The impact of work value diversity on team performance:

Examining the roles of team longevity and cooperation

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Abstract

This study discusses the effect of value diversity on team performance, incorporating a mediating effect of cooperation and a moderating effect of team longevity. To formulate an answer concerning the research question, four hypotheses have been made based on the literature: (hypothesis 1) Value diversity has a negative relationship with cooperation, (hypothesis 2) Team longevity has a positive moderating effect on the relationship between value diversity and cooperation, (hypothesis 3) Cooperation is positively related with the team performance, (hypothesis 4) The relationship between value diversity and team performance is mediated by cooperation. These hypotheses were tested with use of questionnaires, which were filled out by 167 respondents from 36 teams. Due to the small sample size it was difficult to find significant results, however the results pointed out that the positive effect of cooperation on team performance was significant; The higher the cooperation in a team, the higher the performance. Furthermore, the results were discussed, limitations are presented and recommendations for future research and practice are made.

Keywords: Diversity, (work) value diversity, cooperation, team performance, team longevity, team tenure

Introduction

Managing the effects of diversity on the outcomes of a team has become crucial due to the more diverse workforce and the enlarged use of teams. It is predicted that this trend in increased attention to diversity will continue in the future (Jackson, Joshi & Erhardt, 2003; Williams & O'Reilly, 1998), which suggests that it is important to learn how team diversity affects the functioning of the team and he team processes (Mohammed & Angell, 2004). The more diverse workforce is a worldwide trend; also in the Netherlands this trend is present due to an ageing workforce, more individualism and internationalization (de Vries, van de Ven, Nuyens, Stark, van Schie, & van Sloten, 2005). While a large amount of research has been conducted to the consequences of diversity, the effect of diversity on team outcomes is still ambiguous (Jackson et al, 2003; Jehn, Northcraft & Neale, 1999; Milliken & Martins, 1996; Williams & O´Reilly, 1998). Even in the most recent literature, the relationship between team diversity and team performance is still indistinct (van Dijk, van Engen & van Knippenberg, 2009; van Dijk & van Engen, 2010).

As an explanation for the ambiguous results, the past years researchers have distinguished different types of diversity (e.g. age, gender, value, functional background) and argued that these different types have different effects (e.g. Jehn et al., 1999; Milliken & Martins, 1996; van Knippenberg, de Dreu, & Homan, 2004). This paper will only focus on one single type of diversity in order to explore this concept more in-depth. This study will focus on value diversity, which is interesting as it is predicted that the composition in values of team members have an impact on the team processes and performance (e.g. Dose & Klimoski, 1999, Jehn et al., 1999; Schippers, Den Hartog, Koopman & Wienk, 2003). The question that arises is if it is desirable that team members have similar values or if it is better for a team to be heterogeneous on this aspect. Even though several researchers assume that value diversity affects team processes, there are still no clear empirical findings of the effect value diversity has on team performance (Owens & Neale, 1999).

This study explores how value diversity relates to team performance. In this research will be argued that cooperation plays a mediating role in the value diversity-performance relationship. Many organizations see cooperation as a desired employee behavior, Argyle (1991) even states that cooperation is essential for organizations. Therefore it is interesting to look at the influence of value diversity on cooperation and the indirect influence on the team performance. The study thereby responds to calls of van Dijk et al. (2009) and van Knippenberg et al. (2004) to consider mediator variables that may explain the inconclusive findings of the research on team diversity.

Previous research did not only point out the importance of mediators, but of incorporating moderators in research. Team longevity has often been suggested as an important factor to consider in research on diversity (e.g. Harrison, Price, Gavin & Florey, 2002; Watson, Kumar & Michaelsen, 1993). It is predicted that the influence of deep-level diversity types changes when employees are together for a longer period of time. Differences in deep-level diversity are not easily observable and therefore these only become visible after a period of time. Value diversity is a deep-level type of diversity as it a 'hidden' for new team members, therefore it is likely that team longevity plays a role in the value diversity – team performance relationship. While previous researchers have stressed the value of incorporating this factor into future research, many studies still lack this component. This study however responds to their call and integrates team longevity as a moderator into the research model. Therefore, the research question of this study is:

> *To what extent does value diversity influence team performance and is this relationship mediated by cooperation and/ or moderated by team longevity?*

In the following section the existing theory and research on value diversity and team performance will be presented. Subsequently cooperation and team longevity will be taken into account and various hypotheses will be formulated. In the final section the methodology will be explained, after which the results will be reported and the findings will be discussed.

