRM practices need certain characteristics since NWW requires flexibility, awareness and trust (Bernardino, Roglio, & Del Corso, 2012). Also, greater knowledge is necessary about how to manage NWW (Lautsch, Kossek, & Eaton, 2009). For example, as mentioned before, Blok et al. (2012) and Gates (2005) stated that human talent is of greater importance since it makes it possible to share knowledge, adapt and innovate. Bijl & Gray (2011) mentioned that the employee can be seen as an important success factor, as employees have to cope with information overload and have to be accessible anytime, anywhere.

Organizations see potential opportunities in transitioning to NWW which explains the strong growth of organizations that have implemented a form of NWW (Blok et al., 2011). Organizations mainly change because they have a certain advantage in mind. According to the literature, some of the advantages are higher productivity (Baane et al., 2010; Doherty, Andrey, & Johnson, 2000), higher commitment (Bijl, 2009), better work-life balance (Slijkhuis, 2012), and cost savings (Baane et al., 2010; Bass, Avolio, & Atwater, 1996; Bass, Avolio, Jung, & Berson, 2003). However, the literature also discusses potential drawbacks such as a decrease of social cohesion (Bijl, 2009). In this Master Thesis, inter alia the relationship of NWW on some of these outcomes are measured.

In the literature various factors can be found. After analyzing different researchers (Baane et al., 2010; Bijl & Gray, 2011; Blok et al., 2012; Blok et al., 2011; Gates, 2005); a few recurring HR factors can be mentioned. Given the limited space they are not all included in this Master Thesis. In this research, the impact of HR factor leadership on the effects of NWW is examined.

## LEADERSHIP

NWW and its vision require alternative ways to manage employees, namely indicating the direction, coaching employees instead of instructing the employees (A+O Fonds Gemeenten, 2012), making employees feel trusted and respected and noticing a concern for the employees' welfare (B. Bass, 1985; Dirks & Ferrin, 2002; Dorfman et al., 1997). To make NWW a success, the role of the leader(s) is essential in propagating NWW by informing and enthusing the employees (A+O Fonds Gemeenten, 2012). Also, NWW can be described as a process of change. Leadership is of importance in the process of change (Kotter, 1996). Thus, leadership is important in NWW. Several authors (Conger & Kanungo, 1998; Lok & Crawford, 1999; Osborn, Hunt, & Jauch, 2002) stated that leadership styles are related to coping with change. Leadership can be seen as a moderator of the adoption of teleworking since it has been suggested as one of the single biggest factors which contribute to work-force engagement and the perceptions of employees (Wang & Walumbwa, 2007). The article of Kleyngeld (2010), which is based on a research from Steelcase, found that leadership is the largest obstacle when implementing NWW. This is because NWW requires a new kind, nontraditional leadership style (A+O Fonds Gemeenten, 2012; Peters, Poutsma, Van der Heijden, Bakker, & Bruijn, 2014). In a traditional leadership style, such as transactional leadership, the role of a manager is to tell its employees what is required of them and what their reward will be (Bass, 1985).

## 1.2 RESEARCH GOAL

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The goal of this research is to examine if the HR factor leadership moderates the relationship to NWW as a whole and its outcomes productivity and organizational commitment. The problem statement and the goal of this research lead therefore to the following research question:

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*'TO WHAT EXTENT DOES LEADERSHIP CONTRIBUTE TO THE ORGANIZATIONAL OUTCOMES OF NWW?'*

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This relationship between leadership and the organizational outcomes of NWW is expected since the NWW practices separately show a positive relationship with the outcomes productivity and organizational commitment. As will be comprehensively mentioned in the theoretical framework, the whole concept of NWW consists of four practices in this Master Thesis, namely teleworking, flexible workplaces at work, flexible working hours and IT. The literature contains empirical evidence on the positive relationship between each practice separately and the outcomes productivity and organizational commitment, which is described in the theoretical framework. When these separate, positive practices are integrated as one whole NWW, a larger effect on productivity and organizational commitment is expected.

The moderating effect of leadership is expected in this relationship since the literature contains empirical evidence on the positive relationship between the aspects of leadership on productivity and organizational commitment. This is described in section 2 'Theoretical Framework'.



### 1.3 SCIENTIFIC CONTRIBUTION

Nowadays, the literature has comprehensively researched the relationship between the components of NWW and the effects of NWW for organizations. However, despite the rising popularity of NWW there is still a fundamental gap in the NWW literature on the effect of leadership on the integration of various NWW practices as one whole NWW influencing the success of it.

In this research the HR factor leadership is considered as a moderating variable. According to Shadish, Cook, & Campbell (2002) a moderating variable is a variable that affects the direction or size of an observed effect.

For example, in this research the HR factor leadership is considered as a moderating variable. In previous studies (e.g. Hiller, DeChurch, Murase, & Doty, 2011) leadership is often considered as a variable which has a straight outcome on behavioral processes and performance. However, leadership as a moderator has been researched to a limited extent. The study of De Leede & Kraijenbrink (2014) explains the mediating role of trust, social cohesion and leadership on the effects of NWW. However, the condition leadership was excluded from the analysis because of the low reliability of the used scale. When leadership is studied as a moderating effect on the contribution to the effects of NWW, it can possibly lead to various views and deliver valuable information. The figure below shows the conceptual model of this Master Thesis.

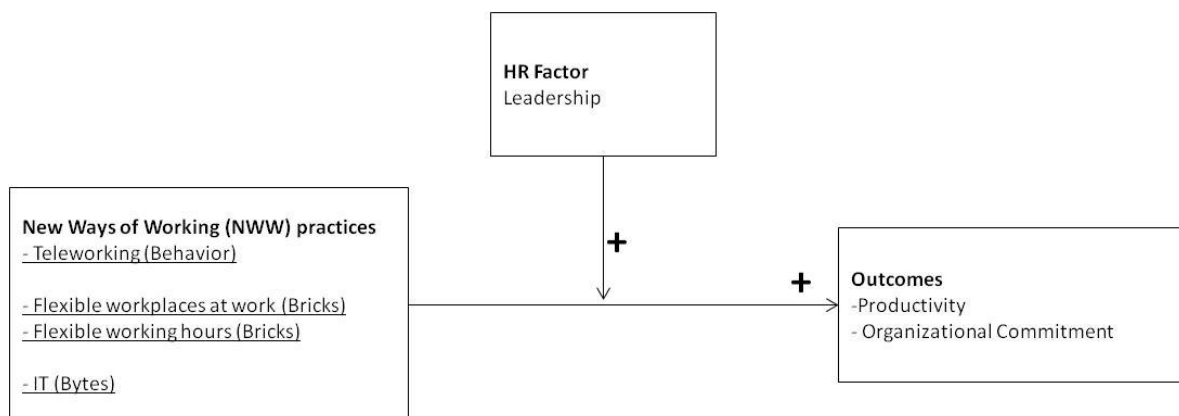


Figure 1: Theoretical model of the effect of leadership on the relationship of NWW and its outcomes.

### 1.4 PRACTICAL CONTRIBUTION

The practical contribution of this research is to provide insights into leadership. The main issue is to examine how and the extent to which this HR factor is applied in the various organizations. For example, NWW requires a nontraditional leadership style. However, some organizations consider a nontraditional leadership style as result oriented leadership whereas other organizations interpret nontraditional leadership style otherwise. Providing a clear overview regarding the application and interpretation of the HR factors is valuable information for the organizations involved. In addition, by examining how different HR factors contribute to the effects of NWW, this research provides a more thorough understanding of the role of HR factors in NWW. This information will be valuable for organizations and their HR departments to implement NWW successfully and therefore may benefit more from the implementation of NWW.

## 2. THEORETICAL FRAMEWORK

The first part of this Master Thesis is mainly based on a literature study. This literature study aims to elaborate on the concept of NWW. NWW is an umbrella term which involves the dimensions; bricks, bytes and behavior. These dimensions will be used during the description of NWW in section 2.1. The reason why these dimensions are used is elaborated in section 2.1.2 Dimensions of NWW. To conclude, the outcomes of NWW are elaborated in section 2.2.

### 2.1 NWW

#### 2.1.1 DEFINITION OF NWW

Microsoft was the first organization which applied the new work style in the Netherlands in 1995. In 2005, Gates published a white paper “Digital Workstyle: The New World of Work”. In this white paper he explained the importance of being worldwide connected and that employees should be connected anytime, anyplace and anyhow. According to Gates (2005) information technology (IT) played an important role in creating the conditions for this change and helping to adapt to NWW. This leads for the organizations and their employees to becoming more flexible in their work environment and during working hours.

Nowadays, irrespective of its name “New Ways of Working”, NWW is not that “new” anymore. In 2012, already 59% of the organization implemented some forms of NWW in the Netherlands (CBS, 2013) and this number is expected to grow significantly. Despite the popularity of NWW and intensive scientific efforts of NWW research, there is still no universal definition of NWW (Baruch, 2001). This makes it difficult to define NWW unilaterally. However, for most definitions the common denominators, the core of NWW, are time and location free work and the unlimited access and connectivity through IT (Baane et al., 2010; Van Breukelen, Makkenze & Waterreus, 2014; Mitchell 1995; Negroponte 1995). Although, autonomy to manage your own work and flexible work relations (Baane et al., 2010) can be considered as preconditions of NWW. Based on shared aspects found in the literature, this Master Thesis uses the following definition:

*NWW is working anytime, anyplace and anyhow through the unlimited access of knowledge and information and connectivity supported by IT.*

In contemporary organizations, NWW have been embodied in a diverse multitude of practices. An exemplary, non-exhaustive list was assembled by Blok et al. (2011) and is illustrated in table 1.

NWW Practice	Description
<i>Teleworking</i>	Doing the work (partly) from home
<i>Flexible Workspaces</i>	Flexible work spaces in the office building that are shared among employees and offer specific environments that correspond to the various tasks to facilitate effective working
<i>Satellite Offices</i>	Offices outside an organization’s office buildings, e.g. at customer’s locations
<i>Mobile Working</i>	Enabling employees to work while commuting
<i>Flexible Working Hours</i>	Allowing to start and end the workday outside of the core time
<i>Social Networks</i>	Using smartphones and other mobile devices to allow employees to stay digitally connected via e.g. work-email at home, Facebook or LinkedIn

*Table 1: NWW practices*

However, NWW is not equally applicable to every organization and the application is still limited to certain functions. The first group who qualifies for NWW is the office staff because their work consists of administrative tasks that can be carried out with the aid of a computer. The second group are the knowledge workers (Van Breukelen et al., 2014). A knowledge worker is ‘someone who works mostly with his head rather than his hands’ (Bijl, 2009, p.37). The looser definition of Bijl (2009) makes it possible to handle more professions and functions which contain tasks with the possibility of working place and time independent.

### 2.1.2 COMPONENTS OF NWW

As mentioned, NWW is divided in four components in this Master Thesis. The components are: 1) Teleworking, 2) Flexible workplaces at work, 3) Flexible working hours, and 4) IT. Teleworking can be directed to the ‘behavior’ dimension. Behavior includes the personal dimension and addresses all aspects concerning manager-employee relationship and the way the employee works and experiences work (Kok et al., 2014). It involves, in addition to the behavioral aspects, HRM in a broad sense. Baane et al. (2010) mentioned the organization, its culture and leadership as elements of the dimension behavior.

The second component flexible workplaces at work and the third component flexible working hours can be seen as the ‘bricks’ dimension of the well known bricks, bytes and behavior theory (e.g. Baane et al., 2010; Kok et al., 2014). Bricks include the physical dimension (Kok et al., 2014) and address all aspects of the physical work environment such as premises and facilities but also the work environment at home or elsewhere. This is characterized by an offices concept aimed at flexible work, work areas furnished according to concept of ‘activity-related work’, inspiring office environments which are set up as a home base and meeting place, and an open network environment that brings the ‘the outside world’ inside (Baane et al., 2010).

The fourth component IT can be directed to the second dimension ‘bytes’. Bytes include the technological dimension and addresses all aspects concerning the use and application of IT (Kok et al., 2014). The most important characteristics in this dimension are real-time availability and accessibility of information for all, technology that adjusts to the user, implementing web 2.0 software and the use of smartphones and laptops to empower employees to work together virtually (Baane et al., 2010).

## 2.2 OUTCOMES

In the previous section, the components of NWW are described. A logically following question is why organizations should implement NWW. What are the benefits, or in other words, the outcomes of NWW for organizations? There are many potential outcomes that can be achieved by implementing NWW. For example, Baruch (2001) indicated possible outcomes of teleworking such as better productivity, improved performance, need for autonomy and better work-life balance. This Master Thesis will focus on two potential outcomes of NWW, namely productivity and organizational commitment. The following subparagraphs will examine these positive outcomes of NWW in more detail.

### 2.2.1 PRODUCTIVITY

An expected outcome of the implementation of NWW in organizations is an increase in productivity (Blok, Groenesteijn, Schelvis, & Vink, 2012). According to Neufeld & Fang (2005), productivity is defined as the ratio of outputs into inputs which is a very broad definition and can be used for productivity at all levels (e.g. individual productivity and overall business productivity). This study focuses on individual productivity since NWW enables employees to work anytime, anyplace and anyhow. A more specific definition of employee productivity is “the effectiveness with which a worker applies his or her talents and skills to perform work, using available materials, within a specific time” (Neufeld & Fang, 2005, p.1038) and is recognized as an important individual outcome for telecommuters.

The literature provides different empirical evidence about how NWW practices (teleworking, flexible workplaces at work, flexible working hours and IT) can lead to higher productivity. For example, productivity will depend on technology, but also on the people and tasks involved, and on the structural, managerial, and cultural context in which the work gets done as well (Bailyn, 1989). Because of these many possible influences, all four components of NWW in relation with productivity will be discussed separately.

#### TELEWORKING AND PRODUCTIVITY

Teleworking is not a new concept. However, the current concept of homeworkers differentiate in two major characteristics in comparison with those of earlier centuries. First, teleworkers typically have a communication link to their office. Second, more and more of the teleworkers are knowledge workers such as professionals and managers (Bélanger, 1999). Hence, a challenge of teleworking is that organizations must learn to value their contribution and to trust their commitment, and must resist the urge to dictate when and how they do the work (Bailyn, 1989).

Bailey & Kurland (2002) reviewed articles which contain empirical evidence on worker accounts of higher productivity and teleworking (e.g. Bailyn, 1989; Bélanger, 1999; Frolick, Wilkes, & Urwiler, 1993). According to these studies there is a positive relation between teleworking and productivity. Reasons for higher productivity when teleworking can be linked to: working at peak efficiency hours, reducing interruptions, providing an environment for work requiring high levels of concentration, reducing time spent telecommuting, and reducing incidental absence (Bailey & Kurland, 2002; France Bélanger, 1999). For example, Bélanger (1999) conducted a survey of telecommuters and non-telecommuters working for a high technology organization. The results of the survey showed that productivity was statically different between telecommuters and non-telecommuters at the 0.05 level of significance. Less meetings and interruptions seem to be the most important reason for greater productivity of telecommuters. This is also underlined by Bailey & Kurland (2002) and Neufeld & Fang (2005). Teleworkers claim that elimination of stress associated with the daily commute, avoidance of interruption, and flexibility tend to family and personal issues without affecting job related commitments are directly linked to their level of increased productivity (Frolick et al., 1993). In this way, a teleworker is able to optimize his or her motivational periods around a flexible work schedule in an informal setting.

Professional and social isolation are cited as drawbacks (Bailey & Kurland, 2002). An argument for employees to not telework is the need to share information with colleagues. Most individuals who highlighted this, suggested that a large part of their job is attending meetings and exchanging ideas. The need to socialize with others was often mentioned as being more productive at the office for not telecommuting (Bailyn, 1989). Bailey & Kurland (2002) mentioned that telework leads to social and professional isolation for teleworkers. They argue

that employees become invisible at the workplace, miss out on office gossip, are forgotten in the distribution of more formally constructed information, and receive poor evaluations.

It is important to keep in mind that teleworkers in general work part-time or just a few hours a week at home. Teleworkers cannot be seen as fulltime teleworkers. Some prior work (e.g. McCloskey & Igbaria, 1998) noted the probable significant impact of teleworking frequency on outcomes (Bailey & Kurland, 2002). The possibility that frequency is a strong moderator with evidence that frequencies are low across the teleworking population, it becomes clear that a significant amount of attention has been funneled to an inappropriate set of independent variables. For example, if we accept that most employees telework for only a few days each month, it is less likely to suspect that their motivation is to avoid a long commute or to take care of children. Otherwise, they would work away from the office more often (Bailey & Kurland, 2002).

Productivity is expected to increase because of teleworking (Frolick et al., 1993). Fewer meetings and less interruptions seem to be the key reasons for a higher productivity of teleworkers (Bélanger, 1999). Individual control over the timing of work could also have a significantly positive effect on productivity (Bailyn, 1989). Because of the empirical evidence on the significantly positive effect of telework on productivity and since drawbacks can be limited by finding the right balance between teleworking and working at the actual office, the following hypothesis is proposed.

*Hypothesis 1a: The higher the optimal use of teleworking, the significantly higher the productivity of teleworkers is in comparison to non-teleworkers.*

#### **FLEXIBLE WORKPLACES AT WORK AND PRODUCTIVITY**

Nowadays workplaces in which everyone has their own fixed workplace are no longer a matter of course. Making use of modern information and communication technology redirected the attention towards the sharing of activity related workplaces in a combi-office (Voordt, 2004). Similarly, Thompson (2011) pointed out that due to the emergence of the satellite internet networks and its increased affordability, a professional can work anywhere with a laptop and mobile phone given a satisfactory working environment.

The benefits of flexible workplaces at work are the savings which can be utilized by reducing office space for companies through methods like office sharing or abandoning offices entirely (Davenport & Pearlson, 1998). Moreover, flexible workplaces also partly include the concept of flexible working hours as the employee has the discretion to choose the working hours of the day when working from a remote location. Furthermore, the benefits of the concept are striking considering that employees are not dependent on external conditions like commuter traffic or weather conditions anymore (Hill, Miller, Weiner, & Colihan, 1998).

However, it seems that flexible workplaces are not suitable for every organization as they mostly apply to routine information-handling tasks, mobile activities as well as professional and other knowledge related tasks (Robbins & Judge, 2007). As the benefits are mentioned there are some drawbacks as well. It appears that managers have less direct oversight over employees. Thus, they are not able to observe the immediate input, which triggers employees to work harder when working outside the office (Thompson, 2011).

Concentration, distance from colleagues, privacy, workplace dimensions, image and adaptability all correlated significantly with the perceived effect of the office environment on employee productivity. This list confirms the great importance of convenient areas where information can

be communicated and where concentrated work can be carried out (Voordt, 2004) and thereby productivity can grow. For example, the study of Voordt (2004) examined the influence of flexible workplaces at work on productivity. The study was conducted at the ABN AMRO Bank in Breda. The results showed a positive increase in the perceived productivity of employees from 14 per cent to 51 per cent since they were able to move to a place reserved for concentrated work and the more efficient creation of archives. However, giving up one's personal desk conflicts with basic human needs for privacy, territoriality, personalization and expressing one's status. But Voordt (2004) suggest that this can be compensated by good architecture and interior design and high-tech gadgets. Nevertheless, many studies have identified complaints about the lack of privacy and the fact that employees are unable to personally control the desk settings. Even when objective measurements revealed that the background noise of conversations in the buildings was not unduly loud, it did distract employees (Voordt, 2004). Bruce (2008) pointed out that workplace distraction cuts employee productivity by as much as 40 per cent, and increases errors by 27 per cent. Also, Moloney (2011) citing Loftness' study of 2003 confirmed the importance of natural light and air (ventilation) to worker productivity. The study showed a 3-18 per cent gain in productivity in buildings with day-lighting system. Thereby, Voordt (2004) mentioned that high level employees in particular are more negative about open-plan offices. The reason may underline the fact that complex tasks require more peace and privacy and the greater need for status, in the case of management, may also play a role.

Reasonable arguments can be constructed suggesting both positive and negative effects on productivity when using flexible workplaces. To find a counterbalance, subdivision of large open spaces into smaller, team oriented compartments, noise-reducing measures and the allocation of concentration cells for long and confidential phone calls may help to reduce this problem (Voordt, 2004). For teams, the drawbacks can be overcome by giving a department its own identity by means of a color and personal or collective attributes, thereby creating the feeling of a 'group territory'. In that case, there is a shift from a personal to a group identity. The following hypothesis is proposed.

*Hypothesis 1b: Using flexible workplaces will result in significantly higher productivity levels than using fixed workplaces.*

### **FLEXIBLE WORKING HOURS AND PRODUCTIVITY**

Flexible working hours allow variability in the starting and ending times of a work day and employees may choose times of arrival and departure. In addition, flexible working hours are linked to an increase of productivity because of an increase in employee job satisfaction, organizational commitment, decreased absenteeism, turnover (e.g. Rogier & Padgett, 2004) and a decrease in the employees work family conflict (Hammer, 1997). Similarly, the results of a meta-analysis revealed that implementing flexible working schedules in work-groups led to an increase in productivity (Baltes, Briggs, Huff, Wright, & Neuman, 1999). Shepard, Clifton, & Kruse (1996) gathered empirical evidence from the pharmaceutical industry about the effect of flexible working hours on productivity. The results of their study suggest that flexible working hours improve the productivity by 10 per cent. Other studies about the relation of working hours and productivity suggest that there may be positive effects on job attitudes, off-job satisfaction, and work-related stress (e.g. Pierce & Newstrom, 1980, 1982).

There are several channels whereby flexible schedules might influence productivity, including workers may increase effort, reduce shirking, work harder or work smarter, cooperate more fully in training, assisting, and monitoring other workers, or reduce absenteeism and turnover



(Shepard et al., 1996). In addition, with flexible working hours, workers may choose to work during their peak hours, in terms of personal productivity. The following hypothesis is proposed.

*Hypothesis 1c: Flexible workings hours will result in significantly higher productivity levels.*

## IT AND PRODUCTIVITY

IT is used to facilitate communication, to easily store and process information, to automate business processes, or to widen the access to information via the World Wide Web (Hempell, 2002). This broad spectrum of applications has helped IT to diffuse in practically all sectors of the economy. Growth of contribution of computerization, software applications, work processes, business organization etcetera, by exploiting the advantages of measurements at the firm level (Black & Lynch, 2001). According to Blok et al. (2011) and Cardona, Kretschmer, & Strobel (2013), by in a finer way facilitating the work task with IT and workplace design so that the employees can work anytime and anyplace adjusted to their tasks a higher productivity can be realized. The studies of Black & Lynch (2001) and Brynjolfsson & Hitt (2003) contain empirical evidence about the relationship between IT and productivity. For example, the results of the study of Black & Lynch (2001) (N=638) found that investments in new technology are associated with a significantly higher productivity. The following hypothesis is proposed.

*Hypothesis 1d: Better usage of IT result in significantly higher productivity levels.*

In this Master Thesis, employee productivity is defined as an employees' self-efficacy, work quality and its effectiveness (Staples, Hulland, & Higgins, 1998). It seems that the advantages of NWW outweigh the disadvantages, although before this can be concluded in all certainty, more systematic research needs to be done on the different aspects related to the phenomenon. Since all four NWW practices have a positive relationship with productivity, the hypothesis for NWW as a whole is as follows.

*Hypothesis 1: There is a positive relationship between NWW and productivity.*

## 2.2.2 ORGANIZATIONAL COMMITMENT

Another expected outcome of the implementation of NWW in organizations is organizational commitment which refers "to a person's affective reactions to characteristics of his employing organization. It is concerned with feelings of attachment to the goals and values of the organization, one's role in relation to this, and attachment to the organization for its own sake rather than for its strictly instrumental value" (Cook & Wall, 1980, p.40). According to Mowday, Steers, & Porter (1979) it is seen as the relative strength to which an employee identifies itself with the organization. Organizational commitment is distinguished by three components: identification, involvement, and loyalty (Buchanan, 1974). Identification involves the pride in the organization. Involvement implies the "willingness to invest personal effort as a member of the organization, for the sake of the organization" (Cook & Wall, 1980, p.40). Loyalty refers to "affection for and attachment to the organization; a sense of belongingness manifesting as 'a wish to stay'" (Cook & Wall, 1980,p.40). Many researchers have suggested that employers who provide work-life benefits, including flexibility policies, reap the rewards of higher employee commitment (Dalton & Mesch, 1990; Friedman & Greenhaus, 2000; Grover & Crooker, 1995; Rodgers, 1992; Thompson, Beauvais, & Lyness, 1999).

The literature provides different views about how NWW practices (teleworking, flexible workplaces at work, flexible working hours, and IT) can lead to more organizational commitment of employees. Therefore, the four components of NWW in relation with organizational commitment are described separately.

## TELEWORKING AND ORGANIZATIONAL COMMITMENT

Creation of a positive image of the organizations due to that an organization that facilitates telecommuting is perceived positively by the public as modern and progressive, since it makes use of new work methods (Harpaz, 2002). However, employees who choose to telecommute may also find their loyalty and commitment being questioned by managers (Gajendran & Harrison, 2007). For example, the study of Harpaz (2002) stated that teleworking can possible harm the organizational commitment since from a distance it is harder to control, instill motivation, commitment, and influence.

Organizations that provide employees with the flexibility to work from home are providing a positive signal, visibly demonstrating their trust and support for employees' well-being. This signal from organizations should, in turn, generate greater psychological commitment and a lowered tendency to quit (Rhoades & Eisenberger, 2002). This is also underlined by the study of Golden & Veiga (2008) who stated that employees who work in an intense virtual work could lead to more or less commitment. The level of commitment was influenced by the quality of the relationship between the manager and the employee, wherein low quality led to a decrease and high quality led to an increase of organizational commitment. Whereas Golden (2006) used a sample of 393 teleworkers in one organization and found that teleworking is positively related to organizational commitment ( $\beta=17$ ,  $p<.001$ ). Therefore the following hypothesis is proposed.

*Hypothesis 2a: The higher the optimal use of teleworking, the significantly more organizational commitment of teleworkers in comparison to non-teleworkers.*

## FLEXIBLE WORKPLACES AT WORK AND ORGANIZATIONAL COMMITMENT

In the last decade, having flexible workplaces at work has received more attention since organizations list workplace flexibility as a potential benefit for both employees and the organization (Marcie Pitt-Catsouphes & Matz-Costa, 2008). According to the National Study of Business Strategy and Workforce Development, 50 per cent of the employees with access to flexible work arrangements report fewer mental health problems, higher life satisfaction and lower levels of negative spillover from work to home (Pitt-Catsouphes, Smyer, Matz-Costa, & Kane, 2007). Also, The National Study of the Changing Workforce stated that 73 percent of employees with flexible work arrangements indicated that there was a high chance that they would stay at their current employer for the next year (Bond, Thompson, Galinsky, & Protas, 2002).

Regarding the flexible workplaces at work, the study of Pitt-Catsouphes & Matz-Costa (2008) provides empirical evidence about its positive relationship with organizational commitment. Their study suggests that flexibility is a positive predictor of engagement. Since engagement has evolved from research on organizational commitment (Bernthal, 2004), it can be stated that flexible workplaces at work have a positive influence on organizational commitment. This is also underlined by the study of Lyness, Gornick, Stone, & Grotto (2012), who studied the ability of workers to control their work schedules and hours among industrialized countries wherein they used data of 21 countries.

Most studies on flexible workplaces at work "have examined the availability or utilization of different flexible work options assuming a 'more is better' perspective" (Pitt-Catsouphes & Matz-Costa, 2008, p.220). However, they consider that it is about the concept of fit. For example, an organization offers a broad range of flexible work options, but if these options do not meet the needs of the employees, they are fruitless. The results confirmed their assumptions. "Flexible fit is a powerful positive predictor of engagement for all employees, and it may be a more powerful



predictor of engagement for older workers”(Pitt-Catsouphe & Matz-Costa, 2008, p.225). Therefore, the hypothesis is as follows.

*Hypothesis 2b: Flexible workplaces at work will result in significantly higher levels of organizational commitment*

#### **FLEXIBLE WORKING HOURS AND ORGANIZATIONAL COMMITMENT**

Perceptions of flexible working hours may increase employee loyalty and satisfaction due to positive feelings associated with working for an organization that visibly cares about the well-being of its employees. Increased commitment can be realized because of several reasons. First, the individual may perceive the organization's offering of flexible working hours as representing the organization's concern for work and family. Employees may see this as an aspect of the psychological contract since their ability to balance multiple responsibilities is congruent with individual values about work and family (i.e. 'this organization cares about people'). Second, flexible working hours allow individuals to feel increased control over their lives due to the opportunity to work during times more suited to personal needs or personal biological clocks (not everyone is most productive from 9.00 a.m. to 5.00 p.m.). Third, having flexible working hours available improves employees' perceptions about their employer. It also increases employees' overall positive feeling towards the organization which impacts organizational commitment. Fourth, employees often engage in social comparison processes (Adams, 1965) and may compare their situation to peers in other jobs and/or organizations that do not offer flexible work programs. Such comparisons should increase the value of the employees' psychological contract with their organization. Crooker and Grover (1993) noted that providing family benefits to employees positively influences their attachment to work through the symbolic action of the employer providing policies that are responsive to employees' needs. The studies of Scandura & Lankau (1997), and Ng, Butts, Vandenberg, DeJoy, & Wilson (2006) provide empirical evidence about the positive relationship between flexible working hours and organizational commitment. For example, Ng et al. (2006) researched 21 retail centers and found that work schedule flexibility had positive effects on organizational commitment.

In response to the offering of flexible working hours, employees may reciprocate with greater loyalty to the employer and better morale. Based upon the idea that flexible working hours represent an aspect of the contract between employees and employers and the previous literature, it is expected that flexible working hours are positively related to organizational commitment (loyalty to employer). The following hypothesis is proposed.

*Hypothesis 2c: Individuals that perceive flexible working hours will report significantly higher levels of organizational commitment than individuals who do not.*

#### **IT AND ORGANIZATIONAL COMMITMENT**

Organizations began to implement forms of NWW since the advances in IT. IT has enabled decentralization of work. Nowadays, it is possible for employees to work together while temporally and spatially decoupled from one another (Wiesenfeld, Raghuram, & Garud, 1999). However, these changes raise new challenges for organizations. For example; IT offers the freedom to work anytime, anywhere and anyhow but this may also lead to a weakening of the ties that bind employees of an organization to each other and to their organization (Wiesenfeld et al., 1999).

The first thing to note is that there is not much found in the scientific literature about the relationship of IT on organizational commitment. However, three studies are found concerning the relationship between IT and organizational commitment. The results of the study of

Wiesenfeld et al. (1999) showed that there was a significant relationship ( $r=0.48$ ;  $p<0.001$ ) between virtual status and face-to-face communication. It can be stated that employees that work according the principle of working anytime, anyplace and anyhow are more likely to use telephone and electronic communication. Electronic communication is established by means of IT. Their results also suggested that organizational commitment was higher among virtual workers than among less virtual workers. IT is of more importance for virtual workers since by using IT they create and sustain their organizational identification. This is also underlined by the studies of Meyer & Allen (1997) and Rodwell, Kienzle, & Shadur (1998). Their studies showed that “information-sharing practices favor the internalization of organizational goals and values by employees, enhance feelings of mutual trust, and make individuals feel important to the company”(Paré, & Tremblay, 2007, p.329). Therefore, the following hypothesis is proposed.

*Hypothesis 2d: Better usage of IT result in significantly higher organizational commitment.*

Baane et al. (2010) and De Leede & Kraijenbrink (2014) stated that one of the outcomes of implementing NWW in an organization is the increase in organizational commitment of the employees. It can be argued that when NWW is implemented, employees undergo more flexibility and enjoy the new working arrangement. According to Bijl (2009), it might also increase the attractiveness and reputation of the organization, whereby employees become more committed. This Master Thesis measures organizational commitment according to the three component distinction by Buchanan (1974). The hypothesis for NWW as a whole is as follows.

*Hypothesis 2: There is a positive relationship between NWW and organizational commitment.*

### 3. LEADERSHIP

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The second part of the literature study elaborates on the HR factor leadership. First an overview is given regarding the different definitions in section 3.1. Subsequently, the observable trends in leadership theory throughout the years are described which lead to an overview of leadership styles nowadays in section 3.2. To conclude, the theoretical framework, leadership competencies are described because what leaders do can have a strong impact on the behavior of employees.