Theoretical framework

In the past, there has been major interest in the topic of team diversity and the effect it has on team performance (Ancona & Caldwell, 1992; Jackson et al., 2003; Jehn, Chadwick & Thatcher, 1997; Jehn et al., 1999; Williams & O´Reilly, 1998). The reason for this attention is that diversity is seen by managers and scholars as a challenge they have to meet (Harrison & Klein, 2007). Team members can differ on numerous aspects, ranging from hair color to religion and from ethnicity to values. Diversity has been defined by previous studies as the degree of variety between individuals (Milliken & Martins, 1996; van Knippenberg et al., 2004; van Knippenberg & Schippers, 2007), which for instance can form a team. In this study the term 'diversity' refers to the differences between people (Williams & O'Reilly, 1998). A team is defined in this study as several individuals who have a shared goal, are responsible for this goal and are interdependent in their tasks (Stock, 2004). Team performance will be defined as the extent to which the team successfully accomplishes the ongoing goals and missions which present themselves over time (Devine & Philips, 2001).

Despite all the attention towards diversity and its relationship with team performance, the results remain inconclusive. Therefore, Milliken and Martins (1996, p. 406) even refer to diversity as a "double edged sword" as the effects of diversity were positive according to some studies, negative according to other studies, and non significant according to yet even other studies. When analyzing 50 years of research on diversity, the recent meta-analysis of van Dijk et al. (2009) found that the effect of diversity on group performance is ambiguous; confirming the findings of Milliken and Martins (1996). This finding holds true for the overall construct of diversity as well as for most dimensions of deep-level diversity, including value diversity (van Dijk et al., 2009). The term 'values' can be seen as unique individual beliefs and convictions which guide the behavior of the individual in various situations (Bell, 2007). The term 'value diversity' can be described as the differences in individual belief on how to act and behave in certain situations.

People can differ on a wide variety of values, this article collects information of teams in a work setting, therefore work value diversity will be researched. This distinction has also been made by several authors; one of them being Liang, Liu, Lin and Lin (2007) who explained value diversity in working situations as "the situation in which team members have different values with respect to certain actions or to the project goal" (p. 639). Dose and Klimoski (1999) also focused on the concept of work values. They describe work values as "evaluative standards relating to work or the work environment individuals use to discern what is 'right' or to assess the importance of preferences for actions or outcomes" (p. 86). In

this study 'work value diversity' will be seen as differences in the belief on how one should act and behave in certain *work* situations.

This paper researches the indirect effects of variables on team performance, rather than focusing on a direct relationship. Several researchers have suggested the use of mediators, which might explain the underlying processes when diversity influences team performance, to get a better understanding of the ways via which diversity can impact team performance (van Dijk et al., 2009; van Knippenberg et al., 2004; Williams & O'Reilly, 1998). Research has already been conducted on the possibility of explaining the relationship between value diversity and team performance with mediators such as conflict and social integration (Jehn et al., 1997; Harrison et al, 2002). However, these mediators were only moderately successful in explaining the effect of value diversity on performance. Now a new suggestion is made by incorporating cooperation in this study, as cooperation can be seen as a necessity for a team. Cooperation can be needed due to the fact that the task is too time consuming for one individual or that one person does not have all the knowledge that is needed to complete the task and needs to cooperate to receive more information. When tasks need a division of labor, individuals need to work together in a team and cooperate (Argyle, 1991).

Cooperation can be seen as "the willful contribution of personal effort to the completion of interdependent jobs" (Wagner, 1995, p. 152). Cooperation is present when a task requires multiple persons to participate; in specific, this research takes the view that a minimum of three employees is required for cooperation to take place. This study follows the statement by Chatman and Flynn (2001) that in order to meet the requirements of cooperation, more than two individuals have to be present.

Relationship between value diversity and cooperation.

Several articles proposed that there are two diversity perspectives that guide the research about deep-level diversity. The first perspective is the social categorization perspective, the second perspective is the information/ decision making perspective (Joshi & Jackson, 2003; van Knippenberg & Schippers, 2007).

The social categorization perspective is the most widely used viewpoint for explaining negative outcomes of team diversity (Joshi & Jackson, 2003). According to this perspective, differences and similarities between group members can lead the group members to categorize their colleagues into two groups: the in-group and the out-group (van Knippenberg & Schippers, 2007). The division of individuals into groups is often based on observable

differences such as gender, race and age (Harrison et al., 2002), though the categorization can also be based on less visible characteristics like educational level or team tenure. Because it focuses more on surface–level diversity, the social categorization perspective might be less suitable for explaining value diversity, which is a deep-level concept (Harrison et al., 2002). A better perspective to explain value diversity is the similarity attraction paradigm, as it is more suitable for explaining deep-level diversity.

The similarity attraction paradigm of Byrne (1971) suggests that individuals are attracted to, and have a preference to be with persons who are similar in their values, beliefs or attitudes. When individuals in a group have shared values, interests and goals, cooperative behavior will follow due to the fact that the others in the group have viewpoints consistent with one's self interest (Joshi & Jackson, 2003). When group members have different values they often do not prefer to work with each other; a tendency which might disrupt the team processes and increasing the chance that problems will occur (van Knippenberg & Schippers, 2007). So, it can be concluded that group processes in more diverse groups are less cooperative and therefore less productive than homogeneous groups (van Knippenberg et al., 2004). The similarity attraction paradigm can be seen in theory as a good explanation of the possible negative effects of value diversity.