#### 3.1 DEFINITION OF LEADERSHIP

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As described in the introduction of this Master Thesis, the economy has changed over time which led to a change in the nature of work of organizations nowadays. There is a change from agriculture and industrial manufacturing towards a knowledge driven information society, activities of organizations are globalized and an increase in competition (EFILWC, 1996; Townsend, DeMarie, & Hendrickson, 1998). Furthermore, the progression in productivity of labor workers is a significant earning of the management in the 20<sup>th</sup> century (Drucker, 2000). In this century, however, this does not apply to the productivity of labor workers but it is a challenge to improve the productivity of knowledge workers.

NWW can be described as an organizational change (Kotter, 1996). In response to the changes mentioned above and NWW, organizational design, structures and processes need to become adaptive and more flexible (Bell & Kozlowski, 2002). Leadership is seen as an essential factor in the process of change (Kotter, 1996) which means that the role of leadership is to adapt to the changes and is also broadly recognized as a critical success factor (Howell & Avolio, 1992; Yukl, 2002) also for NWW (A+O Fonds Gemeenten, 2012). Leaders have a strong influence on the work behavior of employees (Yukl, 2002).

Leadership is extensively discussed in the literature and has various definitions. Ciulla (1995) listed the definitions of leadership from different periods which shows the moments of the definitions over time. In the 1920s, leadership was defined as *the ability to impress*. During the 1970s, leadership was defined in terms of *discretionary influence* which refers to the behavior of the leader. Nowadays, the emphasis has moved to *achieving organizational goals* (Hayes, 2014; Winston & Patterson, 2006). Ciulla (1995) stated that the definition did not have radically different meanings over time and similarities can be observed between the definitions since the definitions only differ in their connotation such as their implications for the leader-follower relationship.

Bass & Bass (2009) also made an overview of the various definitions of academics. Definitions of leadership were considered ranging from the focus of group processes, personality perspective, the power relationship between leaders and followers, transformational process, skills perspective or as an act or behavior. However, all academics define leadership as “some kind of process, act, or influence that in some way gets people to do something” (Ciulla, 1995,p.12). An overview of the definitions of leadership is given in table 2.

Definitions of leadership	
<b>Kotter (1990)</b>	“Creating a vision, communicating and aligning employees to achieve the vision, and motivate and inspire them by captivating their needs, values and emotions”.
<b>Ciulla (1995, p.12)</b>	“Some kind of process, act, or influence or behavior”.
<b>Northouse (2012, p. 5)</b>	“Leadership is a process whereby an individual influences a group of individuals to achieve a common goal”.
<b>Hayes (2014, p.167)</b>	“As a process that involves influencing others to achieve desired goals”.

*Table 2: Overview of definitions of leadership*

In conclusion, the definitions of leadership vary in their connotation over the years. However, nowadays the field of leadership not only focuses on the leader but also on the peers, supervisors, followers, work/setting context and culture (Avolio, Walumbwa, & Weber, 2009). Leadership can no longer be described as an individual characteristic but is now shown in several models as strategic, relational, shared, dyadic, complex social dynamic and global (Avolio et al., 2009; Yukl, 2006).

### 3.1.1 DIFFERENCE BETWEEN MANAGEMENT AND LEADERSHIP

As mentioned before, leadership is widely considered in the literature. However, there seems to be discussions going on about what comprises good leadership. Also, literature accentuates the difference between management and leadership (Buelens, 2006; Kotter, 1990; Tichy & Devanna, 1986). In times of change, leadership has to be viewed as a collective process and managerial work is more and more a leadership task (Hayes, 2014). According to Tichy & Devanna (1986) and Kotter (1990), management is concerned with the continuing of the organization by setting goals, organizing and monitoring whereas leadership is related with change through developing a vision and communicating it to employees. According to Bennis & Nanus (1985, p.21), management is about “doing things right” and leadership is about “doing the right things”. Management is about budgeting, organizing, planning, staffing, controlling and problem solving while leadership is about developing a vision, communicating, motivating and inspiring employees (Hayes, 2014; Northouse, 2012). It can be stated that managing and leading are distinct activities. However, they are not different people and are both necessary for success in changing and complement each other (Bass & Stogdill, 1990; Kotter, 1988; Mintzberg, 1973). At last, management and leadership are both related to behaviors that have an influence on the improvement of reduction of the behavior of employees. For this Master Thesis, it is of importance to recognize the competences of leaders that are needed for NWW. In this Master Thesis it is spoken of leadership and leaders but it also includes managerial practices.

## 3.2 LEADERSHIP STYLES/THEORIES

Managers are in the best setting to provide leadership that is needed to ensure successful work (Kotter, 1990). Before leadership competencies can be explained, the leadership styles during the past years will be displayed to provide a complete view about how the field of leadership evolved and its consequences for the various leadership styles.

Early work on leadership styles proposed that some leadership styles were superior to others (Hayes, 2014). An example is the study of Lewin, Lippitt, & White (1939), who studied the effect of leadership styles in classroom situations and came to the conclusion that democratic leadership was more effective than autocratic leadership. A few years later, Fleishman, Harris, & Burt (1955) identified two dimensions of leader behavior that showed to influence performance. The first dimension was consideration, which means the possible relationship of leaders characterized by mutual trust and respect for employees' ideas and consideration to their feelings. The second dimension was initiating structure, which reflected the scope to which the leader is disposed to define and structure the work of its employees. These findings indicated that effective leaders attributed high magnitude to both structure and consideration. Later, researchers proposed theories that there is not one leadership style which is best in all circumstances but the most effective leadership style depends on situational factors such as organizational context, employees and the task (Adair, 1973; Fiedler, 1967; Hersey & Blanchard, 1977).

The above paragraphs show that there are observable trends in leadership theory and trends throughout the years. Actually, there are four main trends, however, the different trends do not insinuate that another trend is completely neglected, previously a shift in emphasis occurred (Bryman, 1992). The first trend was visible up to the late 1940s and in this period thoughts were that leaders are born and that it is an innate ability. The second trend arose in the late 1940s to late 1960s and suggested that the effectiveness has to do with how leaders behave. In the late 1960s to early 1980s the trend included that the effectiveness of leadership is affected by its situation. Nowadays, leadership consists of convincing through vision, inspire loyalty, and emotional attachment (Bryman, 1992).

So, currently leadership consists mainly of convincing through a vision and inspiring, however, it is also possible to make a distinction between different leadership styles nowadays. An overview of the different leadership styles nowadays is described in table 3.

**Table 3: Overview of different leadership styles nowadays (Avolio et al., 2009)**

<b>Authentic leadership</b>	"A pattern of transparent and ethical leader behavior that encourages openness in sharing information needed to make decisions while accepting followers' inputs" (p.423).
<b>Transformational leadership</b>	"Leader behaviors that transform and inspire followers to perform beyond expectations while transcending self-interest for the good of the organization" (p.423).
<b>New-genre leadership</b>	"Leadership emphasizing charismatic leader behavior, visionary, inspiring, ideological and moral values, as well as transformational leadership such as individualized attention, and intellectual stimulation" (p.428).
<b>Shared/distributed leadership</b>	"An emergent state where team members collectively lead each other" (p.431).
<b>Cross-cultural leadership</b>	"The examination of leadership in multicultural contexts" (p.438).
<b>E-leadership</b>	"Leadership where individuals or groups are

geographically dispersed and interactions are mediated by technology” (p.440).

The core of this Master Thesis is NWW, which is the reason why E-leadership is chosen. This approach is part of the trend ‘nowadays’ as described above.

### 3.3 E-LEADERSHIP

According to Bryman (1992) the traditional, also called ‘transactional’ leadership models, only explained a small percentage of variance in performance outcomes. Transactional leadership is “largely based on the exchange of rewards contingent on performance” (Avolio et al., 2009, p.427). Collected research on leadership styles nowadays, has found that for example transformational leadership is positively associated with several important organizational outcomes, such as motivation, performance, job satisfaction, and morale (Avolio et al., 2009). Leading virtually means leading employees from various departments, organizations, countries (Avolio, Kahai, & Dodge, 2001) and traditional leadership may not fully explain how virtual leadership and teams work (Zigurs, 2003). Nowadays, leadership approaches involve developing and articulating an exciting vision of future opportunities (Bryman, 1992). Davis (2003) stated that leadership nowadays implies movement, leading to a new direction, being creative, improves quality, solving problems and initiating new programs. E-leadership can be defined “as a social influence process embedded in both proximal and distal contexts mediated by advanced information technology (AIT) that can produce a change in attitudes, feelings, thinking, behavior, and performance” (Avolio, Sosik, Kahai, & Baker, 2014, p.107). Orlikowski, Yates, Okamura, & Fujimoto (1995) emphasized that leadership and technology influence each other reciprocally. Avolio et al. (2001) used the Adaptive Structure Theory (AST) to examine e-leadership. According to Avolio et al. (2014) this theory remains useful to determine how the occupation of AIT by leaders and their followers can influence leaders to lead through technology and how leadership change the use of technology.

E-leadership consists of five elements, which are leaders, followers, dyads, virtual groups and context. Each element procures both interdependent and unique sources of influence (Avolio et al., 2014).

#### LEADERS

According to the AST, leaders have an important role in influencing the appropriation of AIT structural features and interpretation of technology of followers (Avolio et al., 2014). For instance, a leader which performs transformational leadership behaviors can increase beliefs in group potency which in turn promotes more creative group outcomes (Sosik, Avolio, & Kahai, 1997).

#### FOLLOWERS

Because of the rapid mobilization through the Internet and mobile technologies followers are influential e-leadership forces. Followers can organize and respond to diverse events, such as social, political, natural and economic events (Avolio et al., 2014). According to Hammel (2009) leaders should serve and therefore share information which will lead to larger follower impact. This trend leads to the increase in the use of shared, distributed or collective leadership (Stokols, Misra, Runnerstrom, & Hipp, 2009). Also, followers have an important role in defining the development of virtual interactions by their unique personal attributes, knowledge, skills and abilities (Hoch & Kozlowski, 2012). Mobilization creates opportunities for followers, and affect the leader and others by back-channel communication. It can be used by followers to stimulate



both the leader and colleagues in real life since members can discuss, challenge and elaborate on things. However, it can also be used to manipulate opinions by false data or information (Avolio et al., 2014).

### DYADS

Another element of e-leadership has to do with the styles of interactions between leaders and followers that communicate through AIT in dyads enclosed within groups (Avolio et al., 2001). AIT can positively influence the quality of dyadic relationships (Weisband, 2013), since AIT can reduce the perceived remoteness (Cairncross, 2001). Online communities ensure that leader-follower dyads have access to broad amounts of data which can be combined from several organizations, industries and cultures. Collecting and analyzing such data can raise relational transparency (e.g. truthfulness and openness) in dyadic relationships. It has been found that this is a critical factor in building trust in virtual relationships (Jarvenpaa, Knoll, & Leidner, 1998). However, according to Kahai (2012) the relational elements can also be decreased through physical distance between leaders and followers, for example by email.

### VIRTUAL GROUPS

To accomplish complex tasks which require geographically-dispersed expertise and resources, AIT is implemented by organizations to support virtual teams (Hoch & Kozlowski, 2012). "E-leadership may occur within virtual groups that are populated by members that share leadership within an organization, or represent broader online communities that transcend organizations, industries and even nations" (Avolio et al., 2014,p.111). Elements of the internal system of groups are reciprocally related to the type of technologies groups select to appropriate and produce outcomes (social interaction elements). Central in this is the capability of group members to communicate via AIT (Avolio et al., 2001). The study of Kahai, Sosik & Avolio (2013) indicated that the quality of collaboration among colleagues mediated the relationship between team performance and transformational leadership of the leader. Thus, the leader's behavior may influence the extent and quality of collaboration and team performance.

### CONTEXT

The last element of e-leadership is context which includes the nature of the task, internal and external environment, structural features and spirit of AIT that have an impact on the social interaction processes and outcomes of e-leadership (Avolio et al., 2001). This suggests that contextual features of e-leadership may shape the spread of it by increasing or decreasing its emergence and effectiveness. For instance, e-leadership may help the empowerment of followers and the relation with people both inside and outside the organization by using social media for business purposes (Avolio et al., 2014). "Social media and virtual world technologies seem to attract users who wish to fulfill basic human needs for relatedness and self-expression" (Avolio et al., 2014,p.112). An important focus of leaders that show transformational leadership behaviors is the satisfaction to what extent followers, leaders, and teams feel related to each other (Sosik, Chun, Blair, & Fitzgerald, 2013). However, the use of social media can also have a negative effect for relatedness when people make disapproving social comparisons of their life events with those of others. E-leadership can be formed through the practices, norms and values shared by the organizational members and the cultural values of the countries they come from (Avolio et al., 2014).

Above, e-leadership is elaborated as a leadership that fits with NWW. Bryman, Stephens & Campo (1996) suggested seven behavioral dimensions of new leadership. Since new leadership can be categorized as a leadership style that fits with leadership nowadays, three competencies of Bryman et al., (1996) are used to obtain the outcomes of NWW. The original concept of the

competencies and the leadership competencies used in this Master thesis is argued in table 4. In the next section, the leadership competencies are explained with hypotheses concerning the relation between NWW and its outcomes and the effect of the leadership competencies on this relation.

Table 4: Overview of leadership competencies		
Original concepts of leadership competencies/tasks	Leadership competencies used in this Master Thesis	Argumentation
Empowerment (Bryman et al., 1996)	Empowerment	In the concept of NWW, employees can (partly) determine self when, where and how to work. Leaders need to adapt their strategy to this.
Creating trust (Bryman et al., 1996)	Trust	Since NWW is about working anytime, anyplace and anyhow, trust is important. The leader has to trust the employee because of the NWW practices such as teleworking and mutual trust between employees.
Contingent reward (Bryman et al., 1996)/ Target-setting (Felstead, Jewson, & Walters, 2003).	Steering on output	Steering on output is the little bit of control leaders can perform in NWW because of working anytime, anyplace and anyhow.

### 3.3.1 LEADERSHIP COMPETENCIES

Organizations have been possessed with the need to identify traits or characteristics related to effective leadership the last 50 years (Higgs & Aitken, 2003). According to Hayes (2014), what leaders do can have a strong effect on the behavior of employees and in making NWW a success. Therefore three leadership competencies of leaders which have an influence on achieving the outcomes of NWW are described.

#### EMPOWERMENT

Empowerment “is a leadership strategy that is concerned to provide subordinates with the power to do their work fully” (Bryman et al., 1996, p.358). In literature about leadership nowadays, empowerment is viewed as a consequence of the behavior of leaders and in other cases it is viewed as an approach to the behavior of the leader in its own right (Bryman et al., 1996). The concept of empowerment consists of four dimensions which are meaning, competence, self-determination, and impact (Spreitzer, 1995). The first two dimensions may be granted to competencies of employees. Whereas self-determination and empowerment impact reflects autonomy in the initiation and continuation of work behaviors and processes (Bell & Staw, 1989; Spector, 1986) and the degree to which an individual can power the operating, administrative or strategic results at work (Ashforth, 1989). Empowerment impact is positively related to effectiveness. In this Master Thesis, the dimensions self-determination and empowerment impact are used. The study of Chang & Liu (2008) conducted questionnaires among 576 employees of six health bureaus in Taiwan. The results of their study showed that the dimensions meaning and competence of empowerment were predictors of productivity. Their study showed no significance influence of the dimensions self-determination and impact



on productivity. However, the case study of Bektas & Sohrabifard (2013) showed an increase in productivity between 20 and 59 per cent after empowering employees. This positive relationship also accounts for organizational commitment. Avolio, Zhu, & Koh (2004) studied the mediating effect of empowerment on the relationship between transformational leadership (TL) and organizational commitment on sample of 520 nurses in Singapore. The results showed that empowerment mediated the relationship between TL and organizational commitment. This is also underlined by the study of Bogler & Somech (2004) who stated that empowerment is a significant predictor of organizational commitment. However, Roueche, Baker III, & Rose (1989) suggested that leaders are most effective when they empower others, for example subordinates. According to Hayes (2014), leaders need to remove the barriers and create conditions that will empower people to deliver change. In NWW, barriers might be lack of access to relevant information, misaligned performance measures and other incentives that reward employees to maintain the old ways of working. Since, according to the above empirical evidence, the presence of empowerment has a positive relationship with productivity and organizational commitment, the hypothesis for NWW as a whole is as follows.

*Hypothesis 3a: Empowerment will moderate the relationship between NWW and productivity in such a way that the relationship between NWW and productivity will be more positive.*

*Hypothesis 3b: Empowerment will moderate the relationship between NWW and organizational commitment in such a way that the relationship between NWW and organizational commitment will be more positive.*

## TRUST

As already mentioned, trust is a crucial aspect in NWW (Baruch, 2001; Blok, Groenesteijn, Schelvis, & Vink, 2012; Van Breukelen, Makkenze, & Waterreus, 2014) since it is found as a significant component of leader's credibility in effective leadership (Kouzes & Posner, 1993; Shaw, 1997). The literature knows many notions of the concept of trust. Tschannen-Moran & Hoy (2000) made a review about articles concerning trust and came to the conclusion that defining trust was multifaceted and complex because of the various degrees and bases depending on the context of the trust relationship. "Trust is one party's willingness to be vulnerable to another party based on the confidence that the latter party is (a) benevolent, (b) reliable, (c) competent, (d) honest, and (e) open" (Tschannen-Moran & Hoy, 2000, p.556). Whereas Cook & Wall (1980) described trust as the extent to which an individual is willing to have well intentions and confidence in actions and words of other people.

Trust can occur on different levels such as trust on the organizational level which examines the "perceptions of characteristics of significant others within the work context" (Tschannen-Moran & Hoy, 2000, p.556), trust in colleagues and trust in management (Cook & Wall, 1980; Hoy & Kupersmith, 1985). Organizational trust and interpersonal trust are most common (Dirks & Ferrin, 2002). Interpersonal trust "is an expectancy held by an individual or group that the word, promise, verbal or written statement of another individual or group can be relied upon" (Rotter, 1967, p.651). Interpersonal trust between colleagues and in management is used in this Master Thesis since NWW consists of working anytime, anyplace and anyhow which requires mutual trust among employees and in management. In NWW, employees work time and place independent and leaders might experience a decline in perceived control (Kurland & Cooper, 2002). The study of Matzler & Renzl (2006) studied the link between trust and employee satisfaction of an Austrian company in the energy sector. Employee satisfaction is one of the most important drivers of productivity. The results of their study show that trust between colleagues and trust in management are strong predictors of employee satisfaction and therefore of productivity. This is also underlined by the studies of Goris, Vaught, & Pettit Jr

(2003) and Rich (1997) who stated that trust in management is a predictor of productivity. The role of the leader is to conquer the potential worker isolation and waste of group cohesion by establishing trust, strong group culture, goal consensus and becoming both participative manager and technical expert (Felstead et al., 2003; Green & Roberts, 2010). A lack of trust might also be an important barrier in accepting teleworking (Harrington & Ruppel, 1999). Additionally, the literature contains empirical evidence on the relationship between trust and organizational commitment. The study of Cho & Park (2011) found that trust has positive and significant coefficients. However, trust in management has the largest coefficient, 0.36 whereas the coefficient for trust between colleagues has a coefficient of 0.09. They conclude that the main driver of organizational commitment is trust in management. So, the presence of trust between colleagues and trust in management has a positive relationship with productivity and organizational commitment, the hypothesis for NWW as a whole is as follows.

*Hypothesis 4a: Trust between colleagues will moderate the relationship between NWW and productivity in such a way that the relationship between NWW and productivity will be more positive.*

*Hypothesis 4b: Trust in management will moderate the relationship between NWW and productivity in such a way that the relationship between NWW and productivity will be more positive.*

*Hypothesis 4c: Trust between colleagues will moderate the relationship between NWW and organizational commitment in such a way that the relationship between NWW and organizational commitment will be more positive.*

*Hypothesis 4d: Trust in management will moderate the relationship between NWW and organizational commitment in such a way that the relationship between NWW and organizational commitment will be more positive.*

## STEERING ON OUTPUT

In NWW, steering on presence is no longer possible due to working time and place independent. Steering on output is the new alternative (Adrichem & De Leede, 2012; Baane et al., 2010; Bernardino et al., 2012; Caillier, 2013). The form of control has changed from a control of staff presence to a form of output-oriented control (Vos & Voordt, 2001). Caillier (2013) stated that there are two types of control: behavior-based controls and output-based controls. Behavior-based controls are typically used on traditional employees and refer “to the strategy of judging performance on the basis of workers’ observable activities, regardless of results” (p.640). Output-based controls refer to the evaluation of leaders of the performance of employees which is based on output, products, or deliverables of work. Offstein, Morwick, & Koskinen (2010) found that the key to successful teleworking in both public and private organizations “is more of a function of leadership than technology” (p.32). Steering on output appears to be essential in NWW (Mahler, 2012) and leaders should change their focus from “work time” to “work results” (Mayo, Pastor, Gomez-Mejia, & Cruz, 2009). However, also employees should commit themselves towards quality, results, benchmarks and agreement on deadlines (Bernardino et al., 2012). In NWW, there is less need for face-to-face interaction between leaders and subordinates which ensures that communication can be conducted via IT (Bailey & Kurland, 2002; Bélanger & Allport, 2008; Garrett & Danzinger, 2007) and is in accordance with output control. The shift to steering on output has emerged in literature concerning virtual teams whereas managing at distance is required. The case study of Taskin & Edwards (2007) suggested that teleworkers were managed by using output controls. However, steering on output correlates strongly with trust since employees who are physically at their office can use the computer for other reasons

than just for professional ones such as personal reasons (Braga, 2006; Mayo, Pastor, Gomez-Mejia, & Cruz, 2009; Rubio, 2001).

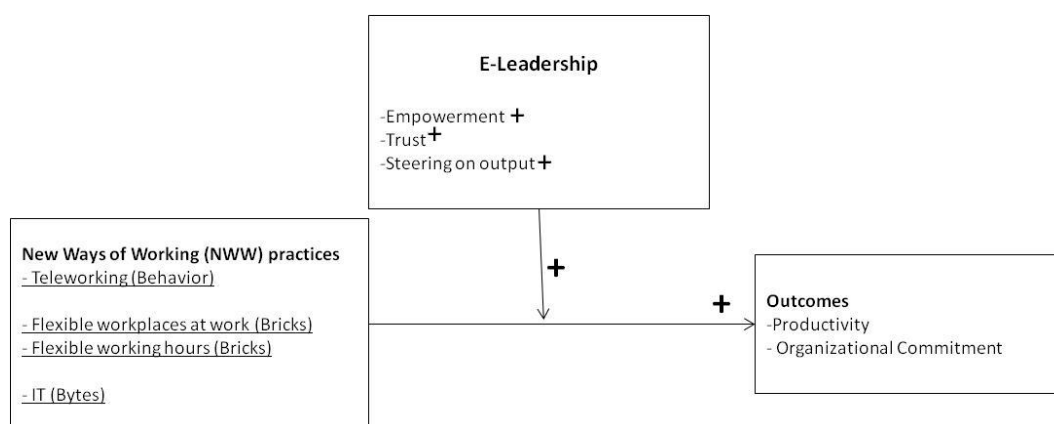
The literature provides different empirical evidence about how steering on output can lead to higher productivity and more organizational commitment. For example, Lazear (2000) stated that steering on output will have a positive effect on productivity since “productivity effects amount to a 44 percent increase in output per worker” (p.1346). This is also underlined by Meessen, Kashala, & Musango (2007) who assessed the performance of 15 health care centers. Their study showed that output-based controls induced sharp increases in the productivity of the employees. This also accounts for the effect of steering on output on organizational commitment. Agarwal (1999) found that output-based controls reduce the negative effect of formalization on organizational commitment. However, according to Oliver & Anderson (1995) behavior-based controls lead to more organizational commitment than output-based controls. Since “productivity can no longer be associated with presence. It is important to teach to work towards objectives and achieving results” (Rubio, 2001, p.7). Therefore, the hypothesis for NWW as a whole is as follows.

*Hypothesis 5a: Output-based controls will moderate the relationship between NWW and productivity in such a way that the relationship between NWW and productivity will be more positive.*

*Hypothesis 5b: Output-based controls will moderate the relationship between NWW and organizational commitment in such a way that the relationship between NWW and organizational commitment will be more positive.*

It can be stated that in NWW, leadership requires three leadership competencies, namely empowerment, trust, and steering on output. Moreover, it is expected that all three leadership competencies positively moderate the relationship between NWW and its outcomes.

### 3.4 THEORETICAL MODEL



## 4. METHODOLOGY

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In this chapter, the research design and the methodology is discussed. The aim of the methodological part is to expand the research methods used in this research in order to achieve the research goal. The research goal is described in chapter 1 and repeated in brief; examining the HR factor leadership in relationship to NWW and the effects of NWW. The population of the research and the selection of the sample is discussed in 4.1. In section 4.2 the choice of research method is discussed. The operationalization with the Cronbach's Alpha is described in section 4.2.2. Finally, section 4.3 contains a description of how the data was analyzed and the possible reliability and validity issues.

### 4.1 SAMPLE DESCRIPTION

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The data for this study is collected from Rabobank Centraal Twente, Achmea (Apeldoorn), InnoValor, BiZZdesign, Interactive Blueprints, O&I Management consultants, Flexwhere, Gemeente 's Hertogenbosch, Spellenlabs, De Groot & Kolman, Gemeente Deventer, AFAS software, and Rabobank Operations Nederland. All of the above companies implemented in a certain degree NWW in their organization, with the result that these companies are chosen to use for this research. The total sample size involved 347 employees, which means that not all of the employees of each company were part of the sample. According to Aken, Berends, & Bij (2009) the unit of analysis can also be an organizational unit such as teams, individuals and departments if this is more natural. Only the middle management, subordinates and office workers are taken into account in this study since NWW is more applicable to these functions (Van Breukelen et al., 2014). It is of importance to take construct validity into consideration since the hypotheses used in this study are deduced from relevant theory (Bryman & Bell, 2011). Sampling error may occur since only a subcategories of all employees are actually surveyed (Dillman, 2007). However, it is acceptable that errors cannot be covered as this research is the first in validating this survey as an instrument.

A sample description was made for the largest sample; Rabobank Operations Nederland. The Rabobank Operations Nederland consisted of 296 respondents with 258 completed surveys. The biggest part (37.07%) of the respondents' is born between 1965 and 1974. Whereas 61.82% of the respondents are male, and 38.18% are female. 76.69% of the respondents works more than 35 hours per week. The tenure of the sample is very diverse; 28.38% works between 4 - 9 years at the organization whereas 27.7% works between 25 - 40 years at Rabobank Operations Nederland. This is relatively long as the average years are usually between 6 and 8 years (CBS, 2013). The smallest percentage (7.77%) of the sample is working between 0 - 3 years at Rabobank Operations Nederland (see Appendix 4).

At Rabobank Operations Nederland around 2500 employees received an email to participate in this research. This means that 12% of the employees filled in the survey. These 296 respondents are of four departments which are reported in table 5.

For which department at Rabobank Operations Nederland are you working?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Betalen en Sparen	169	55,0	57,3	57,3
	Financieren en Verzekeren derden	21	6,8	7,1	64,4
	Beleggen	43	14,0	14,6	79,0
	Facilities	62	20,2	21,0	100,0
	Total	295	96,1	100,0	
Missing	99,00	1	,3		
	System	11	3,6		
	Total	12	3,9		
Total		307	100,0		

Table 5 Overview of the distribution of the departments in the sample Rabobank Operations Nederland

The results are, next to the already mentioned control variables of age and gender, analyzed with other control variables as the number of years working at the current organization, the amount of hours working per week and the function.

Also, an overall sample description was made which includes all organizations that participated in this research. The overall sample consisted of 347 respondents with 300 completed surveys. The biggest part (36.05%) of the respondents' is born between 1965 and 1974. This means between the ages of 41 and 50 years. Whereas 62.82% of the respondents are male, and 37.18% are female. 76.88% of the respondents works more than 35 hours per week. The tenure of the sample is very diverse; 26.59% works between 4 - 9 years at their organization whereas 25.43% works between 25 - 40 years at their organization. The smallest percentage (13.01%) of the sample is working between 0 - 3 years at their employer (see Appendix 5).

#### 4.1.1 SAMPLE SELECTION PROCEDURES

The sample consisted of 13 organizations from the research network that were willing to invest time and resources in participating. Within these organizations, all employees who hold a function that belongs to the middle management in their organization were included in this study. Organizations which already been willing to participate in prior studies were first approached. This resulted in three participated organizations: Gemeente Deventer, Achmea (Apeldoorn) and Rabobank Operations Nederland. Other organizations which participated: Rabobank Centraal Twente, InnoValor, BiZZdesign, Interactive Blueprints, O&I Management consultants, Flexwhere, Gemeente 's Hertogenbosch, Spellenlabs, De Groot & Kolman, AFAS software, were participating because an employee was in the research network.

## 4.2 RESEARCH METHOD

This study makes use of quantitative research since it entails a deductive approach to the relationship between theory and research concerning NWW. Quantitative research was chosen because it provides a basis for more precise measures of the degree of relationship between the various concepts (Bryman & Bell, 2011).

#### 4.2.1 QUANTITATIVE RESEARCH

Quantitative research was used in this Master Thesis. The aim of quantitative research is to

make an assessment of the current situation and to get insights in the HR factor leadership in relationship to NWW and the outcomes of NWW.

Quantitative research is often performed by means of a survey (Bryman & Bell, 2011), whereby the subcomponents of the theoretical framework are used to operationalize the constructs to a level whereby they can be measured. As all concepts used in this research are well known and measurable by validated surveys, this study will gather the quantitative data necessary to answer the research question by a survey.

It is possible to distribute the survey in various ways, for example face-to-face, telephonic, by letter and online. The decision has been made to distribute the survey online due to the relatively large sample size and the geographic dispersion of the companies, it is a quicker way of distributing the survey. This form has advantages and disadvantages. The advantage of an online survey is that respondents have the freedom to complete the survey when they want and at the speed they want. Moreover, it is also quicker to administer and the researchers have the possibility of sending reminders (Bryman & Bell, 2011). The disadvantage of online research is there is no help for respondents when they have difficulties with answering a question. Also, it is of importance that the survey is easy to complete; "otherwise questions will be inadvertently omitted if instructions are unclear" (Bryman & Bell, 2011, p.233). Another disadvantage is the greater risk of missing data through partially answered surveys (Bryman & Bell, 2011).

In order to successfully collect the data, the following procedure was followed. The online survey was sent to as many employees in the organizations that met the criteria. The respondents participated on a voluntary basis to ensure that they were willing to give a truthful answer on all questions. They were informed about the study via a digital cover letter which explained the goal, procedure and confidentiality of the study. This letter also included the link via which the survey was filled in and the respondents were able to complete it in one month. To all participating organizations, a polite reminder was sent two weeks before the deadline. According to Fox, Crask, & Kim (1988), prenotification and follow-ups increase the response rate. This also applies to studies that are sponsored by a university. If the response rate remained low, a polite and slightly more urgent reminder was sent by the organization's management one week before the deadline.

The online survey (see appendix 3) started with questions regarding the four components of NWW. This information provided a picture of the availability of the NWW practices from which the employees of the respective organizations could choose. Various aspects of NWW were measured and answered on ratio scales by the employees themselves. A different likert rating scale with anchor points for each question was used since an own measurement scale was created with ordinal and nominal questions. When analyzing the data, the answers were recoded in a way that they are comparable to different questions.

#### 4.2.2 OPERATIONALIZATION

This section describes the operationalization of the constructs used in this Master Thesis. Several reliable scales are used to measure the different constructs. Most of the scales are existing reliable scales; however some scales are adapted to measure the construct well. Appendix 1 contains all items of the survey. The survey also tracked the respondents' tenure, age, gender, function and department to provide a richer analysis. Some scales were changed to a likert scale from 1 till 5 to not confuse the respondents. Therefore, respondents were able to estimate the right value of a question and were able to answer them quickly.



The survey consisted of nine variables which were; teleworking, flexible workplaces at work, flexible working hours, IT, productivity, organizational commitment, empowerment, trust, and steering on output.

*Teleworking* was the first component of the survey and it “is a form of organizing and/or performing work, using information technology, in the context of an employment contract/relationship, where work, which could also be performed at the employer’s premises, is carried out away from those premises on a regular basis” (EFILWC, 2010, p.2). Teleworking is part of the NWW dimensions behavior since this component is about how the employees work and experiences work. This component consists of two items and is self-developed based on the checklist developed by Van Breukelen et al. (2014). The checklist of Van Breukelen et al. (2014) is used because it measures the four core aspects of NWW, namely teleworking, flexible workplaces at work, flexible working hours and IT and provides detailed information about the working situation of the employees. The answers of the items are based on an ordinal scale. The two stated questions were: ‘How many hours (in percentage) per week do you work from home?’ and ‘How many hours (in percentage) per week do you work from another location (not office or home)?’. However, it appeared that the Cronbach’s Alpha was very low 0.28 and the index showed a correlation of  $r = 0.238$ . By looking deeper into the questions, it was possible that the questions could be summed up as one: “To the extent of not working at the offices workplaces”. Therefore, the mean of both outcomes was summed up and divided by two. It was divided by two since 1) the results are shown in a relative sense and 2) because the four components are merged into one ten point scale (NWW). It was tested if this method differed from only summing up both outcomes which was not the case. Since both questions can be summed up, the following question can be stated: How many hours do you not work at the office workplaces? By doing this, one question was created whereby the Cronbach’s Alpha is not of relevance for this component since only one question is stated.

*Flexible workplaces at work* was the second component of the survey and is defined as a “continuum of discretion concerning how frequently employees conduct their work away from the main work site” (Thompson, 2011, p.6). It involves flexibility in the use of the location where work is conducted. Flexible workplaces at work is part of the NWW dimensions bricks because it concerns the physical work environment. This component consists of three items and is self-developed based on the checklist developed by Van Breukelen et al. (2014). The answers of the items are based on an ordinal scale. Initially, this component was measured by three questions. However, the Cronbach’s Alpha appeared to be 0.35. By looking deeper into the questions it appeared that the first two questions indicated if flexible workplaces at work were available. However, the questions were asked to analyze if employees used those flexible workplaces at work. The first two questions: “Does your department have flexible workplaces?” and “Compared to the number of workplaces, how many flexible workplaces (in percentage) are available in your organization” were excluded to make sure the actual level of usage in NWW was measured. The used question, which indicated the usage was as follows: “How many hours (in percentage) per week do you make use of flexible workplaces?” The Cronbach’s Alpha is not relevant since only one question is stated.

*Flexible working hours* is defined as “having the ability to schedule flexible starting and quitting times, sometimes with a core-hours requirement” but also to have the flexibility in taking days off (Eaton, 2003, p.146). This component consists of two items and is self-developed based on the checklist developed by Van Breukelen et al. (2014). The answers of the items are based on an ordinal scale. The component flexible working hours was indicated by the use of only two questions which contained freedom in time and freedom in days. The index showed a high

correlation  $r=0.765$  (see appendix 6.1). Kendall's tau-b showed 0.657, a number which lies nearby +1 which mean the questions correlate and are dependent of each other. It can be concluded that there is a relatively positive correlation (Kendall's tau-b: 0.66;  $p<0.001$ ;  $n=289$ ) between how many freedom in days and how many hours respondents were able to fill in with own selection. The overall sample also showed a relatively positive correlation (Kendall's tau-b: 0.63;  $p<0.001$ ;  $n=334$ ).

*IT* was the fourth component of the survey. IT stands for "Information Technology" and "encompass a broad array of communication media and devices which link information systems and people including voice mail, e-mail, voice conferencing, video conferencing, the internet, groupware, and corporate intranets, car phones, fax machines, personal digital assistants and so on" (Dewett & Jones, 2001, p.314). IT is part of the NWW dimensions bytes because it concerns the technological dimension and addresses aspects such as the use and the application of IT. This component consists of seven items and is self-developed based on the checklist developed by Van Breukelen et al. (2014) with  $\alpha = .69$  for the dataset of Rabobank Operations Nederland. The answers of the items are based on a ordinal scale. The overall sample showed a Cronbach's Alpha of 0.68. As mentioned in section 4.3.1.1, a Cronbach's Alpha of 0.7 is enough. However, Cortina (1993) stated that general guidelines need to be used with caution since the value of alpha depends on the number of items on the scale. Therefore, it was not chosen to delete an item.

*NWW*. The four components teleworking, flexible workplaces at work, flexible working hours, and IT form together the construct NWW. To be able to merge the scales of the components of NWW, the components of NWW were recoded into 10 point scales (see appendix 6.2). The decision was made to also measure NWW as whole since a combined effect of the components appeared to be stronger (see 5.2.1). The data of Rabobank Operations Nederland showed a Cronbach's alpha of .73. When this component was scaled into 10 point scales, the Cronbach's Alpha changed to .77. This was also the case for the overall sample. It showed a Cronbach's Alpha of .67, after it was scaled into 10 point scales  $\alpha = .71$ . The 10 point scales was used to compare the various components of NWW and to be able to use it as one.

*Productivity*. The overall productivity of employees was measured with six items from an existing questionnaire of Staples et al. (1998). "Productivity is the effectiveness with which a worker applies his or her talents and skills to perform work, using available materials, within a specific time" (Neufeld & Fang, 2005, p.1038). Examples of items regarding this component are; 'I believe I am an effective employee', 'I work very efficiently', 'My manager believes I am an efficient worker' and 'I am happy with the quality of my work output'. The answers of the items are based on a five-point Likert-scale (1="strongly disagree", 5="strongly agree") with  $\alpha = .90$  for both samples.

*Organizational commitment* is the second outcome variable of NWW and is defined as "a person's affective reactions to characteristics of his employing organization" (Cook & Wall, 1980, p.40). It is operationalized with the use of the article Cook & Wall (1980). The construct is operationalized with eight items whereas the original construct of Cook & Wall (1980) consists of nine items. The question "I'm not willing to put myself out to help the organization" has been omitted because it overlaps with the question "In my work I like to feel I am making some effort, not just for myself but for the organization as well". Originally the answers of the items are based on a seven-point Likert-scale. However, in this survey the items are based on a five-point Likert-scale (1="strongly disagree", 5="strongly agree") to have a consistent answering scale which facilitates filling in the survey. Two of eight items were reversed stated questions



(question 2 and 7). Those questions were recoded, since the outcomes would be affected by reverse scored items. The Cronbach's alpha for the sample Rabobank Operations Nederland was .80. The Cronbach's alpha for the overall sample was .81.

The seventh component of the survey was *empowerment*. This construct is part of the leadership competencies as described in 3.3.1. Empowerment "is a leadership strategy that is concerned to provide subordinates with the power to do their work fully" (Bryman et al., 1996, p.358). The existing method of Spreitzer (1995) is used to measure the four dimensions of empowerment. The method of Spreitzer (1995) is used because it is widely used in the literature (Drake, Wong, & Salter, 2007; Siegall & Gardner, 2000; Spreitzer, Kizilos, & Nason, 1997) and the construct validity has been verified in divers independent studies (Kraimer, Seibert, & Liden, 1999; Liden, Wayne, & Sparrowe, 2000; Spreitzer, 1995). Originally, the construct entails twelve items. However, in this Master Thesis the construct was operationalized with four items. The dimension "self-determination" was used in this survey because this item entails job autonomy. The dimension "impact" was also used and rewritten to questions that can be answered by employees instead of the leader. The answers of the items are based on a five-point Likert-scale (1="strongly disagree", 5="strongly agree") with  $\alpha = .86$  for both samples.

*Trust* was elaborated as interpersonal trust in this Master Thesis. This means horizontal trust (trust between colleagues) and vertical trust (trust in management). According to Cook & Wall (1980) trust is defined as the extent to which an individual is willing to have positive intentions and confidence in actions and words of other people. This construct was measured with the use of an existing dataset of Cook & Wall (1980) consisting of twelve items. The questions "I can trust the people I work with to lend me a hand if I needed it" and "Our management would be quite prepared to gain advantage by deceiving the workers" have been omitted since it shows overlap with other questions. Cook & Wall (1980) is still one of the most used study to measure interpersonal trust and it measures both trust in management and trust between colleagues (Matzler & Renzl, 2006). This dataset is used for these reasons. Originally, the answers of the items are based on a seven-point Likert-scale. However, in this survey the items are based on a five-point Likert-scale (1="strongly disagree", 5="strongly agree") to have a consistent answering scale which facilitates filling in the survey. For trust in management the Cronbach's alpha for both samples was .85, and .79 for trust between colleagues after the question "I can trust the people I work with to lend me a hand if I needed it" was deleted (see appendix 6.3).

*Steering on output* was the ninth component of the survey and is part of the leadership competencies as described in 3.3.1 Leadership competencies. Steering on output was measured with three items of the study of Ouchi (1978) and was based on output control. Output-based controls refer to the evaluation of leaders of the performance of employees which is based on output, products, or deliverables of work (Ouchi, 1978). The questions which have to be answered by leaders have been omitted since in this Master Thesis questions are asked from the viewpoint of the employees. Originally, the answers of the items are based on a seven-point Likert-scale. However, in this survey the items are based on a five-point Likert-scale (1="strongly disagree", 5="strongly agree") to have a consistent answering scale which facilitates filling in the survey. The Cronbach's alpha for the sample Rabobank Operations Nederland is -.006 and  $\alpha = .001$  for the overall sample. A negative Cronbach's Alpha means that the mean of all the inter-item correlations is negative. However, since steering on output is about how value is attached to output only question 2 "When you are being evaluated for a raise or promotion, how much weight does your supervisor give to the records of your output?" was included in the analysis (see appendix 6.4). Question 1 ("Does your immediate superior keep

such records of your individual output?") and 3 ("How often does your immediate supervisor check to see what you are doing on the job?") were excluded.

*Leadership* is the moderating component which includes three components in total (empowerment, trust, and steering on output). Academics define leadership as "some kind of process, act, or influence that in some way gets people to do something" (Ciulla, 1995,p.12). Figure 2 reports the mean, standard deviation and the number of respondents of leadership of the sample Rabobank Operations Nederland. Figure 3 reports the mean, standard deviation and the number of respondents of leadership of the overall sample.

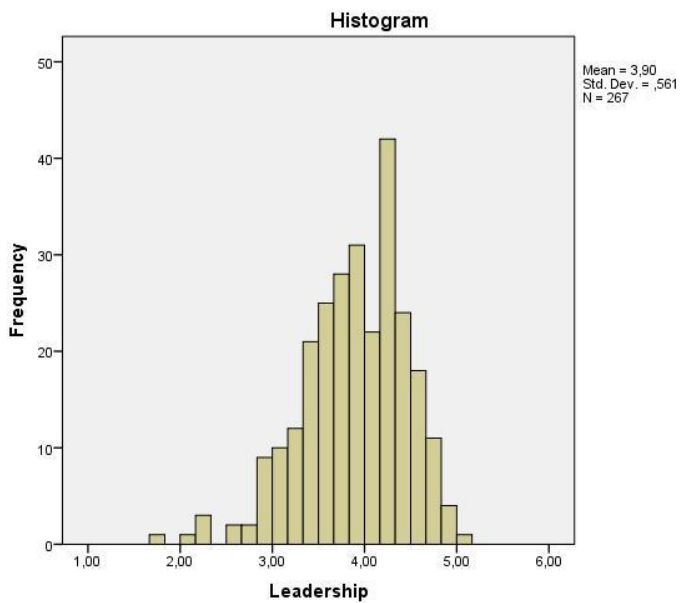


Figure 2 histogram of component leadership (sample Rabobank Operations Nederland)

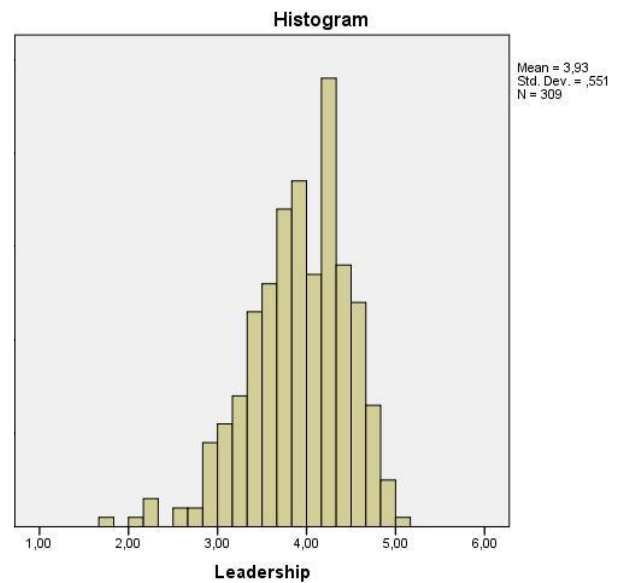


Figure 3 histogram of component leadership (overall sample)

Component Component	Description	Items	$\alpha$	Mean	SD	$\alpha$	Mean	SD
<b>Teleworking</b>	<i>"A form of organizing and/or performing work, using IT, in the context of an employment contract/relationship, where work, which could also be performed at the employer's premises, is carried out away from those premises on a regular basis" (EFILWC, 2010, p.2).</i>	2	-	3.96	3.69	-	4.2	3.77
<b>Flexible workplaces at work</b>	<i>"Continuum of discretion concerning how frequently employees conduct their work away from the main work site" (Thompson, 2011, p.6).</i>	1	-	7.95	3.56	-	7.5	3.87
<b>Flexible working hours</b>	<i>"having the ability to schedule flexible starting and quitting times, sometimes with a core-hours requirement" but also to have the flexibility in taking days off (Eaton, 2003, p.146).</i>	2	Kendall's tau-b 0.66	6.11	3.92	Kendall's tau-b 0.63	6.15	3.82
<b>IT</b>	<i>"Encompass a broad array of communication media and devices which link information systems and people including voice mail, e-mail, voice conferencing, video conferencing, the internet, groupware, and corporate intranets, car phones, fax machines, personal digital assistants and so on" (Dewett &amp; Jones, 2001, p.314).</i>	7	.75	6.11	3.92	.68	3.58	2.16
<b>Productivity</b>	<i>"Productivity is the effectiveness with which a worker applies his or her talents and skills to perform work, using available materials, within a specific time" (Neufeld &amp; Fang, 2005, p.1038)</i>	6	.90	4.22	0.55	.90	4.21	0.56
<b>Organizational Commitment</b>	<i>"A person's affective reactions to characteristics of his employing organization" (Cook &amp; Wall, 1980, p.40).</i>	8	.80	3.87	0.65	.81	3.91	0.64
<b>Empowerment</b>	<i>"Is a leadership strategy that is concerned to provide subordinates with the power to do their work fully" (Bryman et al., 1996, p.358).</i>	4	.86	3.90	0.79	.86	3.95	0.78
<b>Trust</b>	<i>"The extent to which an individual is willing to have well intentions and confidence in actions and words of other people" (Cook &amp; Wall, 1980) .</i>	5 4	Management .85 Colleagues .79	3.53 4.10	0.73 0.61	Management .85 Colleagues .79	3.58 4.10	0.74 0.60
<b>Steering on output</b>	<i>"The evaluation of leaders of the performance of employees which is based on output, products, or deliverables of work" (Ouchi, 1978).</i>	1	-	4.12	1.29	-	4.11	1.26

Table 6 Merged tables of the components of both samples (*Rabobank Operations Nederland*; n=289) and *overall* (n=300).

As shown in table 6, the Cronbach's Alpha of both samples does not differ much. Therefore, only a deeper analysis was made for the sample Rabobank Operations Nederland (see Chapter 5).

## 4.3 DATA ANALYSIS

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### 4.3.1 QUANTITATIVE ANALYSIS

The data of the survey was analyzed by the use of the statistical program SPSS. The elaboration of the quantitative analysis consisted of three parts; 1) univariate analysis, 2) bivariate analysis, and 3) multivariate analysis. Univariate analysis is the simplest form of analysis. It describes only one variable. Statistical tests which were used are descriptive statistics such as mean, median, mode, minimum, maximum, standard deviation, kurtosis, and skewness. Univariate analysis is about the normal distribution. Therefore, the aim of univariate analysis is to analyze whether there is a normal distribution. A normal distribution includes symmetrical data and a bell-shaped curve. Univariate analysis has two rules 1) 68% of the data lies in one standard deviation, and 2) 95% of the data lies in two standard deviations. Furthermore, the kurtosis refers to the degree of peakedness. The rule of thumb concerning the kurtosis is a deviation between -3 and 3 (Dooley, 2009).

The bivariate analysis is used for two variable relationships. This method is used if each individual has scores on two various variables. In this Master Thesis it involves if NWW leads to a higher productivity, and more organizational commitment. The regressions are binary since the relationship is tested for all organizations and whether the relationship holds for a specific organization. The correlation of the above mentioned relationships is measured if the test is significant. In this Master Thesis the measurement scales are ratio which means that Pearson's  $r$  was used to measure the correlation (Bryman & Bell, 2011).

Multivariate analysis is based on tests with more than two variables. It tests whether distinct variables of leadership lead to a higher productivity and more organizational commitment. In addition, it tests whether the moderator leadership has an effect NWW and productivity and organizational commitment (Dooley, 2009).

#### 4.3.1.1 RELIABILITY

According to Dooley (2009) reliability "refers to the degree to which observes scores are free from errors of measurement" (p.76). Reliability is measured by the consistency of the scores. According to Babbie (2004) established measures is a method to ensure reliability. A reliability coefficient is Cronbach's alpha. In this Master Thesis, only existing datasets are used. However, since sometimes formulation of the statements is changed the Cronbach's alpha is calculated. According to Nunnally (1978), Cronbach's Alpha values being higher than 0.7 can be considered reliable. In case that some constructs do not meet this requirement, those items that decrease the alpha score are excluded from the analysis. Also, fellow researchers were willing to collaborate in achieving consensus concerning the development of the survey, and cross-checking the analysis and its interpretation.

#### 4.3.1.2 VALIDITY

According to Dooley (2009) validity "refers to the appropriateness, meaningfulness, and usefulness of the specific inferences made from the measures" (p.76). It depends on a fit between the measure and its label. Cook, Campbell, & Day (1979) divided validity into four types; internal validity, external validity, construct validity, and statistical inference validity. The four types of validity are elaborated in the next sections. The threats of each validity type are also appointed. A threat is defined as "a specific reason why a partly or completely wrong inference is made about the covariance, causation, constructs or about whether the causal relationship holds over variations in persons, settings, treatments, and outcomes" (Shadish et al., 2002, p.39).

### INTERNAL VALIDITY

According to Dooley (2009) internal validity “refers to the truthfulness of the claim that one variables causes another” (p.163). Regarding this Master Thesis an attempt was made to minimize the impact of the threats.

A threat to the internal validity in this Master Thesis could be the history. “History refers to the threat that some coincidental event outside the study caused the observed change” (Dooley, 2009, p.166). That is why the perceived productivity of the employees is measured and not the productivity by looking at historical data of the organization. Another threat of internal validity is the instrumentation. This threat appears when observed changes result in variety in the way measures are gathered (Dooley, 2009). It is tried to reduce this threat to the minimum by standardizing for example the interviews.

### EXTERNAL VALIDITY

External validity is based on generalization (Shadish et al., 2002). It “consists of the extent to which research findings generalize to other populations, other times, and other settings” (Dooley, 2009, p.197). Since 13 organizations from various sectors participate it is likely that this research can be generalized to other organizations as well. However, the sample of Rabobank Operations Nederland appeared to be the largest in this Master Thesis. Thereby, it is harder to generalize this study to organizations in other sectors such as the public sector.

### CONSTRUCT VALIDITY

According to Bryman & Bell (2011), construct validity consists of deducing hypotheses from theory that is relevant to the concepts. In this Master Thesis, the constructs that are intended to measure are; teleworking, flexible workplaces at work, flexible working hours and IT which together form NWW. Also, empowerment, trust, and steering on output form together the leadership dimension.

A threat of construct validity can be that either the theory or the deduction might be misguided Bryman & Bell (2011). In this Master Thesis, this is avoided as much as possible by strengthening the theory by using multiple sources.

### STATISTICAL INFERENCE VALIDITY

The last validity type is statistical conclusion validity. It refers to study wrong inferences regarding the co-variation between two variables. This type is more applicable for quantitative research methods than for qualitative research methods.

Preventive measures for statistical inference validity are sample size, and reliability (Dooley, 2009). This research was conducted among various organizations. However, in no case an entire organization participated in this research. The sample size is 347 and can be regarded as medium. The second threat involves the reliability of the measures. This threat is reduced by using existing datasets. In general, all questions of the survey are based on used datasets with a high Cronbach’s alpha.

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## 5. RESULTS

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All data analysis are presented in tables and figures in this chapter. Through extensive data analysis the 18 hypotheses of this research are accepted or rejected. In this chapter, an analysis is made for the largest sample; Rabobank Operations Nederland. Chapter six contains further explanation of all analysis.

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### 5.1 RESPONSE

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This research is conducted in the Netherlands and has 347 respondents, whereof 300 (86%) respondents have filled in the survey completely. All completed surveys are used. 295 (85%) surveys were filled in by employees of Rabobank Operations Nederland, whereof 258 (87%) filled it in completely. 51 (15%) of the respondents were from the remaining organizations such as Rabobank Centraal Twente, Achmea, InnoValor, BIZZdesign, Interactive Blueprints, O&I management consultants, Gemeente 's Hertogenbosch, Flexwhere, Gemeente Deventer, Organisatieadviesbureau, De Groot & Kolman, and Spellenlabs. Of these twelve organizations 42 (82%) surveys were filled in completely. This remaining group is used to verify the outcomes. If the outcomes differ from the outcomes with Rabobank Operations Nederland, the potential influences are explained. This is chosen to overcome possible disruptive factors. There is less disruption in one organization than among various organizations because of different environments and influences. However, this weakens the generalizability of this study. Therefore, the results of this study are less generalizable as expected at forehand. By using the results of the remaining organizations it is possible to expand the external validity. However, the remaining organizations only filled in 51 surveys. Therefore, the results are not very representative and also less generalizable.

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### 5.2 RESULTS OF COMPONENTS OF NWW, OUTCOMES VARIABLES AND LEADERSHIP

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Before the results of this Master Thesis are presented, a clear explanation is given about the used statistical terms. The mean score for each variable (e.g., NWW, productivity, organizational commitment, and leadership) is measured by taking the scores of all respondents and dividing them by the number of respondents. The average score per variable is converted from the five-point likert scale. An average score between 1 and 2 means that the respondents' answers on the questions were "strongly disagree" or "disagree". This mean score is valued as insufficiently. A mean score of 3 means that the respondents neither agree nor disagree with the statements. This mean score is valued as insufficiently to sufficiently. A mean score between 4 and 5 means that the respondents' answers on the questions were "agree" and "strongly agree". This mean score is valued as sufficiently to good.

A significant difference means that the difference in mean scores is not likely to have occurred by chance.

The standard deviation indicates the dispersion of the answers around the mean score. A relatively small standard deviation includes that the answers of the respondents vary rather close around the mean score. Whereas a large standard deviation means that the answers deviate considerably from the mean score. In case of the latter, the mean score does not represent the answers of the respondents well. The expected value of the standard deviation is 1 in case of a five-point response format. A standard deviation that is smaller than 1 indicates little dispersion of the answers around the mean score. This means that the respondents did not have many differences in opinions, and therefore they are quite homogeneously. A standard deviation which is greater than 1 indicates reasonable to great dispersion of the answers around the mean score. In that case, interpretation of the mean score should be taken with care.

### 5.2.1 MULTICOLLINEARITY

In this subsection, the correlations of all components of the survey are given. First, all correlations were analyzed. Since it was expected that all relationships are positive, one-tailed significance was tested. Then, it was tested if there is a multicollinearity problem regarding the components of NWW.

Table 7 shows the correlation of all components of NWW. Only a positive significant relationship appeared between teleworking and productivity ( $p=.04$ ), and IT and productivity ( $p=.006$ ). The relationship between flexible work places at work and productivity and flexible working hours and productivity were not significant. Concerning the outcome variable organizational commitment, it appeared that flexible workplaces at work ( $p=.02$ ), flexible working hours ( $p=.02$ ), and IT ( $p=.04$ ) were significant. Only the relationship between teleworking and organizational commitment is not significant ( $p=.20$ ).

Correlations		
	Productivity	Organizational commitment
Teleworking	,107 ,041 265	,053 ,195 265
FWW	,057 ,177 265	,127 ,019 265
FWH	,077 ,106 265	,156 ,006 265
IT	,153 ,006 265	,107 ,040 265

Table 7 Correlations of all components of NWW

*Hypothesis 1a:* The higher the optimal use of teleworking, the significantly higher productivity of teleworkers in comparison to non-teleworkers is confirmed.

*Hypothesis 1b:* Using flexible workplaces will result in significantly higher productivity levels than using fixed workplaces is rejected.

*Hypothesis 1c:* Flexible working hours will result significantly in higher productivity levels is rejected.

*Hypothesis 1d:* Better usage of IT result in significantly higher productivity levels is confirmed.

*Hypothesis 2a:* The higher the optimal use of teleworking, the significantly more organizational commitment of teleworkers in comparison to non-teleworkers is rejected.

*Hypothesis 2b:* Flexible workplaces at work will result in significantly higher levels of organizational commitment is confirmed.

*Hypothesis 2c:* Individuals that perceive flexible working hours will report significantly higher levels of organizational commitment than individuals who do not is confirmed.

*Hypothesis 2d:* Better usage of IT result in significantly higher organizational commitment is confirmed.

It was tested if a multicollinearity problem existed regarding the components of NWW. When the four components were tested on multicollinearity on the sample of Rabobank Operations Nederland, it showed a low VIF score ( $<10$ ) and a low score of tolerance which indicates no multicollinearity. Therefore, there is no multicollinearity problem. However, this is less relevant in this case since when merging the components it might be possible that the combined effect is clearer and/or stronger. Table 8 shows there is a relatively high



correlation between the NWW components. FWW shows the lowest correlation of all. However, the decision was made to maintain the FWW component to examine NWW as a whole.

Correlations				
	Teleworking	FWW	FWH	IT
Teleworking	1			
FWW	,303	1		
FWH	,529	,401	1	
IT	,517	,412	,591	1

Table 8 Correlations between NWW components in sample Rabobank Operations Nederland

### 5.2.2 NWW AND OUTCOMES VARIABLES

Since it was showed that there is a high correlation between the NWW components, it is interesting to see if a combined effect of NWW is clearer and/or stronger. Therefore, the four components are combined to one component; NWW.

To test Hypothesis 1, a correlation test was performed on 'NWW' and 'Productivity'. Table 9 shows the results.

Correlations			
		Productivity	NWW_10
Productivity	Pearson Correlation	1	,118*
	Sig. (1-tailed)		,028
	N	265	265
NWW_10	Pearson Correlation	,118*	1
	Sig. (1-tailed)	,028	
	N	265	289

\*. Correlation is significant at the 0.05 level (1-tailed).

Table 9 Correlation test on NWW and productivity (Sample Rabobank Operations Nederland)

It can be stated that hypothesis 1: There is a positive relationship between NWW and productivity is confirmed for the sample of Rabobank Operations Nederland ( $r_s=0.12$ ;  $p<0.05$ ; one-tailed). The regression analysis showed a little positive linear correlation between NWW and productivity for the sample of Rabobank Operations Nederland. The higher NWW, the higher productivity, and vice versa. The strength of the correlation is expressed in terms of correlation coefficient is .12 ( $p<0.05$ ). Of the variance of productivity, 1.4% can be explained by NWW (see appendix 7).



## NWW AND ORGANIZATIONAL COMMITMENT

To test Hypothesis 2, a correlation test was performed on 'NWW' and 'Organization Commitment'. Table 10 shows the results.

Correlations			
		Comm	NWW_10
Comm	Pearson Correlation	1	,146**
	Sig. (1-tailed)		,009
	N	265	265
NWW_10	Pearson Correlation	,146**	1
	Sig. (1-tailed)	,009	
	N	265	289

\*\* . Correlation is significant at the 0.01 level (1-tailed).

Table 10 Correlation test on NWW and organizational commitment (Sample Rabobank Operations Nederland)

Hypothesis 2: There is a positive relationship between NWW and organizational commitment is confirmed ( $rs=0.15$ ;  $p<0.01$ ; one-tailed). A regression analysis was made to measure the strength of the relationship which showed a little positive linear correlation between NWW and organizational commitment for the sample of Rabobank Operations Nederland. The higher NWW, the higher organizational commitment, and vice versa. The strength of the correlation is expressed in terms of correlation coefficient is .15 ( $p<0.05$ ). Of the variance of NWW, 2.1% can be explained by organizational commitment (see appendix 7). It appeared that both variances are small. However, it is interesting to investigate the moderator to see the impact of the different levels of the moderator.

## 5.3 MODERATING VARIABLE

Table 11 and Table 12 report not very different results. Therefore, only the sample of Rabobank Operations Nederland is used for the analysis of the moderating variable. Since, after revision, only one question is used to measure 'Steering on output', the Cronbach's alpha of this leadership competence is not of importance.

Leadership competencies	Items	Cronbach's Alpha	Mean	Std. Deviation	N
<b>Empowerment</b>	4	.86	3.90	0,79	267
<b>Trust in management</b>	5	.85	3.53	0.73	265
<b>Trust between colleagues</b>	4 (deleted 1)	.79	4.10	0.62	265
<b>Steering on output</b>	1 (deleted 2)		4.12	1.29	261

Table 11 Data of the sample Rabobank Operations Nederland of moderating variable

Leadership competencies	Items	Cronbach's Alpha	Mean	Std. Deviation	N
<b>Empowerment</b>	4	.86	3.94	0.78	309
<b>Trust in management</b>	5	.85	3.58	0.74	307
<b>Trust between colleagues</b>	4 (deleted 1)	.79	4.07	0.60	307
<b>Steering on output</b>	1 (deleted 2)		4.11	1.26	303

Table 12 Data of the overall sample of moderating variable

### MULTICOLLINEARITY PROBLEM

It was tested if a multicollinearity problem existed regarding the leadership competencies. When the four components were tested on multicollinearity on the sample of Rabobank Operations Nederland, it showed a low VIF score (<10) and a low score of tolerance which indicates no multicollinearity. Table 13 shows the significantly correlations between the leadership competencies. However, these correlations are not very high which theoretically is logical. Therefore, the combined effects of the leadership competencies on the outcome variables is not measured.

		Correlations			
		Steering on output	Empowerment	TRUMA	TRUCO
Steering on output	Pearson Correlation	1			
	N	261			
Empowerment	Pearson Correlation	,144	1		
	Sig. (1-tailed)	,010			
	N	261	267		
TRUMA	Pearson Correlation	,190	,323	1	
	Sig. (1-tailed)	,001	,000		
	N	261	265	265	
TRUCO	Pearson Correlation	,141	,160	,457	1
	Sig. (1-tailed)	,011	,005	,000	
	N	261	265	265	265

Table 13 correlations between leadership competencies

#### 5.3.1 LEVELING NWW AND LEADERSHIP COMPETENCIES INTO THREE DIFFERENT LEVELS

To analyze the various components easily, NWW and the leadership competencies are recoded. First, NWW is recoded to a 10 point likert scale (see appendix 6.2). Then, both NWW and the leadership competencies are recoded into three levels; low-, medium-, high level. Appendix 8 shows an example of recoding into levels. Hereby, a distinction is made between employees that agree with the statement and employees who do not agree with the statement and more specific statements are made.

#### 5.3.2 INTERACTION EFFECTS OF MODERATING VARIABLE

In this section it is analyzed if an interaction effect of the moderating variable exists and its strength. As mentioned, the moderating variable leadership consists of three different leadership competencies whereof trust is divided in 'trust in management' and 'trust between colleagues'.

First, regression analyses were conducted for the leadership competencies on the output variables. The first regression analysis is based on the moderating variables empowerment, trust in management, trust between colleagues and steering on output and the dependent variable productivity (see Appendix 9). The ANOVA test shows a significant relationship between the moderating variables and productivity ( $p < 0.05$ ). However, steering on output did not show a significant relationship with productivity, since  $p > 0.05$ . This means that productivity can be explained by empowerment, trust in management, and trust between colleagues. The second regression analysis is based on the moderating variables empowerment, trust in management, trust between colleagues and steering on output and the dependent variable organizational commitment (see Appendix 10). The ANOVA test shows a significant relationship between all moderating variables and organizational commitment ( $p < 0.05$ ). This means that organizational commitment can be explained by all four leadership competencies.

To determine if the relationship between NWW and productivity is influenced by moderating variables, multivariate analysis was conducted. The first moderating variable which was tested was empowerment. It showed that NWW and the interaction NWW and empowerment are not significant ( $p > .05$ ). It can be stated that when empowerment is taken into account, NWW is no longer of interest. Empowerment appeared to be significant ( $p = .02$ ). In paragraph 5.2.2 is stated that the effect of NWW on productivity is limited (only 1.4%). However, hypothesis 3a: Empowerment will moderate the relationship between NWW and productivity in such a way that the relationship between NWW and productivity will be more positive is rejected ( $p = .73$ ). Figure 4 shows that only low empowerment will lead to a more positive relationship between NWW and productivity, Notable is the effect of medium and high empowerment, which appeared to be negative for the relationship between NWW and productivity (see appendix 11).

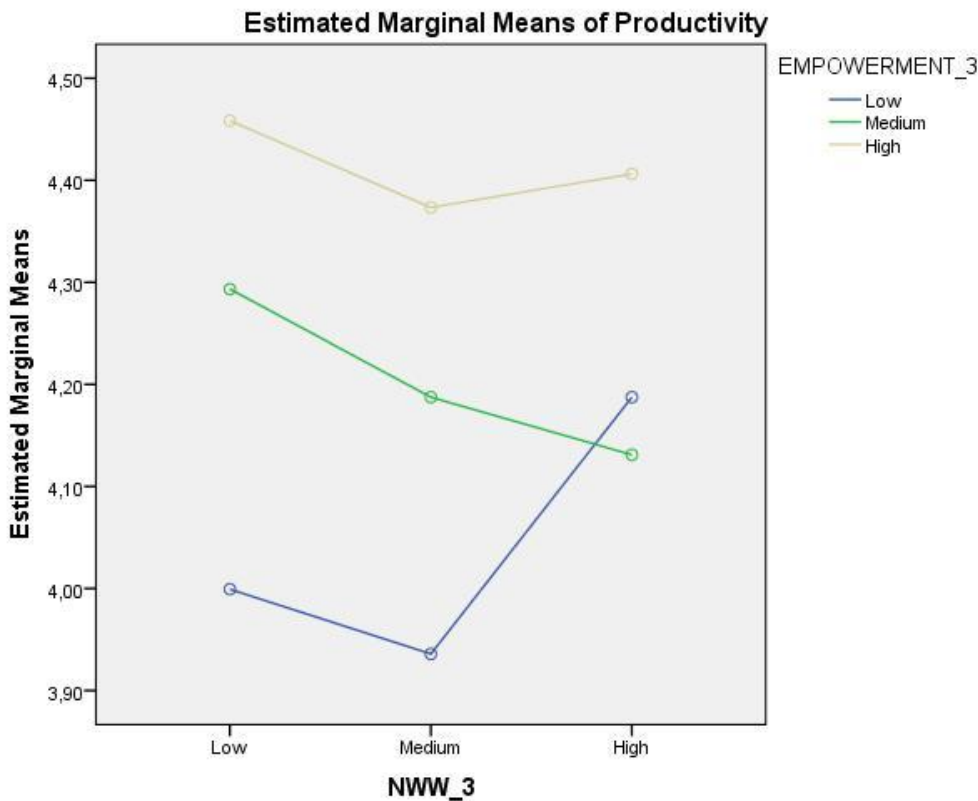


Figure 4 Interaction effect of empowerment on the relationship NWW and productivity

The second moderating variable was trust in management. In this analysis, NWW is not significant ( $p = .17$ ). However, trust in management and the interaction NWW and trust in management are significant. It appeared that there is an interaction effect. However, after analyzing the graph it appeared that this is not the case. After trust in management was added, it appeared to have a strong influence on productivity. It shows that there is hardly a relationship between NWW and productivity. Only when trust in management is low, a weak positive relationship is noticed. Therefore, hypothesis 4b: Trust in management will moderate the relationship between NWW and productivity in such a way that the relationship between NWW and productivity will be more positive is rejected (see appendix 11).

The last moderating variable which was measured concerning the relationship between NWW and productivity is trust between colleagues. It showed that NWW and the interaction NWW and trust between colleagues are not significant. However, trust between colleagues appeared to be significant ( $p = .005$ ). Therefore, hypothesis 4a: Trust between colleagues will moderate the relationship between NWW and productivity in such a way that the relationship between NWW and productivity will be more positive is not confirmed ( $p = .83$ )(see appendix 11).

To determine if the relationship between NWW and organizational commitment is influenced by moderating variables, multivariate analyses was conducted. The first moderating variable which was tested was empowerment. The analysis shows that both NWW and the interaction between NWW and empowerment are not significant ( $p>0.05$ ). It can be stated that when empowerment is taken into account, NWW is no longer of interest. Empowerment appeared to be significant ( $p=.03$ ). However, hypothesis 3b: Empowerment will moderate the relationship between NWW and organizational commitment in such a way that the relationship between NWW and organizational commitment will be more positive is rejected ( $p=.18$ ). In paragraph 5.2.2 is stated that the effect of NWW on organizational commitment is limited (only 2.1%). Figure 5 shows that when empowerment scores low there is no effect. Only a positive effect of empowerment is mentioned when empowerment is high. However, this is not significant (see appendix 12).

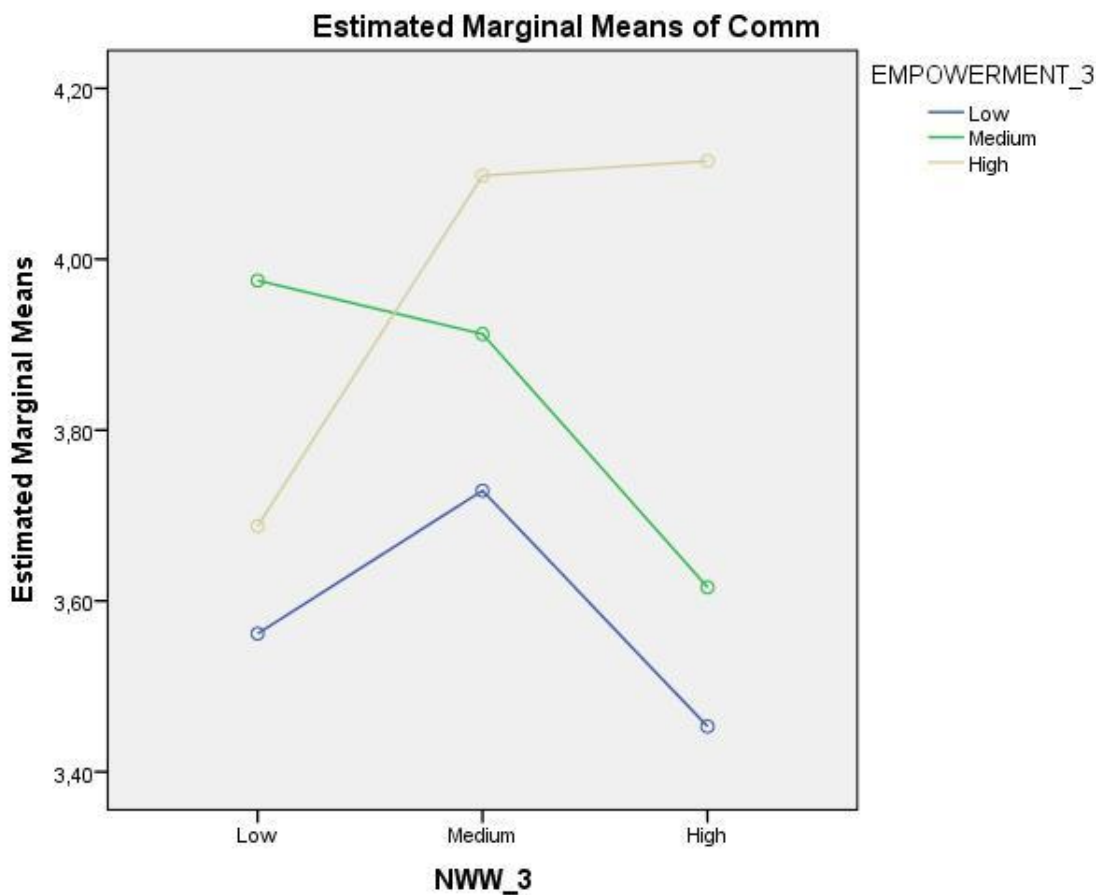


Figure 5 interaction effect of empowerment on the relationship NWW and organizational commitment

The second moderating variable which was tested was trust in management. The analysis showed that NWW is not significant ( $p>0.05$ ). However, trust in management and the interaction between NWW and trust in management are significant ( $p<0.05$ ). It appeared that there was an interaction effect. However, after analyzing the figure (see appendix 12), it can be stated that this is not the case. Since there was an interaction effect, it appeared that trust in management has a strong influence on organizational commitment. However, the graph showed that there is hardly a relationship between NWW and organizational commitment. Only when trust in management is low, a weak positive relationship is noticed. Therefore, hypothesis 4d: Trust in management will moderate the relationship between NWW and organizational commitment in such a way that the relationship between NWW and organizational commitment will be more positive is rejected (see appendix 12).

The third moderating variable was trust between colleagues. It showed that NWW and trust between colleagues are significant (see appendix 12). Whereas, the interaction between NWW and trust between colleagues is not significant ( $p=.26$ ). Therefore, hypothesis 4c: Trust between colleagues will moderate the

relationship between NWW and organizational commitment in such a way that the relationship between NWW and organizational commitment will be more positive is rejected. Appendix 12 showed that only when trust between colleagues is low, a weak positive relationship is noticed.

The fourth moderating variable was steering on output. The analysis showed that NWW is still significant ( $p=.02$ ) as well as steering on output ( $p=.04$ ). However, the interaction effect of NWW and steering on output is not significant ( $p=.46$ ). The total explained variance is only 7%. It can be concluded that the main effects are significant but the interaction is not significant. Therefore, hypothesis 5b: Output-based controls will moderate the relationship between NWW and organizational commitment in such a way that the relationship between NWW and organizational commitment will be more positive is rejected (see appendix 12).

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## 6. DISCUSSION

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This chapter contains a discussion of the findings of this research. Also, the limitations of this research are explained.

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### 6.1 FINDINGS

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In this sub-chapter, the most important findings concerning significant and insignificant results are discussed. To conclude, a model is given of the important significant findings.

#### 6.1.1 SIGNIFICANT RESULTS

##### *TELEWORKING – PRODUCTIVITY*

There is a small positive relation between teleworking and productivity. This means that hypothesis 1a: The higher the optimal use of teleworking, the significantly higher productivity of teleworkers in comparison to non-teleworkers is confirmed. According to Bailey & Kurland (2002) and Bélanger (1999) there are various reasons for the positive relationship between teleworking and productivity. The first possible reason is the flexibility in work since teleworkers can choose where and when to work. Thereby, teleworkers are able to work at peak efficiency hours. Also, less interruptions, less time spent telecommuting, and reducing incidental absence can be regarded as reasons.

##### *IT- PRODUCTIVITY*

There is a small positive relation between IT and productivity. Therefore, hypothesis 1d: Better usage of IT result in significantly higher productivity levels is confirmed. A plausible explanation can be that IT investments are often complemented by time-consuming organizational changes (Brynjolfsson & Hitt, 2003). This means that higher productivity is derived from IT investments and organizational changes. According to Cardona et al. (2013), the productivity effect is therefore not of short-term nature but even increases over time.

##### *NWW – PRODUCTIVITY*

A small positive relationship between NWW and productivity is the outcome of the regression analysis. This means that hypothesis 1: There is a positive relationship between NWW and productivity is confirmed. However, only 1.4% of the variance of productivity can be explained by NWW. This is very small but explainable since productivity can be increased by the means of various things. For example, productivity can be increased by lean thinking (Santos, Wysk, & Torres, 2014) or social preferences (Carpenter & Seki, 2011).

##### *FLEXIBLE WORKPLACES AT WORK – ORGANIZATIONAL COMMITMENT*

There is a small positive relationship flexible workplaces at work and organizational commitment. Therefore, hypothesis 2b: Flexible workplaces at work will result in significantly higher levels of organizational commitment is found to be confirmed. By having the opportunity to work flexibly, employees develop positive feelings towards the organization (Kelliher & Anderson, 2008). According to Pitt-Catsoupes & Matz-Costa (2008) having the flexibility in where to work leads to for example higher life satisfaction. Being more committed to the organization is also a result of higher life satisfaction. They also stated the importance of the concept of fit, which is a powerful positive predictor of organizational commitment. This Master Thesis did not include the concept of fit. Flexibility fit provides organizations guidance with ways to maintain the organizational commitment of their employees. Managers need a tool to enhance organizational commitment when employees have access to flexibility. This is especially important for older workers since they expressed a preference for flexibility. Flexibility in workplaces at work augments organizational commitment. However, it would be interesting to include the concept of fit.

### *FLEXIBLE WORKING HOURS – ORGANIZATIONAL COMMITMENT*

A small positive relationship is noticed between flexible working hours and organizational commitment. Hypothesis 2c: Individuals that perceive flexible working hours will report significantly higher levels of organizational commitment than individuals who do not is confirmed. According to Kelliher & Anderson (2008) and Ng et al. (2006) features of the work environment, including the provision of flexible working hours, play an important role concerning organizational commitment. Organizations that are able to modify the work environment to add features which are aimed at support for employees and enhancing perceptions of membership are likely to succeed in increasing employees' organizational commitment.

### *IT – ORGANIZATIONAL COMMITMENT*

A small positive relation between IT and organizational commitment is found. This means that hypothesis 2d: Better usage of IT result in significantly higher organizational commitment is confirmed. According to Wiesenfeld et al. (1999) it is mainly the creation and sustaining of organizational identification by IT which increases the organizational commitment. Also, IT makes employees feel more important to the organization (Paré & Tremblay, 2007) and it enables employees to engage with the managers and the employer (Stone & Diedrick, 2015), whereby it increases their organizational commitment

### *NWW – ORGANIZATIONAL COMMITMENT*

A small positive relationship between NWW and organizational commitment is the outcome of the regression analysis. This means that hypothesis 2: There is a positive relationship between NWW and organizational commitment is confirmed. However, only 2.1% of the variance of organizational commitment can be explained by NWW. This is very small but explainable since organizational commitment is influenced by different antecedents (Moon & Jonson, 2012). First, organizational commitment can be influenced by personal factors, such as gender and educational level. However, organizational commitment can also be influenced by organizational- or job-level characteristics.

## **6.1.2 INSIGNIFICANT RESULTS**

### *FLEXIBLE WORKPLACES AT WORK – PRODUCTIVITY*

There was a very small positive relation between flexible workplaces at work and productivity. However, this relation was not significant. Therefore, hypothesis 1b: Using flexible workplaces will result in significantly higher productivity levels than using fixed workplaces is rejected. A possible explanation for this rejection is in line with the explanation of the increase of organizational commitment by flexible workplaces at work. The given flexibility may not correspond with the flexibility fit of the employees. When there is no fit, employees may not feel more productive by the flexible workplaces at work. Another possible explanation is stated in the study of Grzywacz, Carlson & Shulkin (2008). They concluded that flexible arrangements will lead to less stress and burnout than employees who are not engaged in this arrangements. When employees experience less stress, they are more productive since stress interfere with performance (Taris, 2006). Therefore, there might be a indirect effect of flexible workplaces at work on productivity.

### *FLEXIBLE WORKINGS HOURS – PRODUCTIVITY*

There was also a very small positive relation between flexible working hours and productivity. However, this relation was not significant. This means that hypothesis 1c: Flexible workings hours will result significantly in higher productivity levels is rejected. A possible explanation for this rejection is in line with the explanation of the insignificant relation between flexible workplaces at work and productivity. Since the concept of fit may not be optimal at their organization, employees do not feel more productive. Another possible explanation is stated in the study of Grzywacz, Carlson & Shulkin (2008) regarding the effect of flexible arrangements on stress and burnout. They concluded that flexible arrangements will lead to less stress and burnout than employees who are not engaged in this arrangements. Also, less stress leads to a higher productivity of the employees (Taris, 2006). Therefore, there might be a indirect effect of flexible working hours on productivity.



## *TELEWORKING – ORGANIZATIONAL COMMITMENT*

For the relation between teleworking and organizational commitment, the hypothesis 2a: The higher the optimal use of teleworking, the significantly more organizational commitment of teleworkers in comparison to non-teleworkers is rejected. A possible explanation may be derived from the studies of Harpaz (2002) and Golden & Veiga (2008). The first possible explanation is the negative effect of the distance which can harm motivation, control, influence, and commitment. A second possible explanation is the quality of the relationship between the manager and the employee. The study of Golden & Veiga (2008) stated that the quality of that relationship influences organizational commitment.

## *LEADERSHIP*

Implementing components of NWW requires something 'new' of leadership. Therefore, this Master Thesis uses the leadership competencies empowerment, trust (in management and between colleagues), and steering on output. All eight hypotheses regarding the leadership competencies are rejected. It is interesting that empowerment, trust (in management and between colleagues) and steering on output separately do influence productivity and organizational commitment. This shows that the 'new' leadership competencies affect the organizational outcomes of NWW. Only the relationship between steering on output and productivity was not significant. This is possibly explained by the behavior of the employee which is guided by the reward system of the organization. Steering on output is often associated with a number of pressures which directly affect the employees and therefore their productivity (Samnani & Singh, 2014). For example, an employee does not expect to reach the required output, which can lead to stress which affects the employees' productivity. When was tested if the 'new' leadership competencies moderate the relationship between NWW and the outcome variables almost all interaction effects were not significant. However, the interaction effect of NWW and trust in management on both productivity and organizational commitment seemed on the face significant. When analyzing the different levels in graphs it appeared that this was only the case when trust in management was low. Therefore, all eight hypotheses are rejected. Thus, the findings indicate that leadership is independent of the work environment. Therefore, components of NWW will not save a bad leader. The fact that the leadership competencies are not a moderator may be due the fact the leadership competencies may actually be mediators. The first study that refers to the mediating role is the study of Dahlstrom (2013), wherein cognitive-psychological dimensions of leadership play a key role in organizational commitment in the teleworking environment. The study of Kowalski and Swanson (2005) confirmed this by stating that support, communication, and trust are the critical success factor for teleworking. The second study that refers to the mediating role is the study of De Leede & Kraijenbrink (2014). They stated that trust in management and trust in leaders mediates the relationship between NWW and performance. Therefore, it is possible that the leadership competencies have a mediating role on the relationship between (components of) NWW and productivity and organizational commitment.

### *6.1.3 MODEL OF SIGNIFICANT FINDINGS*

In this Master Thesis, a model was developed based on the theoretical framework. However, since some new insights are obtained and some hypotheses are rejected, a new model of the significant findings for both productivity and organizational commitment was developed.

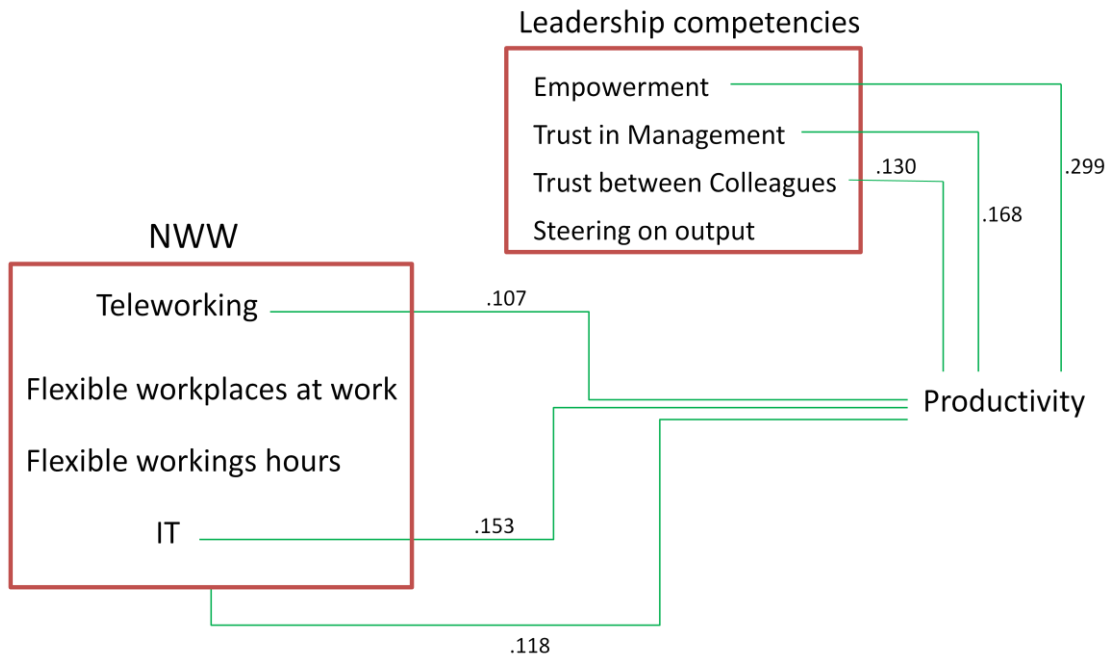


Figure 6 Model of significant findings on outcome variable productivity. Note: Standardized coefficients (Beta) are used.

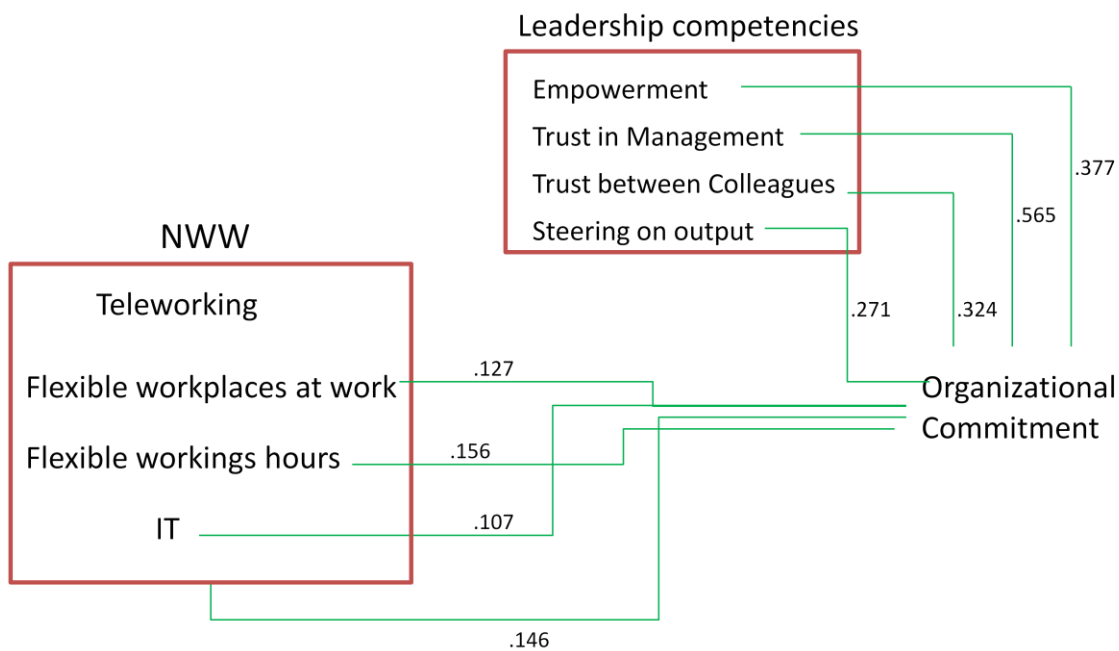


Figure 7 Model of significant findings on outcome variable organizational commitment. Note: Standardized coefficients (Beta) are used.

The models describe all significant relations based on the data analyses. The models illustrate which variables correlate to each other. Note: Standardized coefficients (Beta) are used.

## 6.2 LIMITATIONS

This research has some limitations because of the used methods and the limitations in time and resources.

The first limitation is the generalizability of this study. First, this study only focused on organizations in the Netherlands. Therefore, it is not possible to generalize the conclusion of this study for other organizations and/or countries. Also, the sample of Rabobank Operations Nederland appeared to be the largest in this study

whereas from other organizations only one employee participated. This makes it harder to generalize this study to organizations in other sectors such as the public sector. The research question of this Master Thesis was as follows: *'To what extent does leadership contribute to the organizational outcomes of NWW?'.* However, the analyses were mainly based on the sample of Rabobank Operations Nederland.

The second limitation is research with the use of a survey. Every research method has its own limitations. Efforts have been made to reduce the limitations to the minimum by 'testing' if respondents would have difficulties with answering some of the questions. Also, the survey was designed in a way that respondents had to fill in the questions before they could go to the next section. This has prevented that surveys were sent largely unanswered. However, it is impossible to say that everything is filled out truthfully. Stanton (1998) also stated that the mental state (focus and attention) of the respondents is also unknown.

The third limitation is also based on the research design, namely performing a survey on only one moment in time. It is known that productivity, the amount of perceived flexibility, and trust are dynamic phenomena. Therefore, this Master Thesis may not display the actual relationship between (components of) NWW, the leadership competencies and the outcome variables productivity and organizational commitment.

The last limitation is the difficulty of measuring various effects. For example, productivity is not always the direct result of for example teleworking, but also may be a result of the IT resources which enables teleworking. This is sought to be prevented by analyzing the components of NWW separately on the outcome variables as well as measuring NWW as a whole.

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## 7. CONCLUSION

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The last chapter of this Master Thesis involves the conclusion, the implications, and the suggestions for further research. The conclusion and the implications are based on key findings of this research; the influence of (the components of) NWW, and leadership on the outcome variables productivity and organizational commitment. To conclude, suggestions for further research are given.

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### 7.1 CONCLUSION

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In this Master Thesis it was studied whether the various components of NWW have an influence on productivity and organizational commitment. Also, it was researched if different leadership competencies played a moderating role in this relationship. The objective of this Master Thesis was to examine if the HR factor leadership moderates the relationship to NWW as a whole and its outcomes productivity and organizational commitment. The need to fulfill this objective was derived from the found gap in the scientific literature.

The research question of this Master Thesis was as follows;

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*'TO WHAT EXTENT DOES LEADERSHIP CONTRIBUTE TO THE ORGANIZATIONAL OUTCOMES OF NWW?'*

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First, NWW had to be defined to elaborate on the outcomes of NWW. Since there is still no universal definition of NWW (Baruch, 2001), the common denominators of most definitions were analyzed. For most definitions the common denominators are; the core of NWW, the time and location free work, and the unlimited access and connectivity through IT. Based on these denominators, a new definition has been formulated which is also used in this Master Thesis. According to this Master Thesis NWW is '*working anytime, anyplace and anyhow through the unlimited access of knowledge and information and connectivity supported by IT*'. Subsequently, NWW was unraveled in four components; teleworking, flexible workplaces at work, flexible working hours, and IT. This Master Thesis analyzed both the four components separately and the combined effect of the four components as NWW on the outcome variables.

Then, the benefits of implementing NWW were given. According to the literature, NWW has many potential outcomes that can be achieved by implementing it. The two potential outcomes which were discussed in this Master Thesis are productivity and organizational commitment. In the last phase of the literature research, leadership as a moderator has been studied. Three leadership competencies derived from suggested behavioral dimensions of new leadership, namely empowerment, trust, and steering on output. Also, the relationship between the three leadership competencies and the outcome variables was discussed.

Based on the accumulated knowledge, an online survey was developed and completed by the middle management of the participating organizations. However, it appeared that sometimes only one employee of an organization participated which is not representative. Rabobank Operations Nederland provided the largest sample. After analyzing all the results, it was concluded that the overall sample showed no significant differences compared with the sample of Rabobank Operations Nederland. Therefore, analysis was conducted only on the sample of Rabobank Operations Nederland.

Based on the empirical research, it became clear that of all four components of NWW, only the relationship between teleworking and productivity, and IT and productivity were significant. NWW as a whole also shows a significant relationship with productivity. However, this relationship is very small. Regarding the relationship with organizational commitment, only flexible workplaces at work, flexible working hours and IT were significant. NWW as a whole also shows a significant relationship with organizational commitment, but the explained variance is very small.

All eight hypotheses of leadership as a moderator were rejected. Despite the rejections of the hypotheses, the leadership competencies have a influence on productivity and organizational commitment. Empowerment, trust in management, and trust between colleagues have a positive influence on productivity. However, this Master Thesis did not found support for the relation between steering on output and productivity. Therefore, steering on output is not essential in increasing productivity. Empowerment, trust in management, trust between colleagues and steering on output have a positive influence on organizational commitment. In general, the leadership competencies have a stronger influence on organizational commitment than on productivity.

Some hypotheses were rejected in this Master Thesis, whereas some hypotheses were accepted. However, this Master Thesis created some new insights into NWW, its outcomes, and the role of leadership. To answer the main question; the leadership competencies of leadership as a moderator are not significant. Therefore, leadership does not contribute to the relationship between NWW and its outcomes as a moderator. However, a relationship is found between the leadership competencies separately and productivity and organizational commitment. This shows that the leadership competencies of leadership do contribute to the outcomes of NWW. However, not as moderator.

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## 7.2 PRACTICAL IMPLICATIONS

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From the results, it is clear that implementing (components of) NWW is beneficial to the employees' productivity. This does not mean that organizations should immediately implement (components of) NWW to increase employees' productivity. Increase in productivity can be achieved by several things (Carpenter & Seki, 2011; Santos et al., 2014). NWW is an umbrella term. For this research, the components teleworking, flexible workplaces at work, flexible working hours, and IT were used as components of NWW. Organizations that consider to increase employees' productivity should therefore consider to implement teleworking and IT. Based on the data can also be concluded that flexible working places at work and flexible working hours do not significantly contribute to employees' productivity.

The results also showed that organizational commitment is a positive outcome of implementing (components of) NWW. However, this does not mean that organizations should directly and only implement (components of) NWW to increase the organizational commitment of its employees. Moon & Johnson (2012) stated that organizational commitment is influenced by various antecedents. Organizations that consider to improve the organizational commitment of employees should deliberate to implement forms of flexibility (flexible workplaces at work, and flexible working hours) and IT. This Master Thesis stated that teleworking does not significantly contribute to organizational commitment.

Another implication lies in the influence of the leadership competencies. A conclusion of this study was that the leadership competencies have an influence on productivity and organizational commitment. If employees feel empowered, and trusted by both the management and their colleagues, the productivity will increase even if they work at home or from another location. However, steering on output is not essential for increasing employees' productivity. For organizational commitment, all four leadership competencies contribute to the organizational commitment of employees. Interesting is the fact that the influence of leadership competencies on productivity and organizational commitment are even stronger than (components of) NWW. Therefore, this research is not only interesting for organizations but also for their leaders since it is proven that leaders and their leadership competencies have a greater impact on productivity and organizational commitment than (components of) NWW.

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## 7.3 SUGGESTIONS FOR FURTHER RESEARCH

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A few suggestions for future research can be indicated regarding the discussion, conclusion, and limitations of this research.

A suggestion for further research is the measurement of productivity. In this Master Thesis, productivity was measured based on the perception of the respondents. It would be interesting to measure productivity objectively for instance by using financial outcomes of the organization(s). All organizations that participated in this research implemented forms of NWW quite some time. Therefore, employees may not feel they are more productive since for them 'new ways of working' became 'normal ways of working'. However, if employees actually became more productive after implementing (forms of) NWW, this could be derived from the financial outcomes over time.

Another suggestion for further research is to take into account if employees have a facilitated home workstation or not. This is not taken into account in this Master Thesis. However, this would be interesting since it is thereby possible to see if a facilitated workstation or not makes a difference, for example on the relation between teleworking and productivity. This is plausible because when employees have access to all the needed documents and suchlike they can actually 'finish' their work tasks (at home).

Also, this Master Thesis found no evidence of leadership as a moderator on the relation between NWW and its organizational outcomes. It would be interesting to see if this is also the case in various forms of NWW. For example, it is known that high-intensity teleworking (more than 2.5 days a week) is beneficial to the work-life balance but harms the relationship with co-workers. Also, high-intensity teleworkers show a greater reduction in role stress (Gajendran & Harrison, 2007). Leadership competencies could be of more importance in the form of NWW with high-intensity teleworking.

The last suggestion is the use of a longitudinal research design because concepts like trust, productivity and perceived flexibility are dynamic phenomena. A longitudinal research design offers the possibility to see how components like trust, productivity, and perceived flexibility develop over time. For example, it is known that higher productivity is derived from organizational changes and IT investments and this effect increases over time.

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## APPENDIXEN

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## APPENDIX 1 OVERVIEW ITEMS SURVEY

Construct	Code	Item	Source
Gender	CTRL01	What is your gender?	
Organizational commitment	CTRL02	For which organization do you work?	
Age	CTRL03	What is your year of birth?	
Function	CTRL04	What is your function?	
Department	CTRL05	At which department do you work?	
Hours per week	CTRL06	How many hours do you work per week?	
Tenure	CTRL07	How long do you work at this organization?	
NWW- flexible workplaces at work	FWW01	Does the organization you work have flexible workplaces?	Self-developed based on Breukelen et al., (2014)
	FWW02	Relative to the number of workplaces, how many flexible workplaces (in percentage) are available in your organization?	Self-developed based on Breukelen et al., (2014)
	FWW03	How many hours per week(in percentage) do you use workplaces on average?	Self-developed based on Breukelen et al., (2014)
NWW- teleworking	TW01	How many hours per week (in percentage) do you work from home?	Self-developed based on Breukelen et al., (2014)
	TW02	How many hours per week (in percentage) do you work from another location (no office or home)?	Self-developed based on Breukelen et al., (2014)
NWW- flexible working hours	FWH01	How many hours (in percentage) do you have the freedom to spend your time in a week?	Self-developed based on Breukelen et al., (2014)
	FWH02	If not, would you like to be able to determine your days?	Self-developed based on Breukelen et al., (2014)
NWW - IT	IT01	Do you have the resources at home (computer, fast internet etc.) to work for your work?	Self-developed based on Breukelen et al., (2014)
	IT02	How often do you use digital business systems at home?	Self-developed based on Breukelen et al., (2014)
	IT03	How often do you use digital business systems from another location (no office or home)?	Self-developed based on Breukelen et al., (2014)
	IT04	How often do you use cloud computing for your work?	Self-developed based on Breukelen et al., (2014)
	IT05	How often do you use video conferencing (with image)?	Self-developed based on Breukelen et al., (2014)
	IT06	How often do you use conference calls (without image)?	Self-developed based on Breukelen et al., (2014)
	IT07	How many hours per week (in percentage) are you busy with work related tasks while on the go for work or an appointment (mail, calls, writing documents)?	Self-developed based on Breukelen et al., (2014)
Productivity	PRO01	I believe I am an effective employee	Staples et al., (1999)
	PRO02	Among my work group, I would rate my performance in the top quarter	Staples et al., (1999)
	PRO03	I am happy with the quality of my work output	Staples et al., (1999)
	PRO04	I work very efficiently	Staples et al., (1999)
	PRO05	I am a highly productive employee	Staples et al., (1999)
	PRO06	My manager believes I am an efficient worker	Staples et al., (1999)
Organizational commitment	ORCO01	I am quite proud to be able to tell people who it is I work for	Cook & Wall (1980)
	ORCO02	I sometimes feel like leaving this employment for good (R)	Cook & Wall (1980)
	ORCO03	Even if the firm were not doing too well financially, I would be reluctant to change to another employer	Cook & Wall (1980)
	ORCO04	I feel myself to be part of the organization	Cook & Wall (1980)
	ORCO05	In my work I like to feel I am making some effort, not just for myself but for the organization as well	Cook & Wall (1980)
	ORCO06	The offer of a bit more money with another employer would not seriously make me think of changing my job	Cook & Wall (1980)
	ORCO07	I would not recommend a close friend to join our staff (R).	Cook & Wall (1980)
	ORCO08	To know that my work had made a contribution to the good of the organization would please me	Cook & Wall (1980)
Empowerment	EMP01	I have significant autonomy in determining how I do my job	Spreitzer (1995)
	EMP02	I can decide on my own how to go about doing my work	Spreitzer (1995)
	EMP03	I have considerable opportunity for independence and freedom in how I do my job	Spreitzer (1995)
	EMP04	My impact on what happens in my department is large	Spreitzer (1995)

Trust	TRU01	If got into difficulties at work I know my workmates would try and help me out.	Cook & Wall (1980)
	TRU02	If got into difficulties at work I know my workmates would try and help me out.	Cook & Wall (1980)
	TRU03	Most of my workmates can be relied upon to do as they say they will do	Cook & Wall (1980)
	TRU04	I have full confidence in the skills of my workmates.	Cook & Wall (1980)
	TRU05	I can rely on other workers not to make my job more difficult by careless work.	Cook & Wall (1980)
	TRU06	Management at my firm is sincere in its attempts to meet the workers' point of view.	Cook & Wall (1980)
	TRU07	Our firm has a poor future unless it can attract better managers	Cook & Wall (1980)
	TRU08	Management can be trusted to make sensible decisions for the firm's future	Cook & Wall (1980)
	TRU09	Management at work seems to do an efficient job.	Cook & Wall (1980)
	TRU10	I feel quite confident that the firm will always try to treat me fairly	Cook & Wall (1980)
Steering on output	STO01	In some departments, records are kept for each employee which show his or her output – for example, sales, volume, selling, cost, number of parcels handled etc. Do	Ouchi (1978)
	STO02	If yes, When you are being evaluated for a raise or promotion, how much weight does your supervisor give to the records of your output?	Ouchi (1978)
	STO03	How often does your immediate supervisor check to see what you are doing on the job?	Ouchi (1978)
IWB - Opportunity Exploration	IWB-OE01	... look for opportunities to improve an existing process, technology, product, service or work relationship?	Kleysen & Street (2001)
	IWB-OE02	... recognize opportunities to make a positive difference in your work, department, organization or with customers?	Kleysen & Street (2001)
	IWB-OE03	... pay attention to non-routine issues in your work, department, organization or the market place?	Kleysen & Street (2001)
IWB - Idea Generation	IWB-IG01	... search out new working methods, techniques or instruments?	De Jong & den Hartog (2010)
	IWB-IG02	... generate original solutions to problems?	De Jong & den Hartog (2010)
	IWB-IG03	... find new approaches to execute tasks?	De Jong & den Hartog (2010)
IWB - Championing	IWB-CH01	... make important organizational members enthusiastic for innovative ideas?	De Jong & den Hartog (2010)
	IWB-CH02	... attempt to convince people to support an innovative idea?	De Jong & den Hartog (2010)
IWB - Application	IWB-AP01	... systematically introduce innovative ideas into work practices?	De Jong & den Hartog (2010)
	IWB-AP02	... contribute to the implementation of new ideas?	De Jong & den Hartog (2010)
	IWB-AP03	... put effort in the development of new things?	De Jong & den Hartog (2010)
Teamwork - Communication	TW-C1	There is frequent communication within the team	Weimar (2013)
	TW-C2	Team members communicate often in spontaneous meeting, phone conversations, etc.	Weimar (2013)
	TW-C3	Team members are happy with the timeliness in which they received information from other team members	Weimar (2013)
	TW-C4	Team members are happy with the precision in which they received information from other team members	Weimar (2013)
	TW-C5	Team members are happy with the usefulness in which they received information from other team members	Weimar (2013)
Teamwork - Mutual support	TW-MS1	The team members help and supported each other as best as they can	Weimar (2013)
	TW-MS2	If conflicts come up, they are easily and quickly resolved	Weimar (2013)
	TW-MS3	Discussions and controversies are conducted constructively	Weimar (2013)
	TW-MS4	Suggestions and contributions of team members are respected	Weimar (2013)
	TW-MS5	Suggestions and contributions of team members are discussed and further developed	Weimar (2013)
	TW-MS6	Our team is able to reach consensus regarding important issues	Weimar (2013)
Teamwork - Mutual performance monitoring	TW-MPM1	I am willing to give feedback to the other members of the team.	Van Roosmalen (2012)
	TW-MPM2	Errors in the tasks of other members are specified in the team.	Van Roosmalen (2012)
	TW-MPM3	There is room to comment on the responsibilities of other team members.	Van Roosmalen (2012)
	TW-MPM4	We give feedback on each other's work.	Van Roosmalen (2012)
Teamwork - Balance of Member Contributions	TW-BMC1	The team recognized the specific potentials (strengths and weaknesses) of individual team members	Hoegl & Gemuenden (2001)
	TW-BMC2	The team members were contributing to the achievement of the team's goals in accordance with their specific potential.	Hoegl & Gemuenden (2001)
	TW-BMC3	Imbalance of member contributions caused conflicts in our team	Hoegl & Gemuenden (2001)
Teamwork- Social team cohesion	TW-STC1	Team members in my team have a strong bond	Pierik (2011)
	TW-STC2	Team members are proud to be part of our team	Pierik (2011)
	TW-STC3	We are a strong team	Pierik (2011)
	TW-STC4	There are many personal conflicts in my team	Pierik (2011)
	TW-STC5	Each team member feels responsible for preserving and protecting our team	Pierik (2011)
Virtual teams	VT1	Are you working in teams with people who are not working in your establishment?	Self-developed
	VT2	How much time (in percentage) do you use for these types of teams?	Self-developed

## APPENDIX 2 SURVEY

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Geachte medewerker,

Wij zijn Florian Moll, Joyce Nijland en Paddy Heuver en vanaf september 2014 zijn wij, in het kader van onze studie, gestart met mijn afstudeeronderzoek waarin wij onderzoeken welk effect leiderschap en teamwork ontwikkeling heeft op de relatie tussen 'Het Nieuwe Werken'(HNW) en de uitkomsten hiervan. Tevens wordt onderzocht wat het effect van HNW is op de mate waarin medewerkers innovatief zijn.

Voor dit onderzoek is een vragenlijst ontwikkeld, welke bestaat uit vier onderdelen. Het eerste onderdeel zal gaan over 'Het Nieuwe Werken' binnen deze organisatie. De daarop volgende onderwerpen zullen gaan over leiderschap, innovatiegedrag en teamwork ontwikkeling. Wij zouden het zeer op prijs stellen wanneer u ons, en daarmee uzelf, wilt helpen door het deze vragenlijst uiterlijk voor zondag 25 januari 2015 in te vullen.

Door op onderstaande link te klikken wordt u automatisch doorverwezen naar de vragenlijst. Deze vragenlijst neemt ongeveer 15 minuten van uw tijd in beslag en zal anoniem en vertrouwelijk worden behandeld. De inhoud van de vragenlijst bestaat voornamelijk uit meerkeuze vragen.

>Link<

Voor eventuele vragen of onduidelijkheid verzoek ik u een e-mail te sturen naar [joycenijland@hotmail.com](mailto:joycenijland@hotmail.com). Wij danken u alvast hartelijk voor uw medewerking.

Met vriendelijke groet,

Paddy Heuver



## Algemeen

1. Wat is uw geslacht?    Man/Vrouw
2. Voor welke organisatie/ gemeente bent u werkzaam? \_\_\_\_\_
3. Wat is uw geboortjaar? \_\_\_\_\_
4. Wat is uw functie? \_\_\_\_\_
5. Op welke afdeling werkt u?  

<input type="checkbox"/> Financiën & Control	<input type="checkbox"/> Directie
<input type="checkbox"/> Verkoop	<input type="checkbox"/> Research & Development
<input type="checkbox"/> Inkoop	<input type="checkbox"/> Productie
<input type="checkbox"/> Marketing	<input type="checkbox"/> Anders, namelijk: _____
<input type="checkbox"/> Personeel & Organisatie	
6. Hoeveel uur werkt u per week? \_\_\_\_\_
7. Hoelang werkt u bij deze organisatie? \_\_\_\_\_

## Het Nieuwe Werken

8. Heeft de afdeling waar u werkt flexibele werkplekken?    ☐Ja    ☐Nee
9. Ten opzichte van het aantal werkplekken, hoeveel flexibele werkplekken (in percentage) zijn in uw organisatie beschikbaar?  

<input type="checkbox"/> 0-5%	<input type="checkbox"/> 31-40%
<input type="checkbox"/> 6-10%	<input type="checkbox"/> 41-50%
<input type="checkbox"/> 11-20%	<input type="checkbox"/> >50%
<input type="checkbox"/> 21-30%	
10. Hoeveel uur (in percentage) per week maakt u gemiddeld gebruik van werkplekken?  

<input type="checkbox"/> 0-5%	<input type="checkbox"/> 31-40%
<input type="checkbox"/> 6-10%	<input type="checkbox"/> 41-50%
<input type="checkbox"/> 11-20%	<input type="checkbox"/> >50%
<input type="checkbox"/> 21-30%	
11. Hoeveel uur (in percentage) per week werkt u vanuit huis?  

<input type="checkbox"/> 0-5%	<input type="checkbox"/> 31-40%
<input type="checkbox"/> 6-10%	<input type="checkbox"/> 41-50%
<input type="checkbox"/> 11-20%	<input type="checkbox"/> >50%
<input type="checkbox"/> 21-30%	

12. Hoeveel uur (in percentage) per week werkt u vanuit een andere locatie (niet op kantoor of thuis)?

- |                                 |                                 |
|---------------------------------|---------------------------------|
| <input type="checkbox"/> 0-5%   |                                 |
| <input type="checkbox"/> 6-10%  | <input type="checkbox"/> 31-40% |
| <input type="checkbox"/> 11-20% | <input type="checkbox"/> 41-50% |
| <input type="checkbox"/> 21-30% | <input type="checkbox"/> >50%   |

13. Hoeveel vrijheid krijgt u in het zelf bepalen op welke dagen u werkt (in percentage) per week?

- |                                 |                                 |
|---------------------------------|---------------------------------|
| <input type="checkbox"/> 0-5%   |                                 |
| <input type="checkbox"/> 6-10%  | <input type="checkbox"/> 31-40% |
| <input type="checkbox"/> 11-20% | <input type="checkbox"/> 41-50% |
| <input type="checkbox"/> 21-30% | <input type="checkbox"/> >50%   |

14. Hoeveel uur (in percentage) heeft u de vrijheid om uw tijd in te vullen per week?

- |                                 |                                 |
|---------------------------------|---------------------------------|
| <input type="checkbox"/> 0-5%   |                                 |
| <input type="checkbox"/> 6-10%  | <input type="checkbox"/> 31-40% |
| <input type="checkbox"/> 11-20% | <input type="checkbox"/> 41-50% |
| <input type="checkbox"/> 21-30% | <input type="checkbox"/> >50%   |

15. Heeft u thuis de middelen (computer, snel internet etc.) om te kunnen werken voor uw werk?

☐ Ja ☐ Nee

16. Hieronder volgen stellingen die u dient te beantwoorden met betrekking tot de organisatie waar u nu werkzaam bent. Geef gelieve per stelling aan in hoeverre het van toepassing is. (Nooit - Soms - Ong. 1 keer per maand - Ong. 1 keer per week - Dagelijks)

	Nooit	Soms	Ong. 1 keer p.m.	Ong. 1 keer p.w.	Dagelijks
Hoe vaak maakt u gebruik van digitale bedrijfssystemen thuis?	1	2	3	4	5
Hoe vaak maakt u gebruik van digitale bedrijfssystemen elders (niet thuis of op kantoor)?	1	2	3	4	5
Hoe vaak maakt u voor uw werk gebruik van cloud computing (dropbox, google drive, etc.)?	1	2	3	4	5
Hoe vaak maakt u gebruik van Videoconferencing? (met beeld)	1	2	3	4	5
Hoe vaak maakt u gebruik van Conference calls? (zonder beeld)	1	2	3	4	5

17. Hoeveel uur (in percentage) per week bent u met werkgerelateerde taken bezig terwijl u onderweg bent naar werk of een afspraak (mailen, bellen of documenten aan het schrijven etc.)?

- |                                 |                                 |
|---------------------------------|---------------------------------|
| <input type="checkbox"/> 0-5%   |                                 |
| <input type="checkbox"/> 6-10%  | <input type="checkbox"/> 31-40% |
| <input type="checkbox"/> 11-20% | <input type="checkbox"/> 41-50% |
| <input type="checkbox"/> 21-30% | <input type="checkbox"/> >50%   |

18. Werkt u in teams met mensen die niet werkzaam zijn op uw vestiging? ☐ Ja ☐ Nee

19. Hoeveel tijd in uren per week besteedt u aan het werken in dit soort teams? \_\_\_\_\_

**20. Hieronder volgen stellingen die u dient te beantwoorden met betrekking tot de organisatie waar u nu werkzaam bent. Geef gelieve per stelling aan in hoeverre u het eens bent met de stelling (helemaal mee oneens - oneens - neutraal - eens- helemaal mee eens).**

	Helemaal mee oneens	Oneens	Neutraal	Eens	Helemaal mee eens
Ik vind dat ik een effectieve werknemer ben	1	2	3	4	5
Ik zou mijn prestaties waarderen in het bovenste kwart van mijn team/afdeling	1	2	3	4	5
Ik ben blij met de kwaliteit van mijn uitgevoerde werk	1	2	3	4	5
Ik werk zeer efficiënt	1	2	3	4	5
Ik ben een zeer productieve werknemer	1	2	3	4	5
Mijn leidinggevende is van mening dat ik een efficiënte werknemer ben	1	2	3	4	5

**21. Helemaal mee oneens - oneens - neutraal - eens- helemaal mee eens.**

	Helemaal mee oneens	Oneens	Neutraal	Eens	Helemaal mee eens
Ik ben er heel trots op om mensen te kunnen vertellen voor welke organisatie ik werk	1	2	3	4	5
Ik heb soms het gevoel dat het beter is voor me om deze organisatie te verlaten	1	2	3	4	5
Zelfs als het de organisatie financieel niet al te goed gaat, zou ik terughoudend zijn in het veranderen van werkgever	1	2	3	4	5
Ik voel me deel van de organisatie	1	2	3	4	5
In mijn werk heb ik graag het gevoel dat ik mij moet inspannen, niet alleen voor mezelf maar ook voor de organisatie	1	2	3	4	5
Het aanbod van een beetje meer salaris bij een andere werkgever zal mij niet doen overwegen om van baan te veranderen	1	2	3	4	5
Ik zou een goede vriend niet aanraden om bij deze organisatie te komen werken	1	2	3	4	5
Wetende dat mijn werk een bijdrage levert aan het welzijn van de organisatie doet mij goed	1	2	3	4	5

**22. Helemaal mee oneens - oneens - neutraal - eens- helemaal mee eens.**

	Helemaal mee oneens	Oneens	Neutraal	Eens	Helemaal mee eens
Ik heb aanzienlijke autonomie bij het bepalen hoe ik mijn werk doe	1	2	3	4	5
Ik kan zelf beslissen hoe om te gaan met het doen van mijn werk.	1	2	3	4	5
Ik krijg de kans om vrij en onafhankelijk te bepalen hoe ik mijn werk doe.	1	2	3	4	5
Mijn invloed op wat er gebeurt op mijn afdeling is groot.	1	2	3	4	5

**23. Helemaal mee oneens - oneens - neutraal - eens- helemaal mee eens.**

	Helemaal mee oneens	Oneens	Neutraal	Eens	Helemaal mee eens
Als ik in moeilijkheden kom op het werk weet ik dat mijn collega's mij helpen om eruit te komen	1	2	3	4	5
Ik kan vertrouwen op de mensen waarmee ik werk om mij een handje te helpen als ik het nodig heb	1	2	3	4	5
De meeste collega's kunnen worden vertrouwd op datgene wat ze zeggen te zullen doen	1	2	3	4	5
Ik heb het volste vertrouwen in de vaardigheden van mijn collega's	1	2	3	4	5
Ik kan erop rekenen dat mijn collega's mijn werk niet moeilijker maken door slordig te werken	1	2	3	4	5
Management binnen mijn bedrijf werkt mee aan het standpunt van de medewerkers	1	2	3	4	5
Mijn bedrijf heeft een slechte toekomst tenzij het betere managers aantrekt	1	2	3	4	5
Ik vertrouw het dat ze verstandige beslissingen nemen voor de toekomst van het bedrijf	1	2	3	4	5

Het management op werk lijkt efficiënt werk te verrichten	1	2	3	4	5
---	---	---	---	---	---

Ik voel me vrij zeker dat het bedrijf altijd zal proberen om mij eerlijk te behandelen	1	2	3	4	5
--	---	---	---	---	---

24. Op sommige afdelingen wordt voor elke medewerker zijn/haar output bijgehouden bijvoorbeeld, verkoop, het volume, verkoop, kosten etc. Heeft uw direct leidinggevende zulke informatie over uw individuele output?

☐ Ja    ☐ Nee

25. Wanneer u wordt geëvalueerd voor een salarisverhoging of promotie, hoeveel waarde hecht uw leidinggevende aan de door u behaalde output?	Helemaal geen waarde 1	Geen waarde 2	Neutraal 3	Veel waarde 4	Heel veel waarde 5	<input type="checkbox"/> n.v.t.
--	---------------------------	------------------	---------------	------------------	-----------------------	---------------------------------

26. Hoe vaak komt uw direct leidinggevende controleren wat u aan het doen bent	Nooit 1	2	Neutraal 3	4	Heel vaak 5
--	------------	---	---------------	---	----------------

## 27. In uw functie, hoe vaak....

...zoekt u naar mogelijkheden om een bestaand proces, technologie, product, service of werkrelatie te verbeteren?	Nooit 1	2	Neutraal 3	4	Heel vaak 5
... herkent u mogelijkheden om een positief verschil te maken in uw werk, afdeling, organisatie of met klanten?	1	2	3	4	5
... besteedt u aandacht aan niet-routine dingen in uw werk, afdeling, organisatie of de markt	1	2	3	4	5
... stelt u nieuwe werkwijzen, technieken of methoden voor?	1	2	3	4	5
... bedenkt u originele oplossingen voor problemen?	1	2	3	4	5
... zoekt u naar nieuwe manieren om taken uit te voeren?	1	2	3	4	5
... maakt u sleutelfiguren enthousiast voor vernieuwingen?	1	2	3	4	5

... probeert u mensen over de streep te trekken om vernieuwingen te steunen?	1	2	3	4	5
... voert u vernieuwingen planmatig in?	1	2	3	4	5
...levert u een bijdrage aan de invoeringen van vernieuwingen?	1	2	3	4	5
...spant u u in om vernieuwingen gerealiseerd te krijgen?	1	2	3	4	5

**28. De volgende stellingen hebben betrekking op het team waarin u werkt en wat de meeste tijd vergt. Geef gelieve per stelling aan in hoeverre u het eens bent met de stelling (helemaal mee oneens - oneens - neutraal - eens- helemaal mee eens).**

	Helemaal mee oneens	Oneens	Neutraal	Eens	Helemaal mee eens
Er is geregeld communicatie binnen het team	1	2	3	4	5
Ik en mijn teamleden communiceren vaak door middel van spontane bijeenkomsten, telefoongesprekken, enz.	1	2	3	4	5
Ik ben blij met de tijdigheid waarin ik informatie van andere teamleden ontvang	1	2	3	4	5
Ik ben blij met de precisie van de informatie die ik van andere teamleden ontvang	1	2	3	4	5
Ik ben blij met de toegevoegde waarde van de informatie die teamleden van elkaar ontvangen	1	2	3	4	5
De leden van het team helpen en ondersteunen elkaar zo goed als ze kunnen	1	2	3	4	5
Als er conflicten zijn, dan worden deze eenvoudig en snel opgelost	1	2	3	4	5
Discussies en controverses worden opbouwend (op een positieve manier) uitgevoerd	1	2	3	4	5
Discussies en meedenken van de teamleden wordt gerespecteerd	1	2	3	4	5
Suggesties en meedenken van de leden van het team wordt besproken en verder ontwikkeld	1	2	3	4	5
Ons team is in staat om overeenstemming te bereiken over belangrijke kwesties	1	2	3	4	5

Ik ben bereid om feedback te geven aan de andere leden van het team	1	2	3	4	5
Fouten worden binnen het team besproken	1	2	3	4	5
Er is ruimte om opmerkingen te maken over verantwoordelijkheden van andere teamleden	1	2	3	4	5
Er wordt feedback op elkaars werk gegeven	1	2	3	4	5
Het team herkent de specifieke mogelijkheden (sterke en zwakke punten) van de individuele teamleden	1	2	3	4	5
De teamleden dragen bij aan de verwezenlijking van de doelstellingen van het team in overeenstemming met hun specifieke mogelijkheden	1	2	3	4	5
Onbalans in de bijdragen van de teamleden veroorzaakt conflicten in ons team	1	2	3	4	5
Teamleden in mijn team hebben onderling een sterke band	1	2	3	4	5
Teamleden zijn trots om deel van ons team uit te maken	1	2	3	4	5
Wij zijn een hecht team	1	2	3	4	5
Er zijn veel persoonlijke conflicten in mijn team	1	2	3	4	5
Elk teamlid voelt zich verantwoordelijk voor het behouden en beschermen van ons team	1	2	3	4	5

## APPENDIX 3 LAYOUT ONLINE SURVEY

Two examples from the layout of the online survey are given in this appendix.

8.

Heeft de afdeling waar u werkt flexibele werkplekken?\*

- ☐ Ja  
☐ Nee

9.

Ten opzichte van het totaal aantal werkplekken, hoeveel flexibele werkplekken (in percentage) zijn in uw organisatie beschikbaar?\*

- ☐ 0-5%  
☐ 6-10%  
☐ 11-20%  
☐ 21-30%  
☐ 31-40%  
☐ 41-50%  
☐ >50%

10.

Hoeveel uur (in percentage) per week maakt u gemiddeld gebruik van flexibele werkplekken?\*

- ☐ 0-5%  
☐ 6-10%  
☐ 11-20%  
☐ 21-30%  
☐ 31-40%  
☐ 41-50%  
☐ >50%

21.

Helemaal mee oneens - Oneens - Neutraal - Eens - Helemaal mee eens.

	Helemaal mee oneens			Helemaal mee eens	
Ik ben er heel trots op om mensen te kunnen vertellen voor welke organisatie ik werk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik heb soms het gevoel dat het beter voor me is om deze organisatie te verlaten	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Zelfs als het de organisatie financieel niet al te goed gaat, zou ik terughoudend zijn in het veranderen van werkgever	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik voel me deel van de organisatie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In mijn werk heb ik graag het gevoel dat ik mij moet inspannen, niet alleen voor mezelf maar ook voor de organisatie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Het aanbod van een beetje meer salaris bij een andere werkgever zal mij niet doen overwegen om van baan te veranderen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik zou een goede vriend niet aanraden om bij deze organisatie te komen werken	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wetende dat mijn werk een bijdrage levert aan het welzijn van de organisatie doet mij goed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

22.

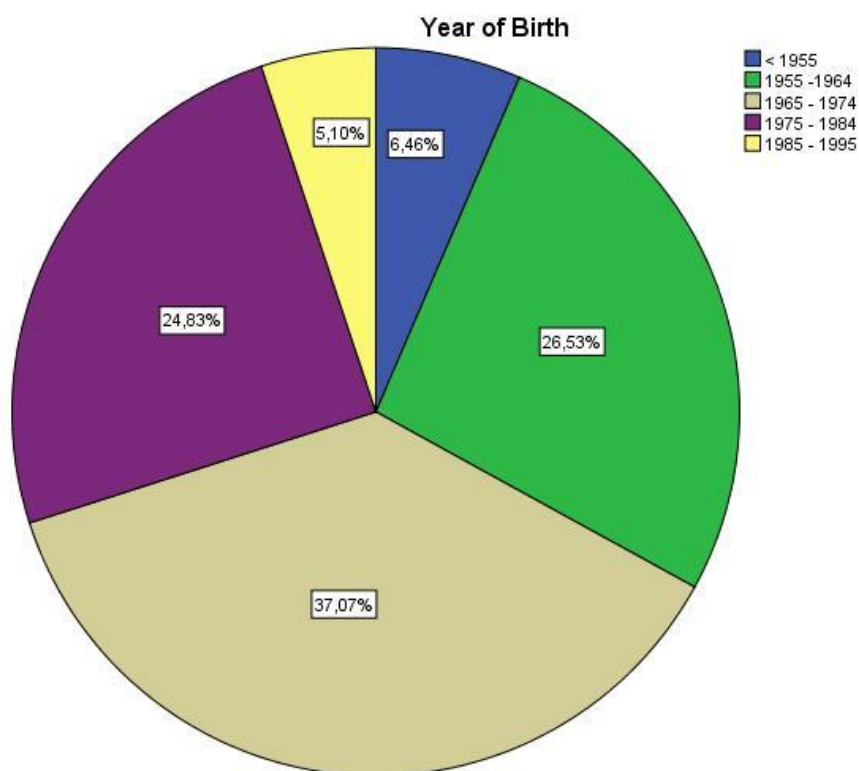
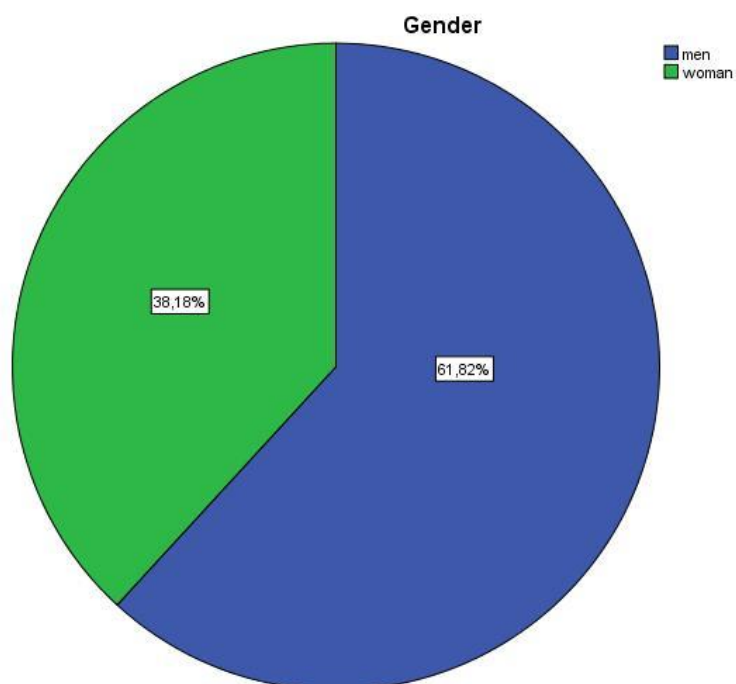
Helemaal mee oneens - Oneens - Neutraal - Eens - Helemaal mee eens.

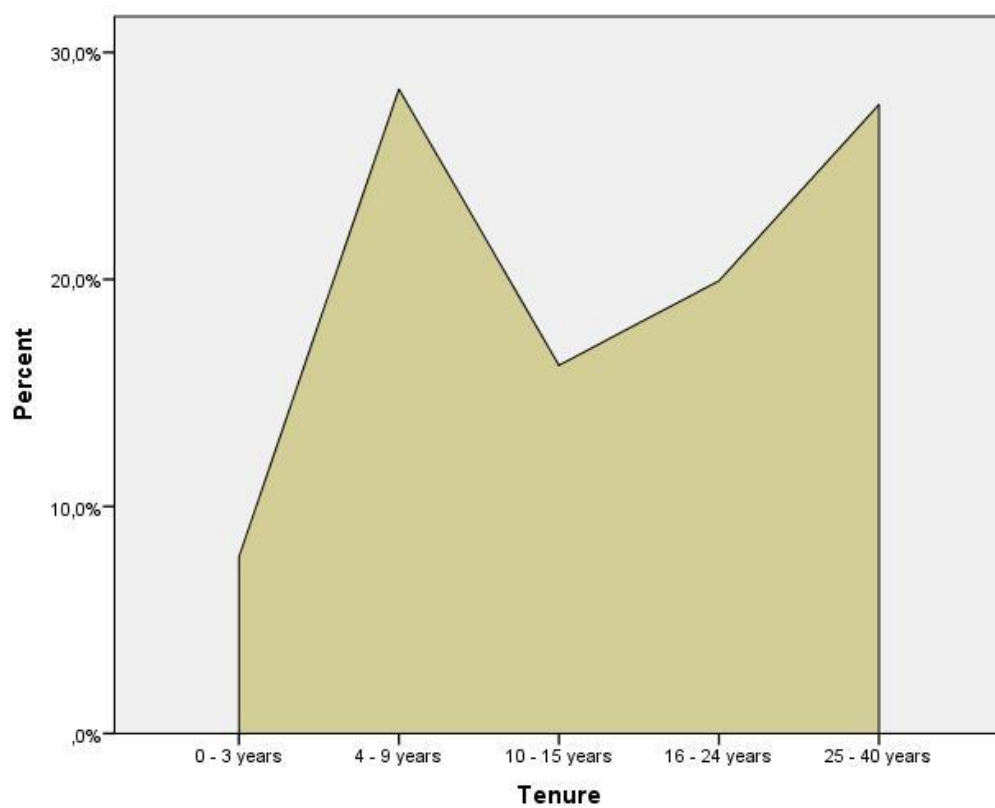
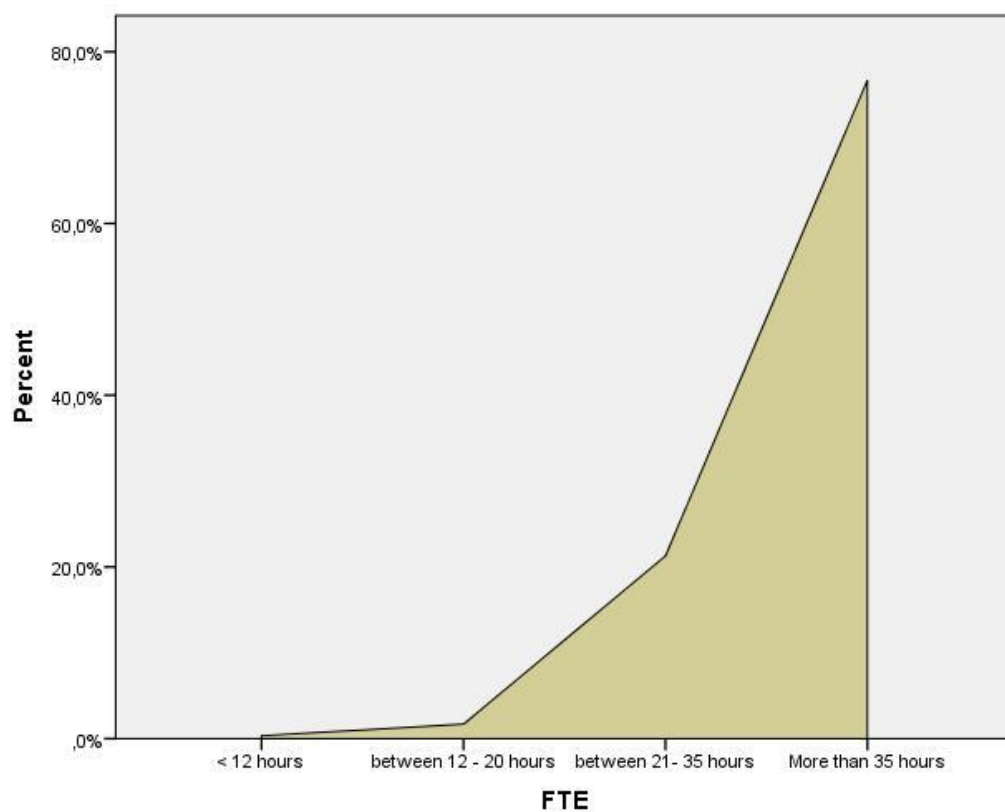
	Helemaal mee oneens			Helemaal mee eens	
Ik heb aanzienlijke autonomie bij het bepalen hoe ik mijn werk doe	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik kan zelf beslissen hoe om te gaan met het doen van mijn werk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik krijg de kans om vrij en onafhankelijk te bepalen hoe ik mijn werk doe	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mijn invloed op wat er gebeurt op mijn afdeling is groot	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



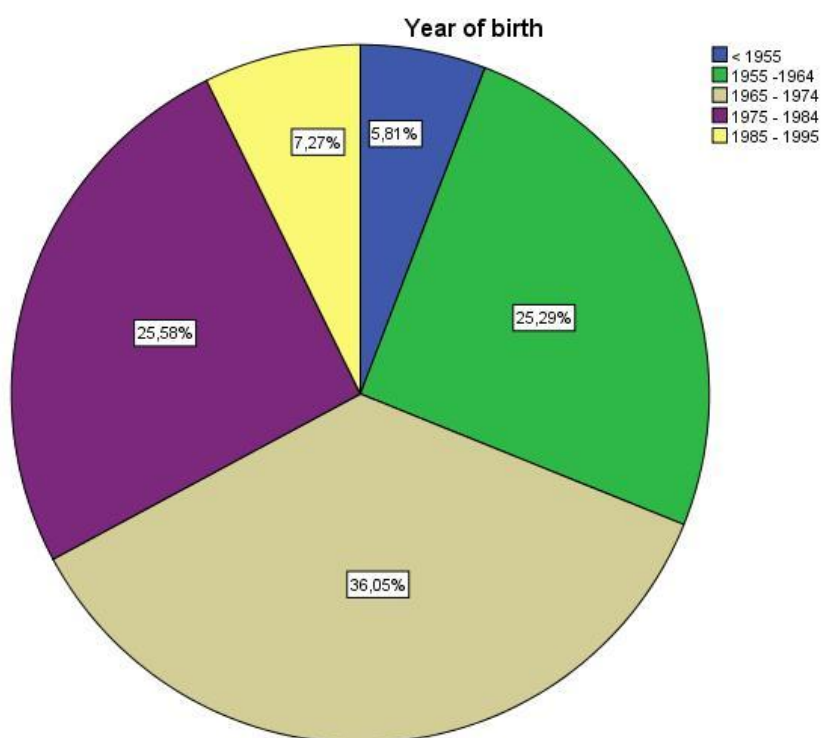
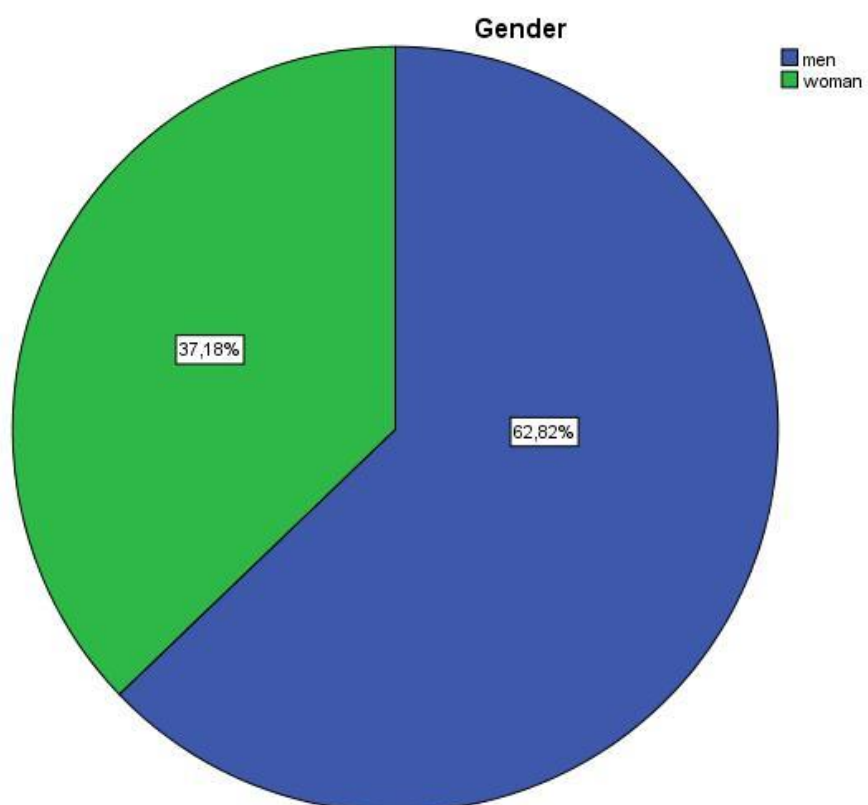
## APPENDIX 4 GRAPHIC DESCRIPTIONS OF THE SAMPLE RABOBANK OPERATIONS NEDERLAND

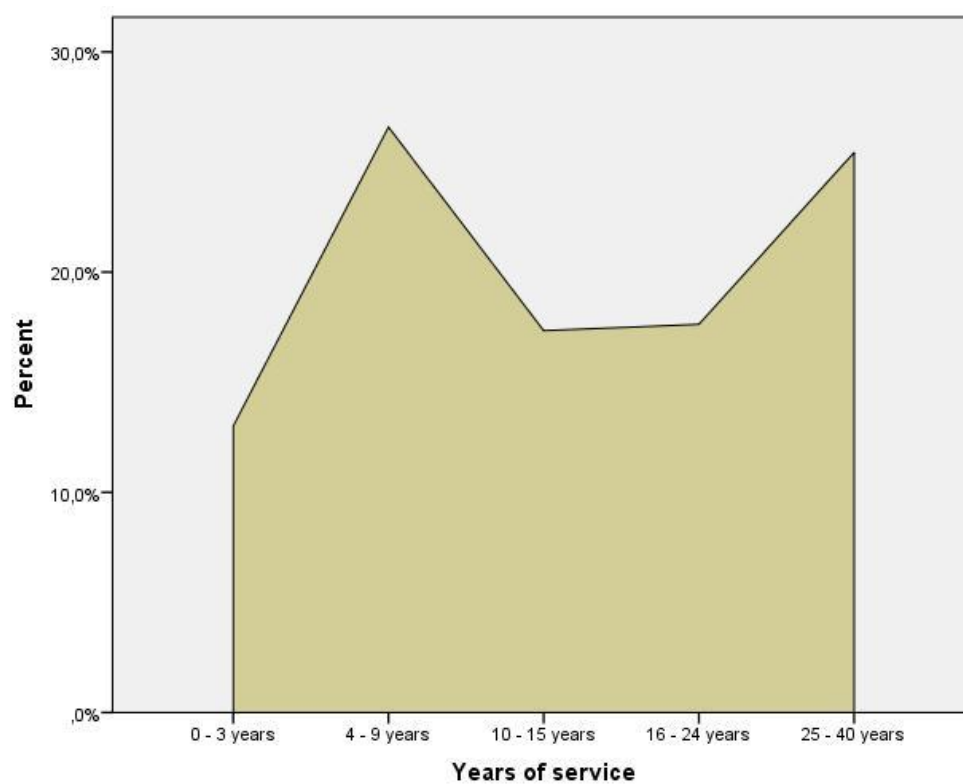
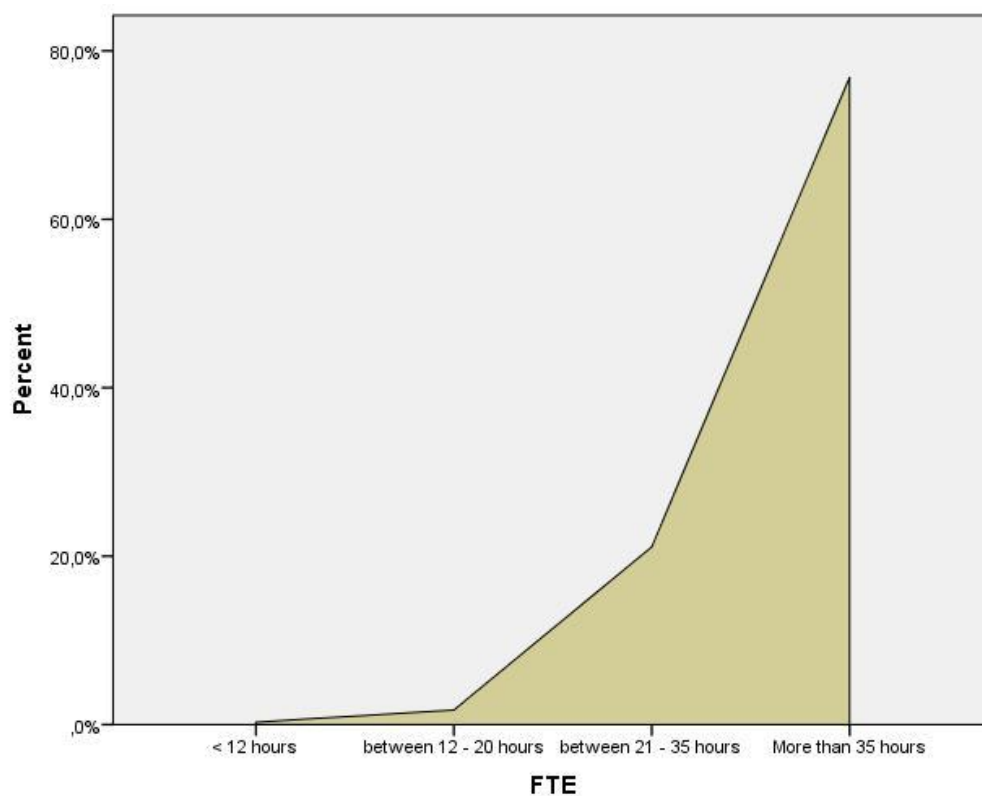
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## APPENDIX 5 GRAPHIC DESCRIPTIONS OF THE OVERALL SAMPLE





## APPENDIX 6.1 CORRELATION FLEXIBLE WORKING HOURS

### Correlations

		FWH01 Hoeveel vrijheid krijgt u in het zelf bepalen op welke dagen u werkt (in percentage) per week?	FWH02 Hoeveel uur (in percentage) heeft u de vrijheid om uw tijd in te vullen per week?
FWH01 Hoeveel vrijheid krijgt u in het zelf bepalen op welke dagen u werkt (in percentage) per week?	Pearson Correlation	1	,765**
	Sig. (1-tailed)		,000
	N	289	289
FWH02 Hoeveel uur (in percentage) heeft u de vrijheid om uw tijd in te vullen per week?	Pearson Correlation	,765**	1
	Sig. (1-tailed)	,000	
	N	289	289

\*\* . Correlation is significant at the 0.01 level (1-tailed).

### Correlations

			FWH01 Hoeveel vrijheid krijgt u in het zelf bepalen op welke dagen u werkt (in percentage) per week?	FWH02 Hoeveel uur (in percentage) heeft u de vrijheid om uw tijd in te vullen per week?
Kendall's tau_b	FWH01 Hoeveel vrijheid krijgt u in het zelf bepalen op welke dagen u werkt (in percentage) per week?	Correlation Coefficient	1,000	,657**
		Sig. (1-tailed)		,000
		N	289	289
	FWH02 Hoeveel uur (in percentage) heeft u de vrijheid om uw tijd in te vullen per week?	Correlation Coefficient	,657**	1,000
		Sig. (1-tailed)	,000	
		N	289	289

\*\* . Correlation is significant at the 0.01 level (1-tailed).

## APPENDIX 6.2 RECODING COMPONENTS OF NWW

To recode the four components of NWW into a 10 point likert scale, an descriptive overview is given of the variables.

**Teleworking**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	,00	103	34,7	35,6	35,6
	1,00	50	16,8	17,3	52,9
	2,00	39	13,1	13,5	66,4
	3,00	58	19,5	20,1	86,5
	4,00	18	6,1	6,2	92,7
	5,00	7	2,4	2,4	95,2
	6,00	4	1,3	1,4	96,5
	7,00	10	3,4	3,5	100,0
	Total	289	97,3	100,0	
Missing	System	8	2,7		
Total		297	100,0		

**Flexible workplaces at work**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1,00	35	11,8	12,1	12,1
	2,00	6	2,0	2,1	14,2
	3,00	9	3,0	3,1	17,3
	4,00	16	5,4	5,5	22,8
	5,00	10	3,4	3,5	26,3
	6,00	11	3,7	3,8	30,1
	7,00	202	68,0	69,9	100,0
	Total	289	97,3	100,0	
Missing	System	8	2,7		
Total		297	100,0		

**Flexible working hours**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1,00	54	18,2	18,7	18,7
	1,50	5	1,7	1,7	20,4
	2,00	14	4,7	4,8	25,3
	2,50	7	2,4	2,4	27,7
	3,00	6	2,0	2,1	29,8
	3,50	11	3,7	3,8	33,6
	4,00	21	7,1	7,3	40,8
	4,50	10	3,4	3,5	44,3
	5,00	10	3,4	3,5	47,8
	5,50	13	4,4	4,5	52,2
	6,00	24	8,1	8,3	60,6
	6,50	16	5,4	5,5	66,1
	7,00	98	33,0	33,9	100,0
	Total	289	97,3	100,0	
Missing	System	8	2,7		
Total		297	100,0		

# IT

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1,00	16	5,4	5,5
	1,14	26	8,8	14,5
	1,29	11	3,7	18,3
	1,33	1	,3	18,7
	1,43	12	4,0	22,8
	1,57	8	2,7	25,6
	1,71	13	4,4	30,1
	1,86	20	6,7	37,0
	2,00	20	6,7	43,9
	2,14	23	7,7	51,9
	2,17	1	,3	52,2
	2,29	22	7,4	59,9
	2,43	20	6,7	66,8
	2,57	19	6,4	73,4
	2,71	17	5,7	79,2
	2,86	12	4,0	83,4
	3,00	14	4,7	88,2
	3,14	20	6,7	95,2
	3,29	8	2,7	97,9
	3,43	4	1,3	99,3
	3,86	1	,3	99,7
	4,29	1	,3	100,0
Total	289	97,3	100,0	
Missing	System	8	2,7	
Total	297	100,0		

To recode the variables into 10 point likert scales, the following formulas are used:

$$\text{Teleworking} = (\text{NIETWERK}_4) * 10/4.$$

$$\text{Flexible workplaces at work} = (\text{FWW}-1) * 10/6.$$

$$\text{Flexible working hours} = (\text{FWH}-1) * 10/6.$$

$$\text{IT} = (\text{IT}-1) * 10/4.$$

Note: ten is divided by the difference between the highest and the lowest score. Then, the average of the four components together represents the variable "NWW".

$$\text{NWW} = \text{mean} (\text{teleworking}, \text{flexible working places at work}, \text{flexible working hours}, \text{IT})$$

# NWW\_10

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	,00	4	1,3	1,4
	,09	8	2,7	4,2
	,18	3	1,0	5,2
	,21	1	,3	5,5
	,27	2	,7	6,2
	,36	1	,3	6,6
	,45	2	,7	7,3
	,54	1	,3	7,6
	,63	1	,3	8,0
	,71	1	,3	8,3

,77	1	,3	,3	8,7
,83	1	,3	,3	9,0
1,01	1	,3	,3	9,3
1,04	1	,3	,3	9,7
1,25	2	,7	,7	10,4
1,34	4	1,3	1,4	11,8
1,46	1	,3	,3	12,1
1,52	1	,3	,3	12,5
1,64	1	,3	,3	12,8
1,70	1	,3	,3	13,1
1,76	1	,3	,3	13,5
1,90	1	,3	,3	13,8
2,17	1	,3	,3	14,2
2,23	1	,3	,3	14,5
2,47	1	,3	,3	14,9
2,50	4	1,3	1,4	16,3
2,59	8	2,7	2,8	19,0
2,62	1	,3	,3	19,4
2,68	5	1,7	1,7	21,1
2,74	1	,3	,3	21,5
2,77	3	1,0	1,0	22,5
2,95	1	,3	,3	22,8
3,01	1	,3	,3	23,2
3,04	1	,3	,3	23,5
3,10	1	,3	,3	23,9
3,18	2	,7	,7	24,6
3,21	2	,7	,7	25,3
3,30	1	,3	,3	25,6
3,30	1	,3	,3	26,0
3,33	1	,3	,3	26,3
3,42	2	,7	,7	27,0
3,66	1	,3	,3	27,3
3,96	1	,3	,3	27,7
3,96	1	,3	,3	28,0
3,99	1	,3	,3	28,4
4,08	1	,3	,3	28,7
4,11	1	,3	,3	29,1
4,17	1	,3	,3	29,4
4,26	1	,3	,3	29,8
4,26	1	,3	,3	30,1



4,32	2	,7	,7	30,8
4,40	1	,3	,3	31,1
4,43	2	,7	,7	31,8
4,46	1	,3	,3	32,2
4,49	1	,3	,3	32,5
4,52	1	,3	,3	32,9
4,55	1	,3	,3	33,2
4,61	1	,3	,3	33,6
4,64	1	,3	,3	33,9
4,67	2	,7	,7	34,6
4,70	1	,3	,3	34,9
4,73	1	,3	,3	35,3
4,79	1	,3	,3	35,6
4,85	1	,3	,3	36,0
4,88	1	,3	,3	36,3
5,09	3	1,0	1,0	37,4
5,15	1	,3	,3	37,7
5,18	1	,3	,3	38,1
5,24	1	,3	,3	38,4
5,27	2	,7	,7	39,1
5,30	4	1,3	1,4	40,5
5,33	4	1,3	1,4	41,9
5,36	2	,7	,7	42,6
5,36	1	,3	,3	42,9
5,39	1	,3	,3	43,3
5,45	2	,7	,7	43,9
5,48	3	1,0	1,0	45,0
5,54	5	1,7	1,7	46,7
5,60	1	,3	,3	47,1
5,63	4	1,3	1,4	48,4
5,65	1	,3	,3	48,8
5,68	2	,7	,7	49,5
5,71	2	,7	,7	50,2
5,74	1	,3	,3	50,5
5,77	1	,3	,3	50,9
5,80	2	,7	,7	51,6
5,83	2	,7	,7	52,2
5,86	1	,3	,3	52,6
5,92	2	,7	,7	53,3
5,95	1	,3	,3	53,6

5,98	2	,7	,7	54,3
6,01	2	,7	,7	55,0
6,07	2	,7	,7	55,7
6,13	1	,3	,3	56,1
6,16	3	1,0	1,0	57,1
6,19	1	,3	,3	57,4
6,22	2	,7	,7	58,1
6,25	4	1,3	1,4	59,5
6,28	2	,7	,7	60,2
6,34	1	,3	,3	60,6
6,37	1	,3	,3	60,9
6,46	1	,3	,3	61,2
6,52	4	1,3	1,4	62,6
6,58	2	,7	,7	63,3
6,61	1	,3	,3	63,7
6,64	1	,3	,3	64,0
6,67	2	,7	,7	64,7
6,76	3	1,0	1,0	65,7
6,79	1	,3	,3	66,1
6,88	6	2,0	2,1	68,2
6,93	2	,7	,7	68,9
6,96	5	1,7	1,7	70,6
7,02	1	,3	,3	70,9
7,05	4	1,3	1,4	72,3
7,08	1	,3	,3	72,7
7,08	1	,3	,3	73,0
7,11	1	,3	,3	73,4
7,17	2	,7	,7	74,0
7,23	1	,3	,3	74,4
7,23	3	1,0	1,0	75,4
7,26	1	,3	,3	75,8
7,29	2	,7	,7	76,5
7,32	4	1,3	1,4	77,9
7,41	1	,3	,3	78,2
7,44	1	,3	,3	78,5
7,50	2	,7	,7	79,2
7,56	1	,3	,3	79,6
7,59	4	1,3	1,4	81,0
7,60	1	,3	,3	81,3
7,62	1	,3	,3	81,7

	7,68	5	1,7	1,7	83,4
	7,77	4	1,3	1,4	84,8
	7,80	2	,7	,7	85,5
	7,86	3	1,0	1,0	86,5
	7,89	2	,7	,7	87,2
	7,92	1	,3	,3	87,5
	7,95	3	1,0	1,0	88,6
	7,98	3	1,0	1,0	89,6
	8,04	3	1,0	1,0	90,7
	8,10	2	,7	,7	91,3
	8,13	4	1,3	1,4	92,7
	8,21	4	1,3	1,4	94,1
	8,24	1	,3	,3	94,5
	8,30	2	,7	,7	95,2
	8,36	1	,3	,3	95,5
	8,39	3	1,0	1,0	96,5
	8,48	1	,3	,3	96,9
	8,57	3	1,0	1,0	97,9
	8,63	1	,3	,3	98,3
	8,66	2	,7	,7	99,0
	8,75	1	,3	,3	99,3
	8,84	1	,3	,3	99,7
	8,93	1	,3	,3	100,0
	Total	289	97,3	100,0	
Missing	System	8	2,7		
Total		297	100,0		

## APPENDIX 6.3 CRONBACH'S ALPHA TRUST BETWEEN COLLEAGUES

Reliability Statistics				Scale Statistics			
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items		Mean	Variance	Std. Deviation	N of Items
,459	,669	4		16,5189	7,916	2,81354	4

Item Statistics			
	Mean	Std. Deviation	N
TRU01 Als ik in moeilijkheden kom op het werk weet ik dat mijn collega's mij helpen om eruit te komen.	4,2273	,72006	264
TRU02 Ik kan vertrouwen op de mensen waarmee ik werk om mij een handje te helpen als ik het nodig heb	4,3523	1,89480	264
TRU03 De meeste collega's kunnen worden vertrouwd op datgene wat ze zeggen te zullen doen	3,9924	,72433	264
TRU04 Ik heb het volste vertrouwen in de vaardigheden van mijn collega's	3,9470	,74827	264

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
TRU01 Als ik in moeilijkheden kom op het werk weet ik dat mijn collega's mij helpen om eruit te komen.	12,2917	6,017	,391	,361	,335
TRU02 Ik kan vertrouwen op de mensen waarmee ik werk om mij een handje te helpen als ik het nodig heb	12,1667	3,394	,133	,021	,792
TRU03 De meeste collega's kunnen worden vertrouwd op datgene wat ze zeggen te zullen doen	12,5265	5,688	,493	,530	,269
TRU04 Ik heb het volste vertrouwen in de vaardigheden van mijn collega's	12,5720	5,926	,392	,414	,327

As showed in table "Item-Total Statistics", to higher the Cronbach's alpha question TRU02 was deleted since this question had a negative effect on the Cronbach's alpha. A possible explanation is that the other three questions all contain the concept of colleagues whereas TRU02 contain "people". The Cronbach's alpha, after question TRU02 was deleted is:

### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,792	,792	3

### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
TRU01 Als ik in moeilijkheden kom op het werk weet ik dat mijn collega's mij helpen om eruit te komen.	7,9394	1,776	,573	,360	,778
TRU03 De meeste collega's kunnen worden vertrouwd op datgene wat ze zeggen te zullen doen	8,1742	1,559	,725	,526	,616
TRU04 Ik heb het volste vertrouwen in de vaardigheden van mijn collega's	8,2197	1,663	,607	,414	,745

## APPENDIX 6.4 CRONBACH'S ALPHA STEERING ON OUTPUT

### Reliability Statistics

Cronbach's Alpha <sup>a</sup>	Cronbach's Alpha Based on Standardized Items <sup>a</sup>	N of Items
-,006	-,058	3

a. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item codings.

### Scale Statistics

Mean	Variance	Std. Deviation	N of Items
7,6299	2,645	1,62638	3

### Item Statistics

	Mean	Std. Deviation	N
STO01 Op sommige afdelingen wordt voor elke medewerker zijn/haar output bijgehouden bijvoorbeeld, verkoop, het volume, verkoop, kosten etc. Heeft uw direct leidinggevende zulke informatie over uw individuele output?	1,7087	,45528	254
STO02 Wanneer u wordt geëvalueerd voor een salarisverhoging of promotie, hoeveel waarde hecht uw leidinggevende aan de door u behaalde output?	4,1260	1,29756	254
STO03 Hoe vaak komt uw direct leidinggevende controleren wat u aan het doen bent	1,7953	,87421	254

### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
STO01 Op sommige afdelingen wordt voor elke medewerker zijn/haar output bijgehouden bijvoorbeeld, verkoop, het volume, verkoop, kosten etc. Heeft uw direct leidinggevende zulke informatie over uw individuele output?	5,9213	2,421	,012	,050	-,023 <sup>a</sup>
STO02 Wanneer u wordt geëvalueerd voor een salarisverhoging of promotie, hoeveel waarde hecht uw leidinggevende aan de door u behaalde output?	3,5039	,828	,056	,019	-,347 <sup>a</sup>
STO03 Hoe vaak komt uw direct leidinggevende controleren wat u aan het doen bent	5,8346	2,052	-,068	,033	,157

a. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item codings.

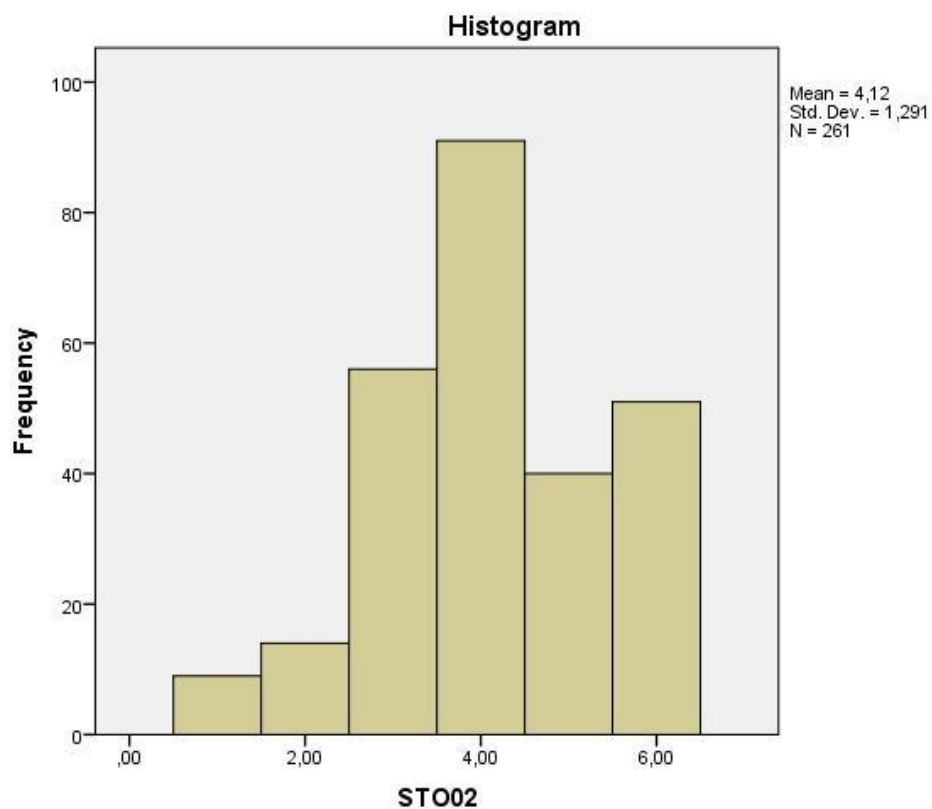
## Statistics

### STO02 Wanneer u wordt geëval

N	Valid	261
	Missing	36
Mean		4,1188
Std. Deviation		1,29097

### STO02 Wanneer u wordt geëvalueerd voor een salarisverhoging of promotie, hoeveel waarde hecht uw leidinggevende aan de door u behaalde output?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1,00 Helemaal geen waarde	9	3,0	3,4	3,4
	2,00 Geen waarde	14	4,7	5,4	8,8
	3,00 Neutraal	56	18,9	21,5	30,3
	4,00 Veel waarde	91	30,6	34,9	65,1
	5,00 Heel veel waarde	40	13,5	15,3	80,5
	6,00 n.v.t.	51	17,2	19,5	100,0
	Total	261	87,9	100,0	
Missing	99,00	35	11,8		
	System	1	,3		
	Total	36	12,1		
Total		297	100,0		



## APPENDIX 7 REGRESSION ANALYSIS NWW AND OUTCOME VARIABLES

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,118 <sup>a</sup>	,014	,010	,55051

a. Predictors: (Constant), NWW\_10

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1,120	1	1,120	3,697	,056 <sup>b</sup>
	Residual	79,705	263	,303		
	Total	80,826	264			

a. Dependent Variable: Productivity

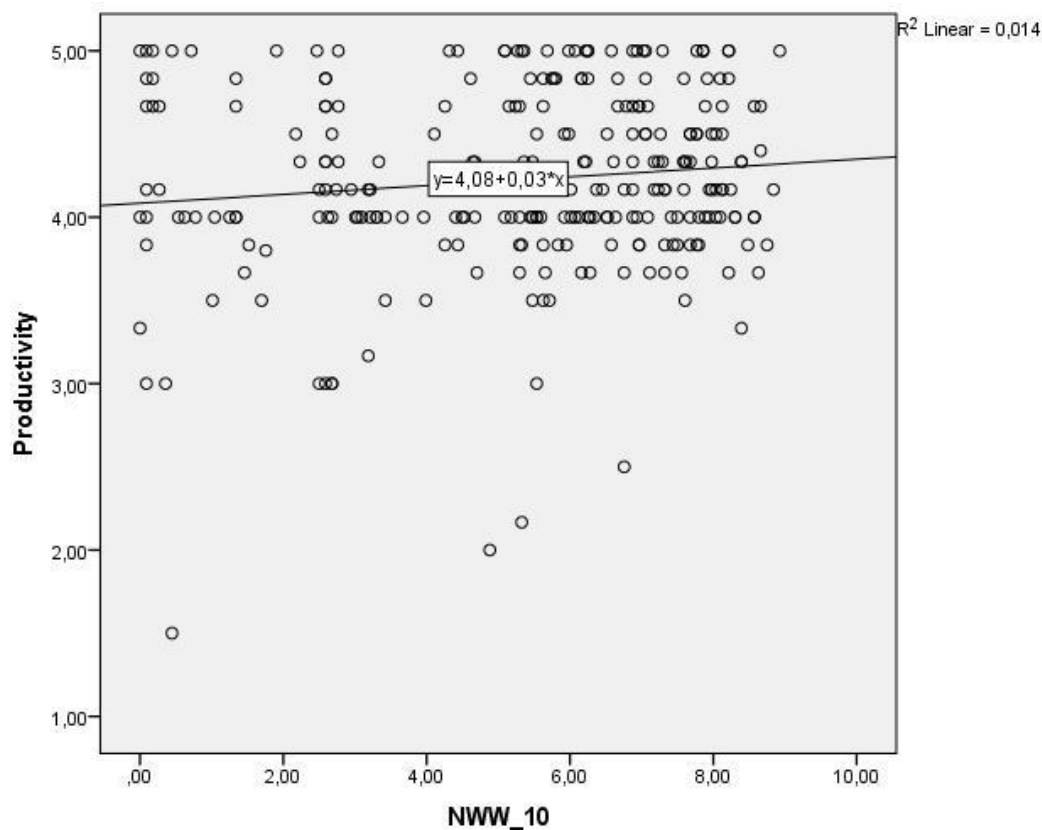
b. Predictors: (Constant), NWW\_10

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1,120	1	1,120	3,697	,056 <sup>b</sup>
	Residual	79,705	263	,303		
	Total	80,826	264			

a. Dependent Variable: Productivity

b. Predictors: (Constant), NWW\_10





### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,146 <sup>a</sup>	,021	,018	,64693

a. Predictors: (Constant), NWW\_10

### ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2,387	1	2,387	5,704	,018 <sup>b</sup>
	Residual	110,071	263	,419		
	Total	112,458	264			

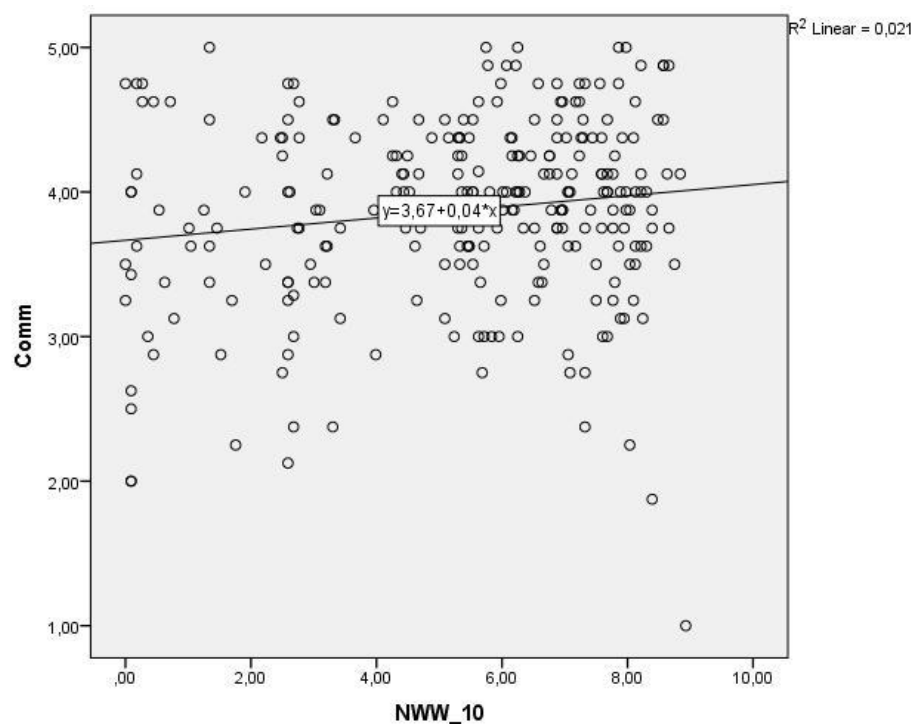
a. Dependent Variable: Comm

b. Predictors: (Constant), NWW\_10

### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,666	,095		38,765	,000
	NWW_10	,039	,016	,146	2,388	,018

a. Dependent Variable: Comm



## APPENDIX 8 LEVELING

In this appendix an example is given how NWW and the leadership competencies of leadership are leveled. The leadership competence trust in management is used as example.

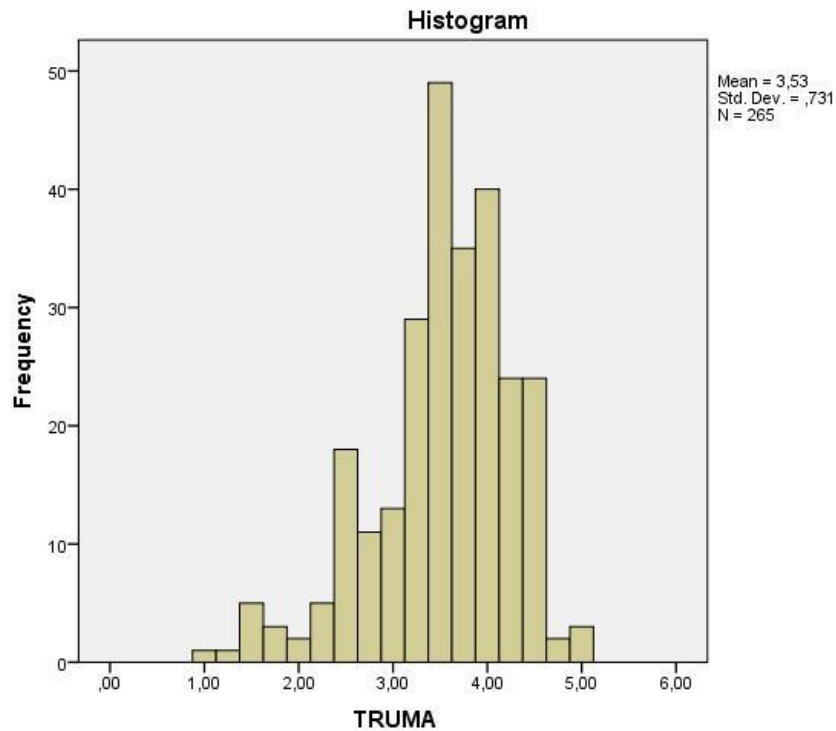
### Statistics

TRUMA

N	Valid	265
	Missing	32
Mean		3,5253
Std. Deviation		,73052

### TRUMA

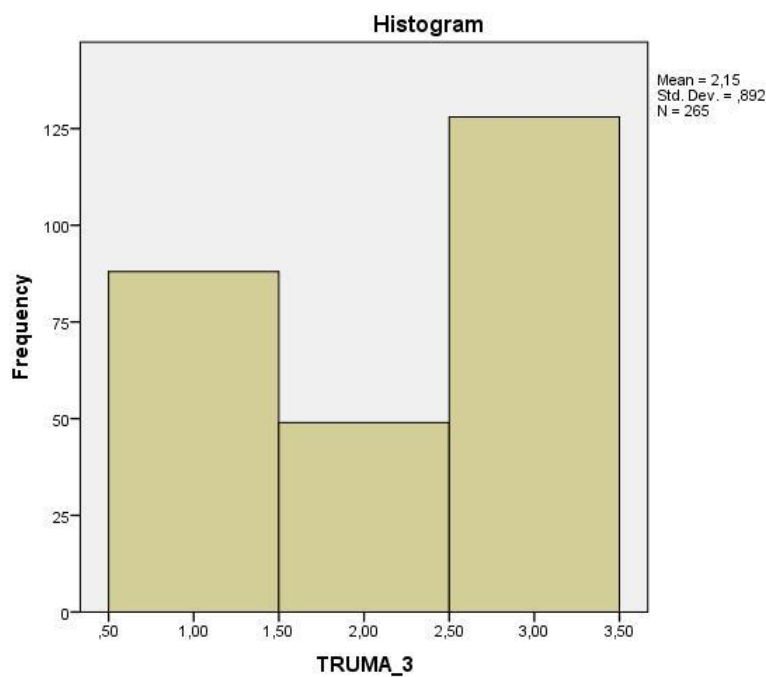
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1,00	1	,3	,4	,4
	1,20	1	,3	,4	,8
	1,40	3	1,0	1,1	1,9
	1,60	2	,7	,8	2,6
	1,75	1	,3	,4	3,0
	1,80	2	,7	,8	3,8
	2,00	2	,7	,8	4,5
	2,20	5	1,7	1,9	6,4
	2,40	7	2,4	2,6	9,1
	2,60	11	3,7	4,2	13,2
	2,80	11	3,7	4,2	17,4
	3,00	13	4,4	4,9	22,3
	3,20	29	9,8	10,9	33,2
	3,40	30	10,1	11,3	44,5
	3,60	19	6,4	7,2	51,7
	3,80	35	11,8	13,2	64,9
	4,00	40	13,5	15,1	80,0
	4,20	23	7,7	8,7	88,7
	4,25	1	,3	,4	89,1
	4,40	15	5,1	5,7	94,7
	4,60	9	3,0	3,4	98,1
	4,80	2	,7	,8	98,9
	5,00	3	1,0	1,1	100,0
	Total	265	89,2	100,0	
Missing	System	32	10,8		
Total		297	100,0		



Then the competence was recoded into three levels; low, medium, and high. In this example 33.2% is considered as low (1 – 3.25); 51.7% is considered as medium (3.25- 3.65); and 3.65 till 5 is considered as high.

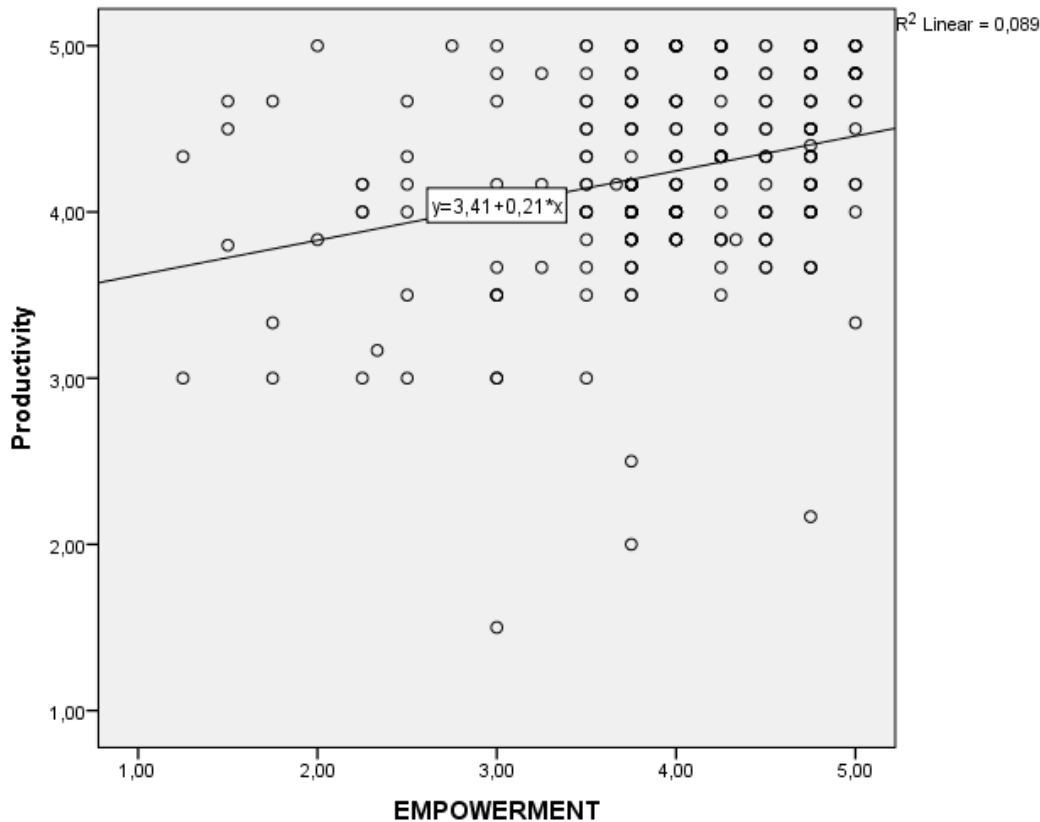
**TRUMA\_3**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1,00	88	29,6	33,2	33,2
	2,00	49	16,5	18,5	51,7
	3,00	128	43,1	48,3	100,0
	Total	265	89,2	100,0	
Missing	System	32	10,8		
Total		297	100,0		



## APPENDIX 9 REGRESSION ANALYSIS MODERATOR ON NWW - PRODUCTIVITY

### Empowerment



#### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,299 <sup>a</sup>	,089	,086	,52903

a. Predictors: (Constant), EMPOWERMENT

#### ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7,220	1	7,220	25,797	,000 <sup>b</sup>
	Residual	73,606	263	,280		
	Total	80,826	264			

a. Dependent Variable: Productivity

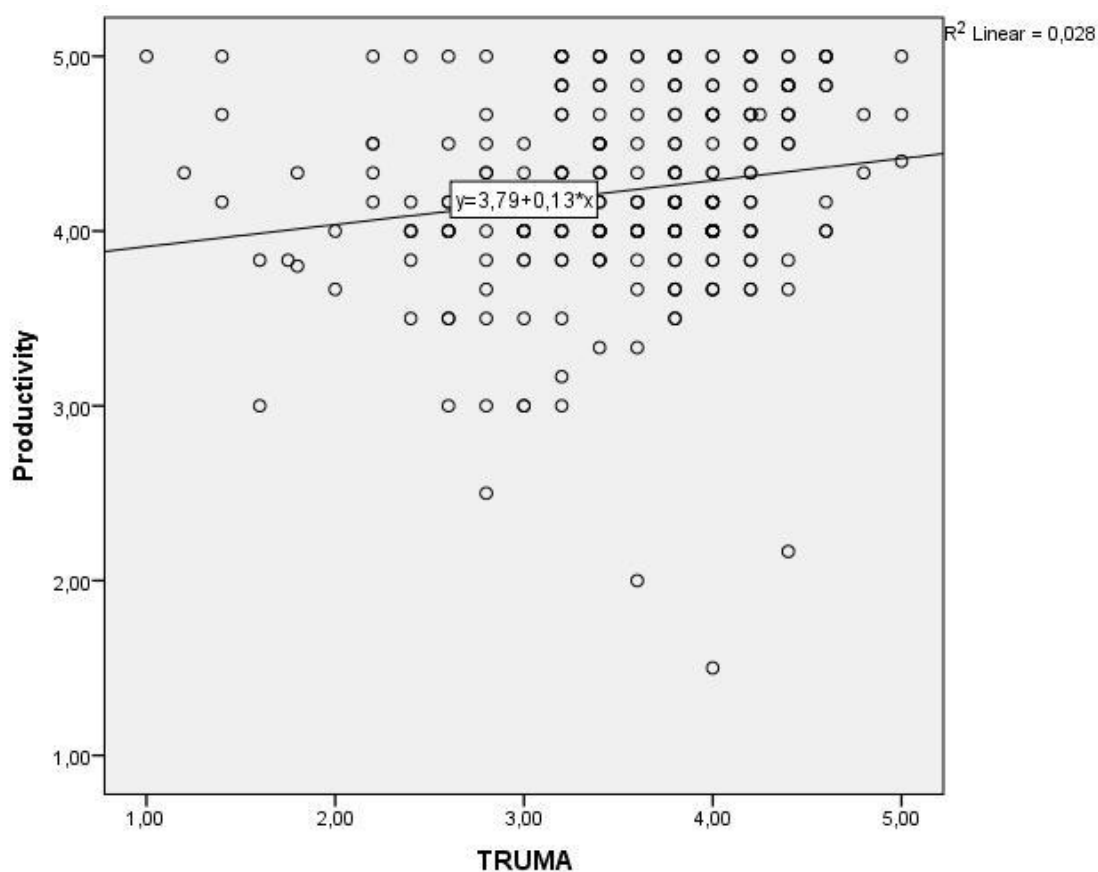
b. Predictors: (Constant), EMPOWERMENT

#### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,411	,163		20,876	,000
	EMPOWERMENT	,209	,041	,299	5,079	,000

a. Dependent Variable: Productivity

## Trust in Management



**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,168 <sup>a</sup>	,028	,024	,54242

a. Predictors: (Constant), TRUMA

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2,234	1	2,234	7,593	,006 <sup>b</sup>
	Residual	77,086	262	,294		
	Total	79,320	263			

a. Dependent Variable: Productivity

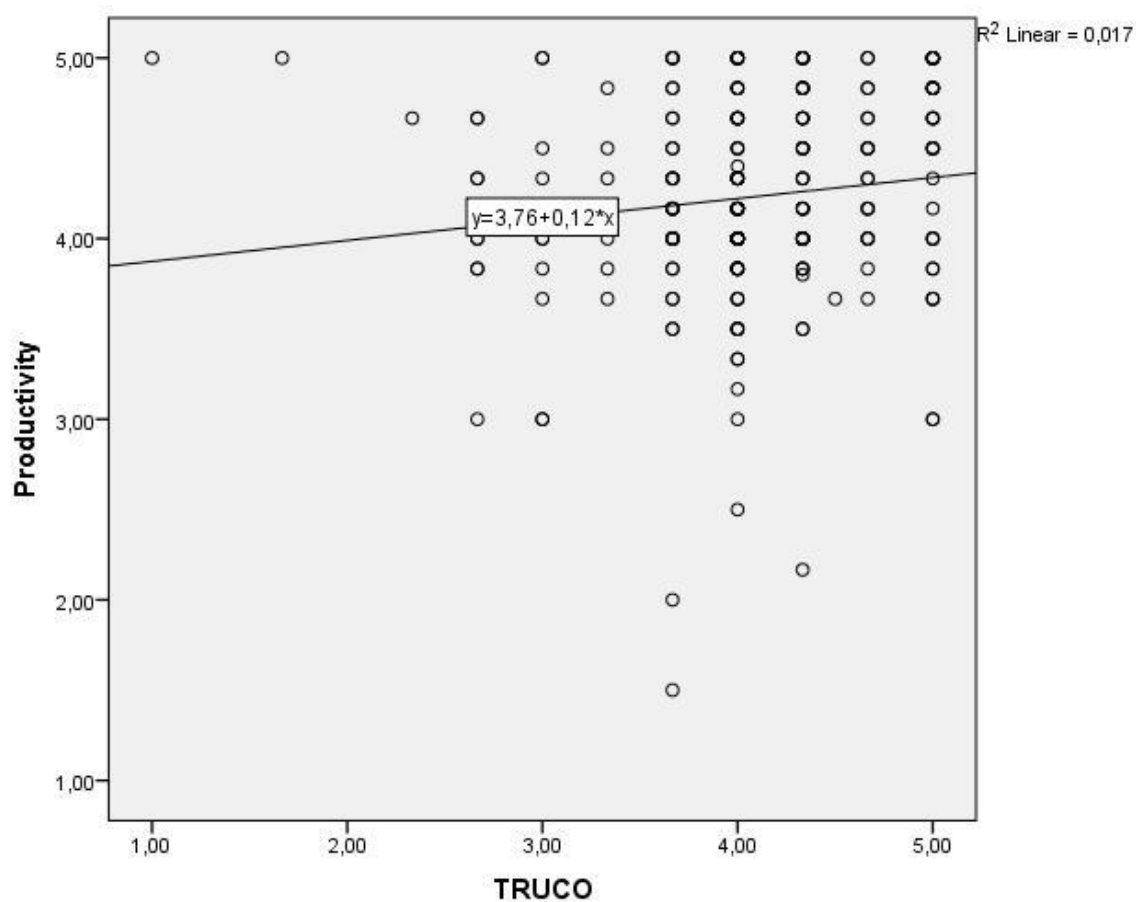
b. Predictors: (Constant), TRUMA

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,785	,165		23,001	,000
	TRUMA	,126	,046	,168	2,756	,006

a. Dependent Variable: Productivity

## Trust between Colleagues



**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,130 <sup>a</sup>	,017	,013	,54559

a. Predictors: (Constant), TRUCO

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1,331	1	1,331	4,470	,035 <sup>b</sup>
	Residual	77,989	262	,298		
	Total	79,320	263			

a. Dependent Variable: Productivity

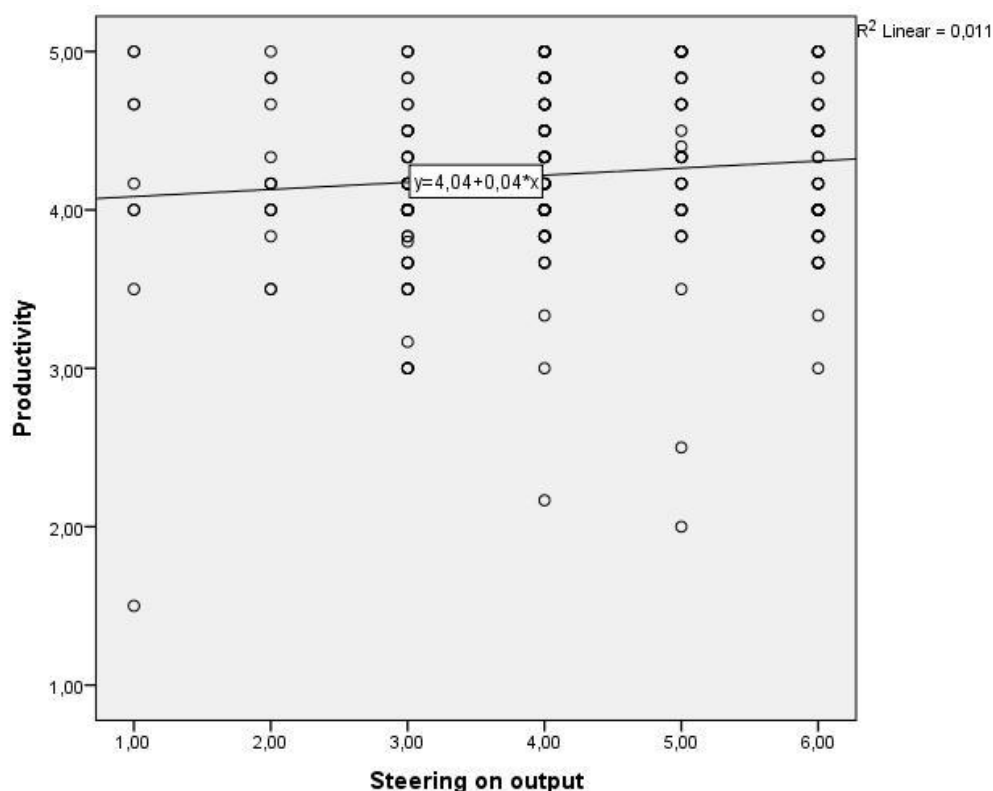
b. Predictors: (Constant), TRUCO

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,758	,225		16,681	,000
	TRUCO	,116	,055	,130	2,114	,035

a. Dependent Variable: Productivity

## Steering on output



### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,106 <sup>a</sup>	,011	,007	,54857

a. Predictors: (Constant), ST002 Wanneer u wordt geëvalueerd voor een salarisverhoging of promotie, hoeveel waarde hecht uw leidinggevende aan de door u behaalde output?

### ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,875	1	,875	2,908	,089 <sup>b</sup>
	Residual	77,639	258	,301		
	Total	78,514	259			

a. Dependent Variable: Productivity

b. Predictors: (Constant), ST002 Wanneer u wordt geëvalueerd voor een salarisverhoging of promotie, hoeveel waarde hecht uw leidinggevende aan de door u behaalde output?

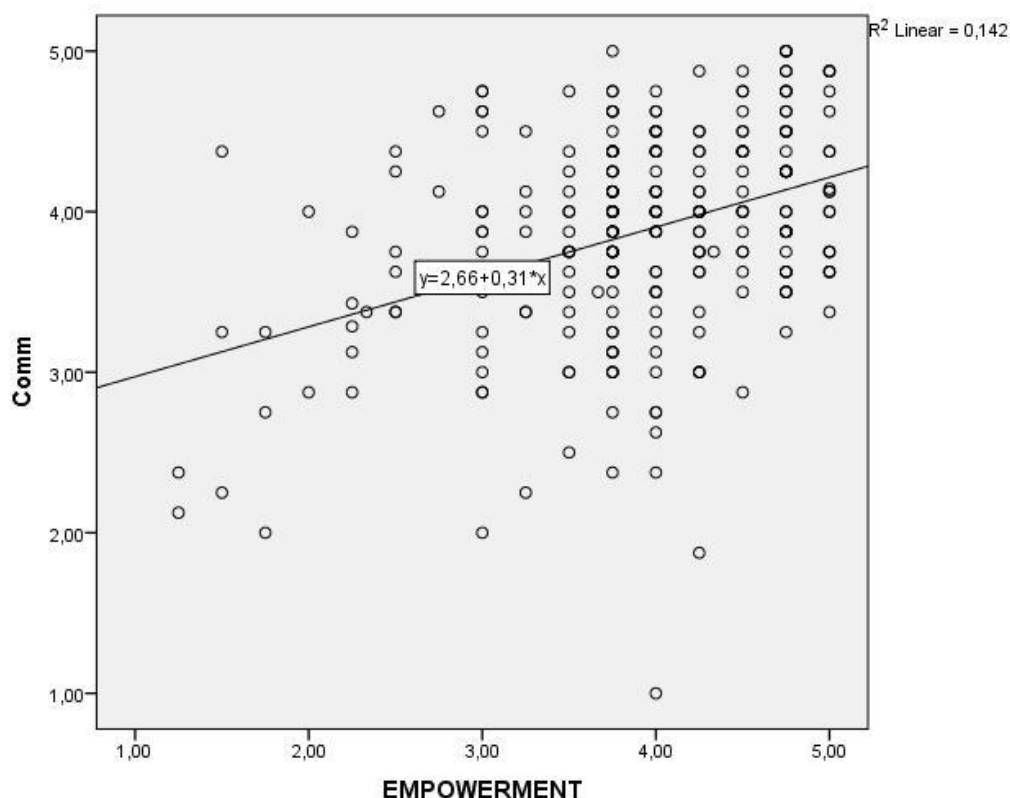
### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4,039	,114		35,507	,000
	ST002 Wanneer u wordt geëvalueerd voor een salarisverhoging of promotie, hoeveel waarde hecht uw leidinggevende aan de door u behaalde output?	,045	,026	,106	1,705	,089

a. Dependent Variable: Productivity

## APPENDIX 10 REGRESSION ANALYSIS MODERATOR ON NWW - ORGANIZATIONAL COMMITMENT

### Empowerment



**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,377 <sup>a</sup>	,142	,139	,60557

a. Predictors: (Constant), EMPOWERMENT

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16,014	1	16,014	43,669	,000 <sup>b</sup>
	Residual	96,444	263	,367		
	Total	112,458	264			

a. Dependent Variable: Comm

b. Predictors: (Constant), EMPOWERMENT

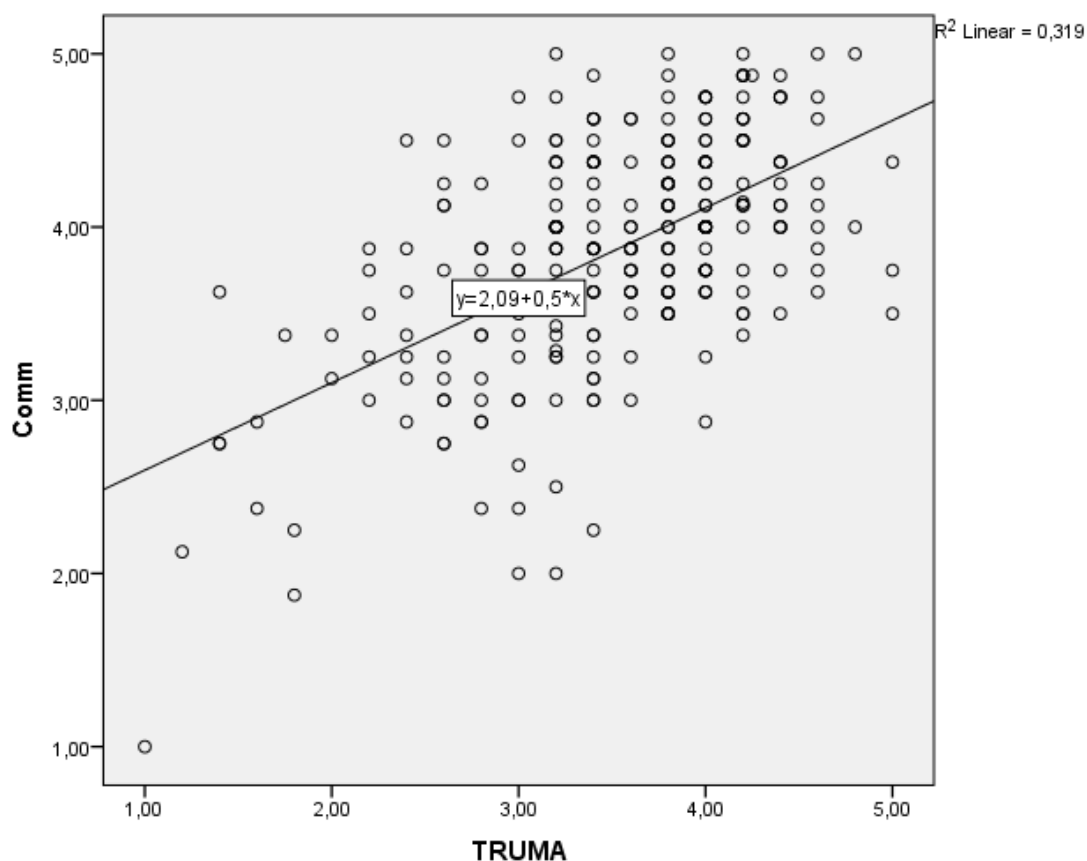
**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2,662	,187		14,256	,000
	EMPOWERMENT	,310	,047	,377	6,608	,000

a. Dependent Variable: Comm



## Trust in Management



**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,565 <sup>a</sup>	,319	,317	,53951

a. Predictors: (Constant), TRUMA

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	35,906	1	35,906	123,357	,000 <sup>b</sup>
	Residual	76,552	263	,291		
	Total	112,458	264			

a. Dependent Variable: Comm

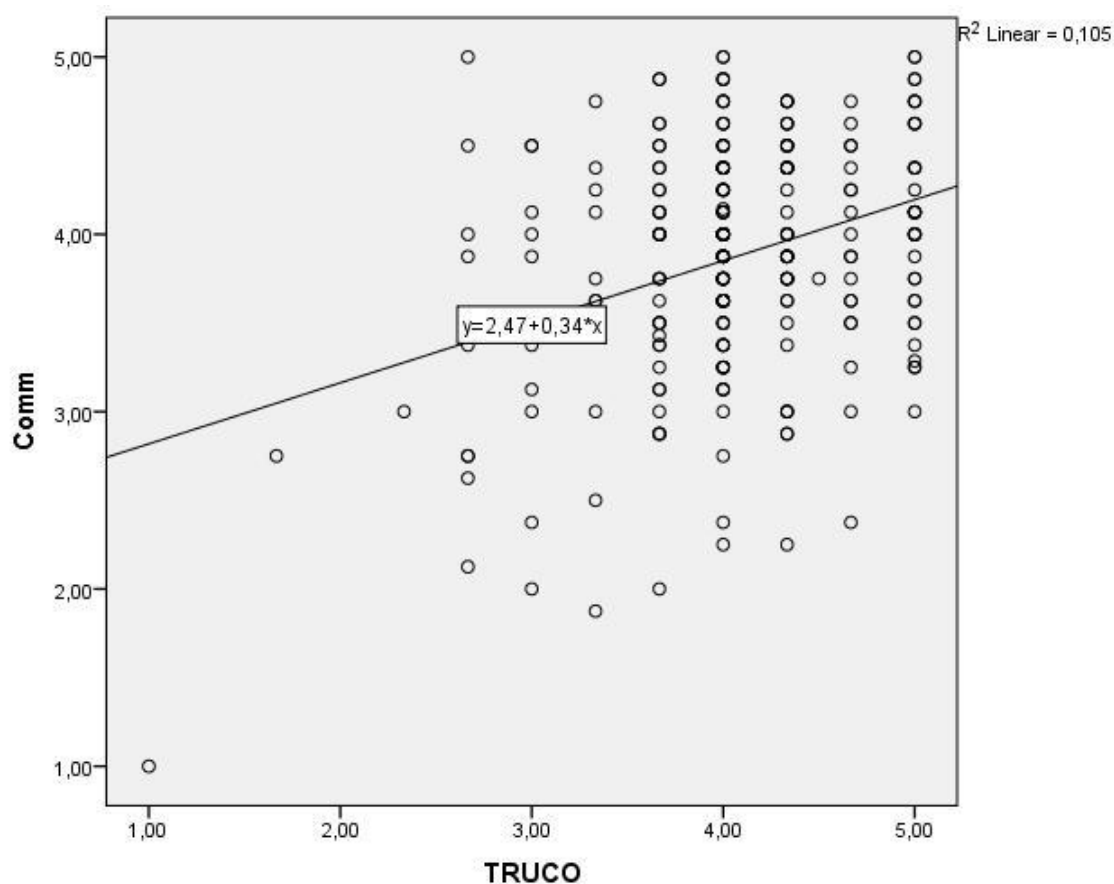
b. Predictors: (Constant), TRUMA

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2,091	,164		12,782	,000
	TRUMA	,505	,045	,565	11,107	,000

a. Dependent Variable: Comm

## Trust between Colleagues



**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,324 <sup>a</sup>	,105	,101	,61870

a. Predictors: (Constant), TRUCO

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11,784	1	11,784	30,785	,000 <sup>b</sup>
	Residual	100,674	263	,383		
	Total	112,458	264			

a. Dependent Variable: Comm

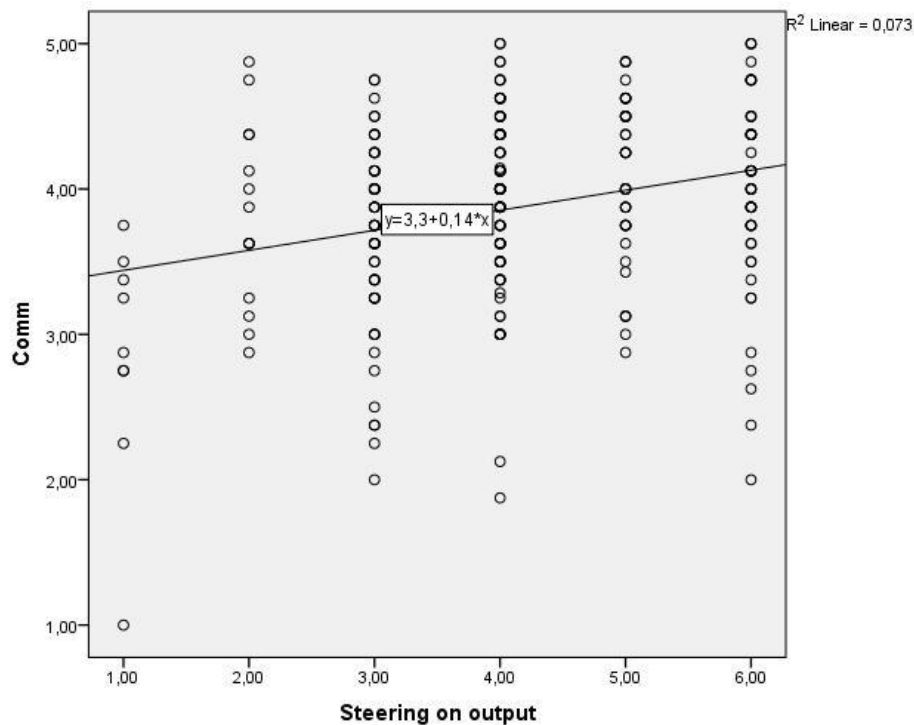
b. Predictors: (Constant), TRUCO

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2,474	,255		9,715	,000
	TRUCO	,344	,062	,324	5,548	,000

a. Dependent Variable: Comm

## Steering on output



**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,271 <sup>a</sup>	,073	,070	,63352

a. Predictors: (Constant), ST002 Wanneer u wordt geëvalueerd voor een salarisverhoging of promotie, hoeveel waarde hecht uw leidinggevende aan de door u behaalde output?

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8,226	1	8,226	20,497	,000 <sup>b</sup>
	Residual	103,948	259	,401		
	Total	112,175	260			

a. Dependent Variable: Comm

b. Predictors: (Constant), ST002 Wanneer u wordt geëvalueerd voor een salarisverhoging of promotie, hoeveel waarde hecht uw leidinggevende aan de door u behaalde output?

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,303	,131		25,146	,000
	ST002 Wanneer u wordt geëvalueerd voor een salarisverhoging of promotie, hoeveel waarde hecht uw leidinggevende aan de door u behaalde output?	,138	,030	,271	4,527	,000

a. Dependent Variable: Comm

## APPENDIX 11 INTERACTION EFFECT MODERATOR ON NWW - PRODUCTIVITY

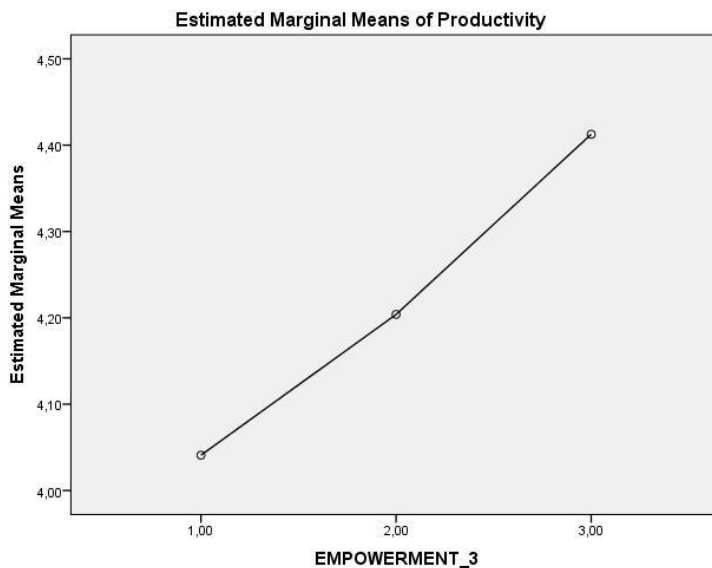
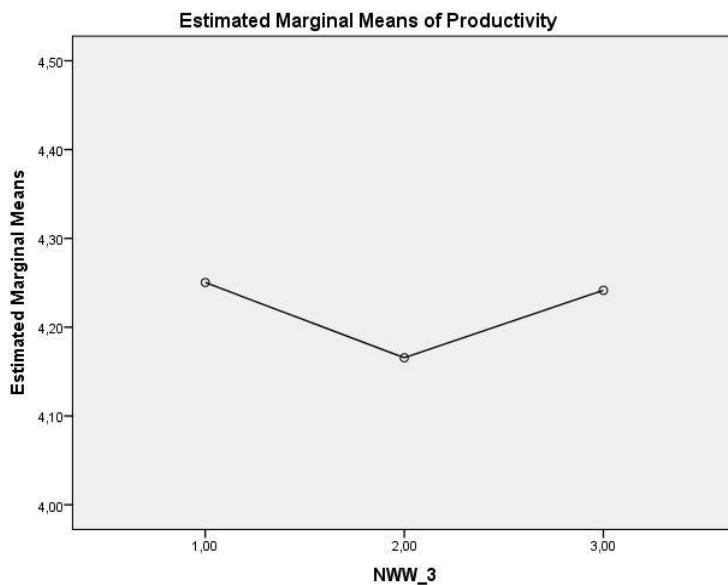
### Empowerment

**Tests of Between-Subjects Effects**

Dependent Variable: Productivity

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	6,889 <sup>a</sup>	8	,861	2,981	,003
Intercept	2348,825	1	2348,825	8132,611	,000
NWW_3	,240	2	,120	,416	,660
EMPOWERMENT_3	2,423	2	1,212	4,195	,016
NWW_3 * EMPOWERMENT_3	,580	4	,145	,502	,734
Error	73,937	256	,289		
Total	4810,467	265			
Corrected Total	80,826	264			

a. R Squared = ,085 (Adjusted R Squared = ,057)



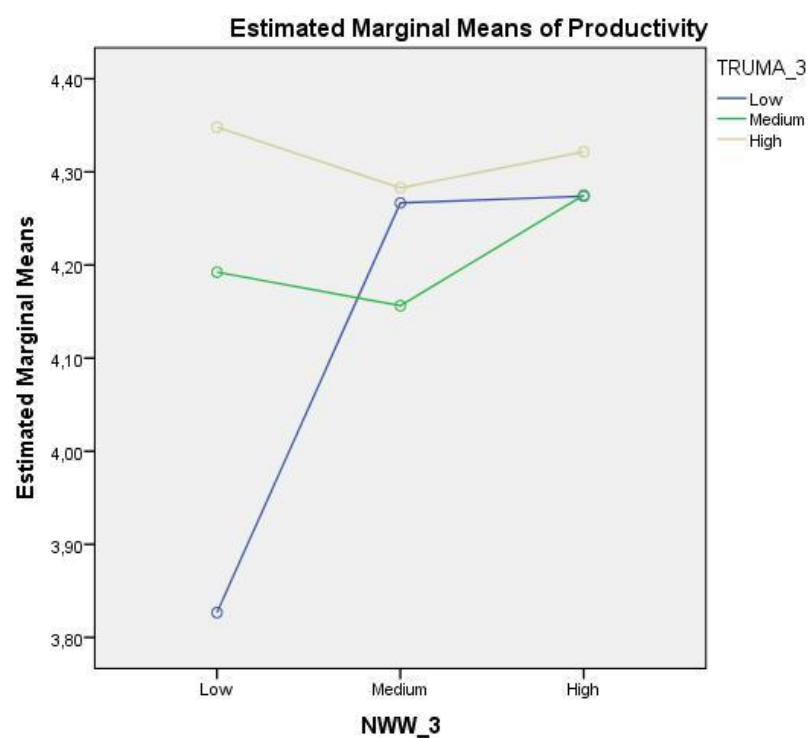
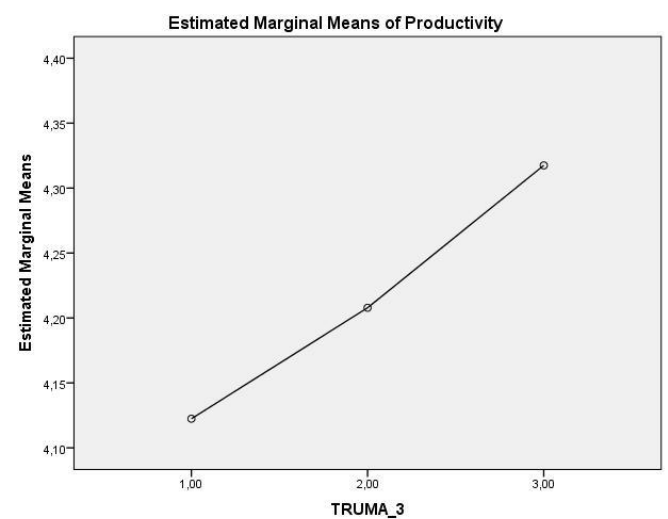
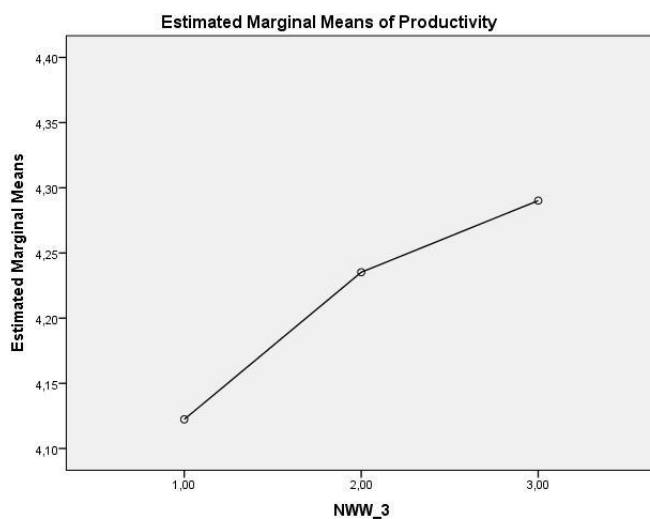
## Trust in Management

### Tests of Between-Subjects Effects

Dependent Variable: Productivity

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	6,060 <sup>a</sup>	8	,758	2,637	,009
Intercept	3932,475	1	3932,475	13688,015	,000
NWW_3	1,025	2	,512	1,783	,170
TRUMA_3	1,968	2	,984	3,425	,034
NWW_3 * TRUMA_3	2,871	4	,718	2,499	,043
Error	73,260	255	,287		
Total	4801,467	264			
Corrected Total	79,320	263			

a. R Squared = ,076 (Adjusted R Squared = ,047)



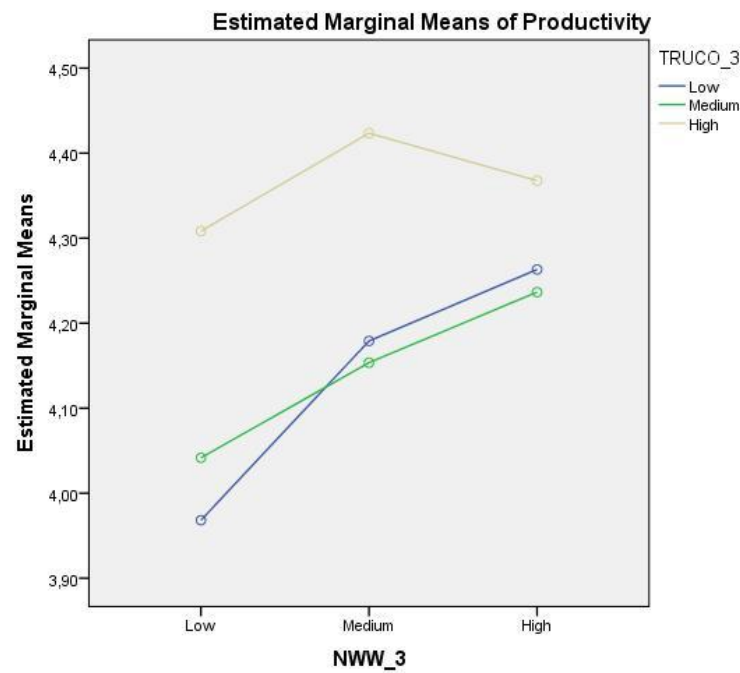
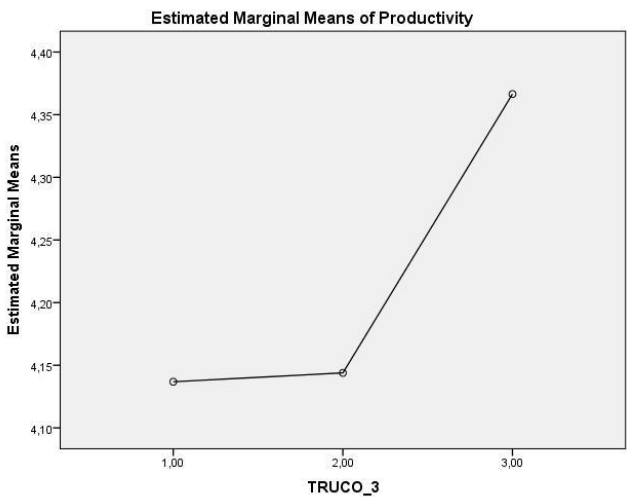
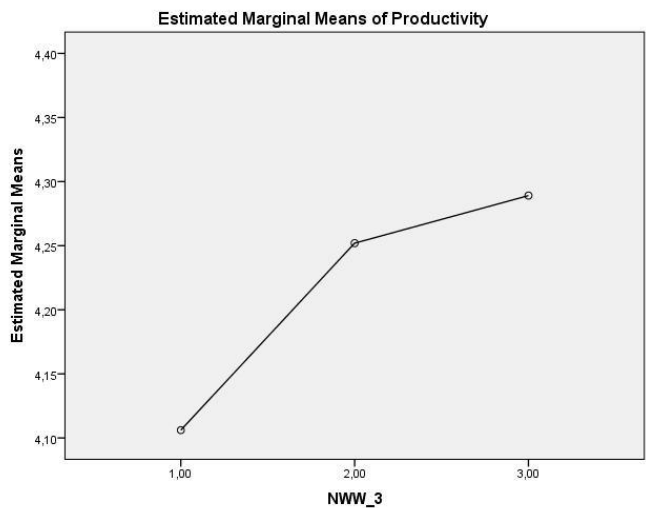
Trust between Colleagues

Tests of Between-Subjects Effects

Dependent Variable: Productivity

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4,947 <sup>a</sup>	8	,618	2,120	,034
Intercept	4460,681	1	4460,681	15294,097	,000
NWW_3	1,462	2	,731	2,506	,084
TRUCO_3	3,099	2	1,550	5,313	,005
NWW_3 * TRUCO_3	,424	4	,106	,364	,834
Error	74,373	255	,292		
Total	4801,467	264			
Corrected Total	79,320	263			

a. R Squared = ,062 (Adjusted R Squared = ,033)



## APPENDIX 12 INTERACTION EFFECT MODERATOR ON NWW - ORGANIZATIONAL COMMITMENT

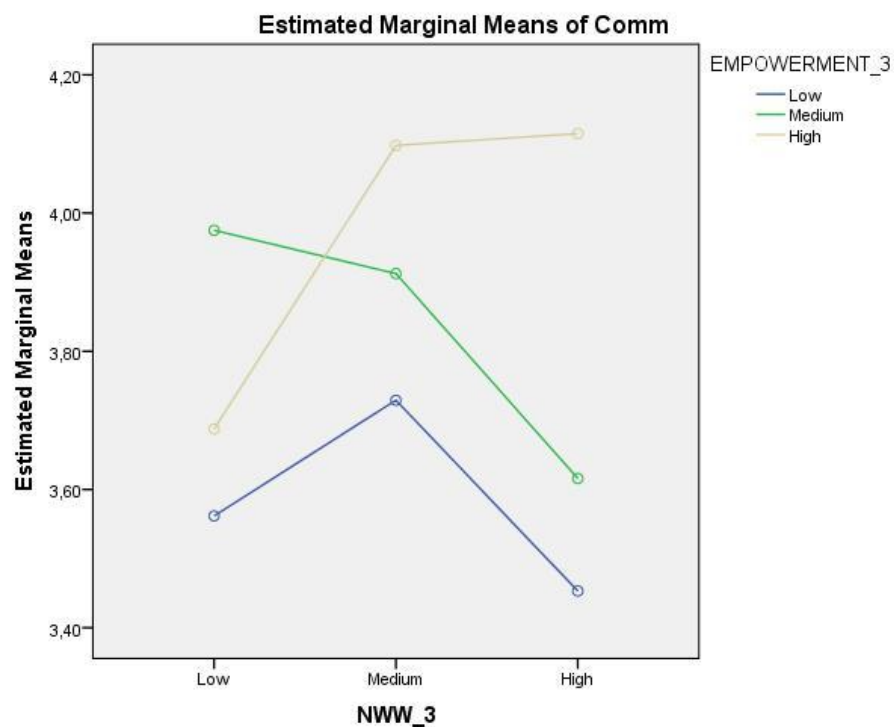
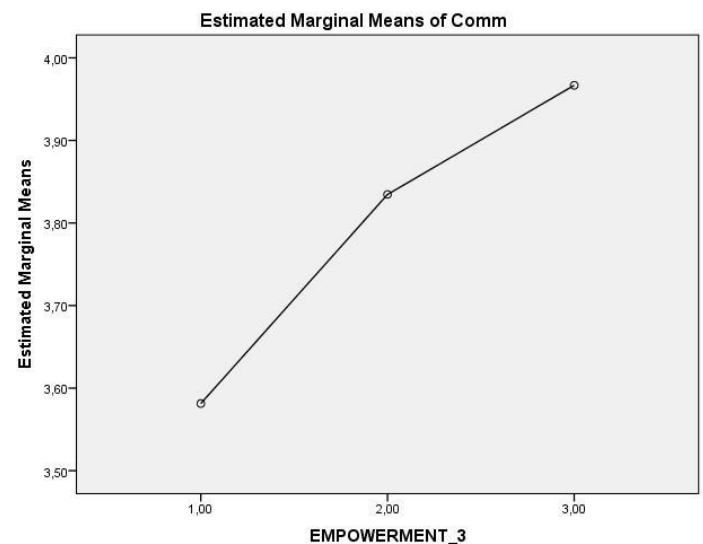
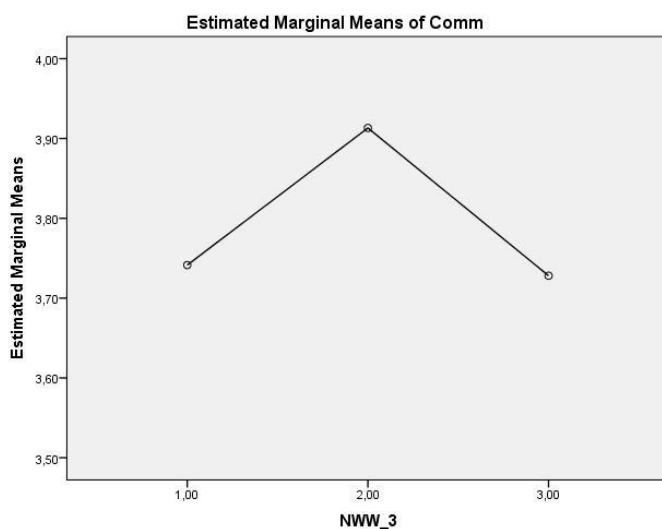
### Empowerment

#### Tests of Between-Subjects Effects

Dependent Variable: Comm

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	14,072 <sup>a</sup>	8	1,759	4,577	,000
Intercept	1881,142	1	1881,142	4894,735	,000
NWW_3	1,208	2	,604	1,571	,210
EMPOWERMENT_3	2,847	2	1,423	3,704	,026
NWW_3 * EMPOWERMENT_3	2,451	4	,613	1,594	,176
Error	98,386	256	,384		
Total	4083,714	265			
Corrected Total	112,458	264			

a. R Squared = ,125 (Adjusted R Squared = ,098)

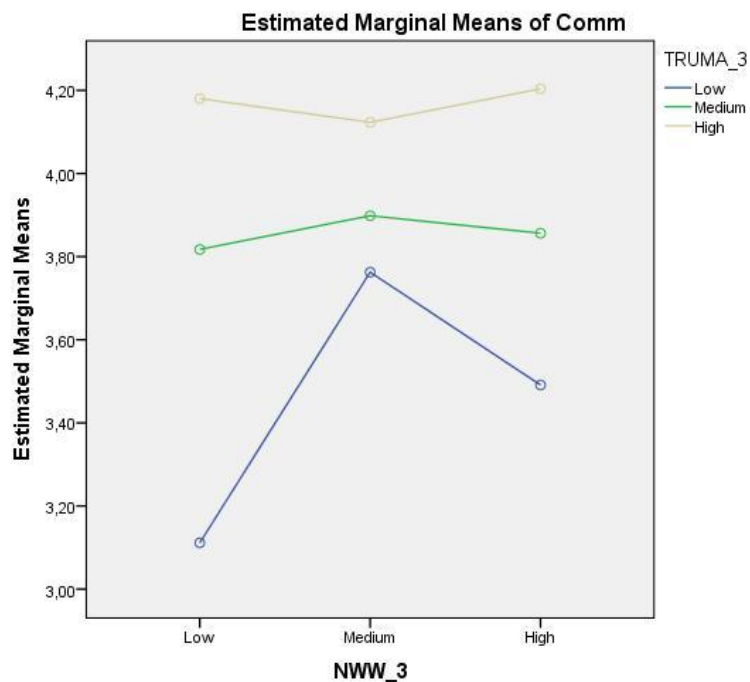
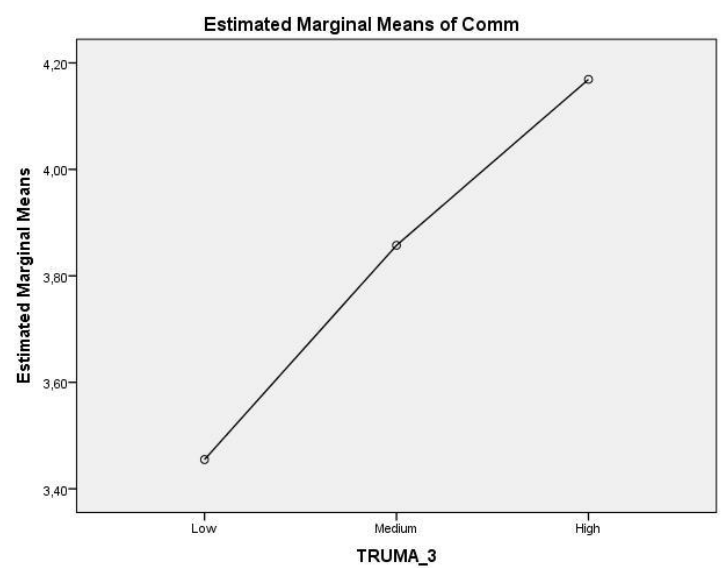
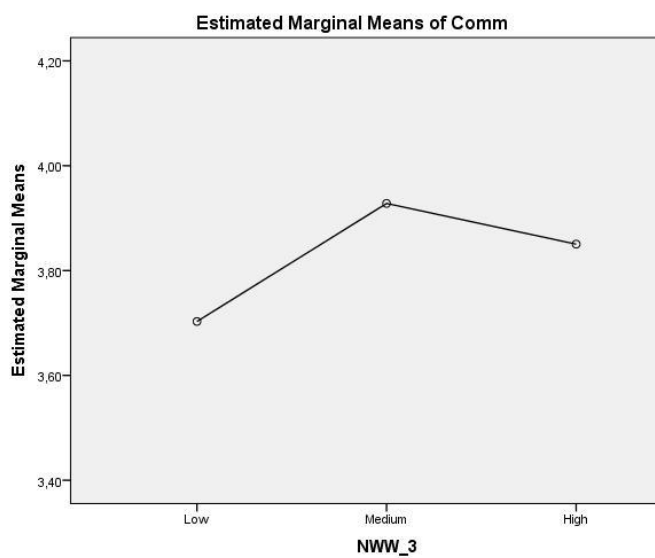


### Tests of Between-Subjects Effects

Dependent Variable: Comm

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	32,783 <sup>a</sup>	8	4,098	13,167	,000
Intercept	3246,934	1	3246,934	10432,575	,000
NWW_3	1,828	2	,914	2,937	,055
TRUMA_3	26,088	2	13,044	41,911	,000
NWW_3 * TRUMA_3	4,601	4	1,150	3,695	,006
Error	79,675	256	,311		
Total	4083,714	265			
Corrected Total	112,458	264			

a. R Squared = ,292 (Adjusted R Squared = ,269)





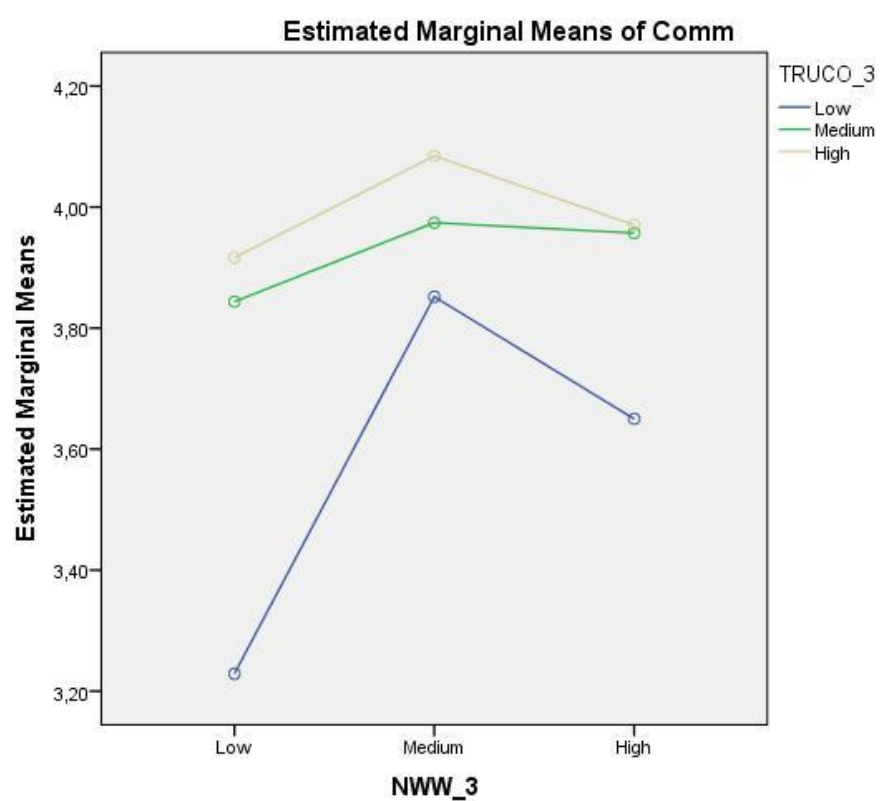
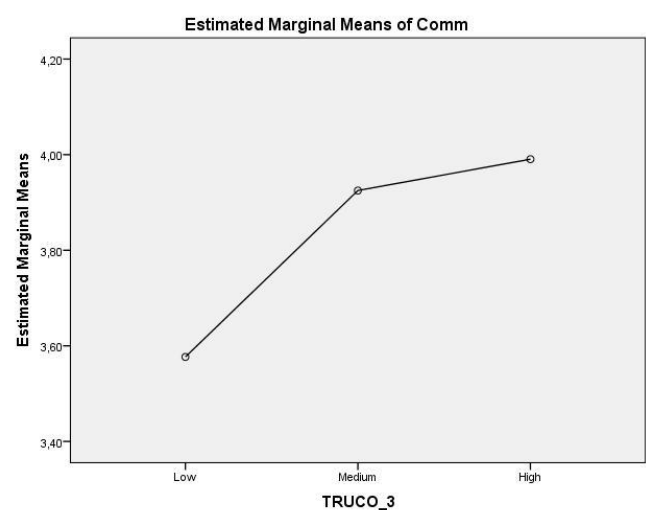
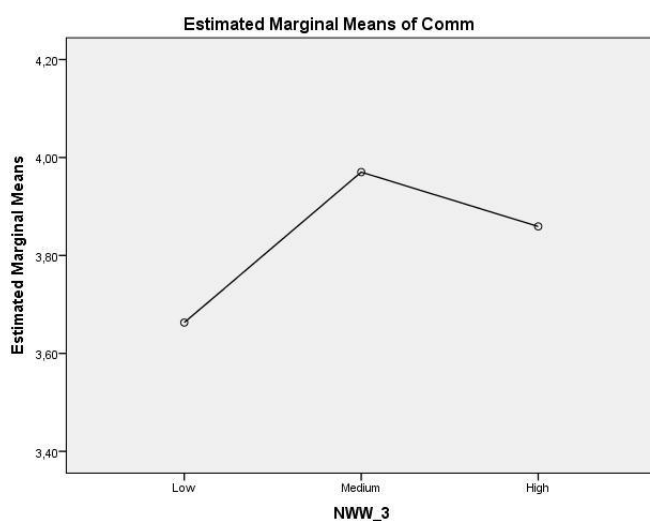
## Trust between Colleagues

### Tests of Between-Subjects Effects

Dependent Variable: Comm

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	12,392 <sup>a</sup>	8	1,549	3,963	,000
Intercept	3713,545	1	3713,545	9500,397	,000
NWW_3	4,081	2	2,040	5,220	,006
TRUCO_3	7,429	2	3,714	9,502	,000
NWW_3 * TRUCO_3	2,077	4	,519	1,328	,260
Error	100,066	256	,391		
Total	4083,714	265			
Corrected Total	112,458	264			

a. R Squared = ,110 (Adjusted R Squared = ,082)



Tests of Between-Subjects Effects

Dependent Variable: Comm

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	8,137 <sup>a</sup>	8	1,017	2,464	,014
Intercept	3059,123	1	3059,123	7409,844	,000
NWW_3	3,144	2	1,572	3,808	,023
STO_3	2,675	2	1,337	3,240	,041
NWW_3 * STO_3	1,508	4	,377	,913	,457
Error	104,037	252	,413		
Total	4021,433	261			
Corrected Total	112,175	260			

a. R Squared = ,073 (Adjusted R Squared = ,043)