The second theory, the information / decision making perspective assumes positive outcomes of team diversity. This perspective is characterized by the belief that when people are diverse, they bring along different knowledge, expertise and perspectives that may help teams to be more creative, deliver a higher quality, and come up with innovative outcomes (van Knippenberg & Schippers, 2007). This so-called information elaboration process (van Knippenberg et al., 2004) refers to sharing, discussing and integrating information between team members. The information / decision making perspective can be seen as a good explanation for the positive outcomes of diversity, when focusing on the overall concept of diversity. However when focusing on the specific type of value diversity, this theory is less suitable. This difference stems from the fact that value diversity is likely to result in different perspectives, however it is no guarantee for the presence of differences in knowledge and expertise between the team members. The information/ decision making perspective can therefore be seen as offering only a partial, incomplete explanation for the assumptions and findings from the literature on the relationship between value diversity and cooperation.

In the literature the similarity attraction paradigm is also more supported. Beersma, Hollenbeck, Humphrey, Moon, Conlon and Ilgen (2003) found that the lower the value diversity the higher the cooperation will be. The differences in values within a group may

impede teamwork, information sharing and helping. Joshi and Jackson (2003) agree on this; they state that the existence of sub-groups creates blockades for cooperative activities and it might even stimulate competitive behavior. An explanation for this is that value consensus influences the behavior of team members towards each other. Group members with the same values are more likely to agree with each other about what is the way to interact with each other and how to deal with the tasks that they have, this suggests that value diversity influences the cooperation of team members (Jehn & Mannix, 2001).

The study of Jehn (1997) found that groups with low levels of value similarity had higher level of conflict than groups with high levels of value similarity. This is in line with the similarity attraction paradigm and out of it can be concluded that value diversity has a negative effect on cooperation since effects of cooperation can easily be drawn from studies that measure closely related constructs such as conflict (Joshi & Jackson, 2003). Also in line with the similarity attraction paradigm are the statements of Meglino and Ravlin (1998) which tell that persons with similar values will act in similar ways. Due to these similar actions it is much easier to predict how others will behave and therefore individuals can better organize their actions which improve the cooperation. Chou, Wang, Wang, Huang and Cheng (2008) have even found that shared work values have a positive effect on the satisfaction with cooperation and it is likely that the satisfaction of the cooperation is related to the actual cooperation.

Consequently, it is expected that value diversity has a negative relationship with cooperation. Therefore the following hypothesis is made:

Hypothesis 1: Value diversity has a negative relationship with cooperation.

Hypothesis 1 described the hypothesized tendency in the relationship between value diversity and cooperation, but this needs to be nuanced somewhat. Several researchers mentioned that the effect of value diversity on team processes or performance changed over time (Harrison, Price & Bell, 1998; Harrison et al., 2002). In the following it will be made clear that the length in which a team is together moderates the relationship between value diversity and cooperation.

The moderating effect of team longevity in the relationship between value diversity and cooperation

Values become visible after a period of time (Jehn et al., 1999), making time an interesting topic to look at. Since this research focuses on team functioning, team longevity

will be incorporated in the research. Team longevity expresses the period of time that a team exists (Schippers et al, 2003). When people have just met each other they are not aware of the possible differences and similarities in values, which influence the way they will react towards each other. When people are longer in a team they become more aware of their differences in values, which will have an effect on how individuals act and thus cooperate in their team. Since the differences of values will become more visible when individuals are together for a longer period of time, the effect of value diversity may become more relevant over timer (Jehn et al., 1999).

Several researchers have focused on the moderating role of team longevity between the relationship of deep-level diversity and team processes/ outcomes (Harrison et al., 1998, 2002; Jehn et al 1999; Owens & Neale, 1999). Although they did not all specifically focus on value diversity or cooperation, they found a consistent result, namely that the effect of deep-level diversity becomes stronger when teams exist for a longer period of time. Therefore the following hypothesis could be made:

Hypothesis 2: Team longevity has a positive moderating effect on the relationship between value diversity and cooperation: For teams high in value diversity cooperation decreases over time, whereas for teams low in value diversity the cooperation will increase over time.

The relationship between cooperation and team performance.

Cooperation is, as defined before, "the willful contribution of personal effort to the completion of interdependent jobs". In this light, cooperation is positive for the team outcomes because team performance is closely linked to the goal of the team. Cooperative work behavior is seen by Cox, Lobel and McLeod (1991) as a requirement to improve the competitiveness of organizations, which means that cooperation will improve team performances, and ultimately organizational performance. This reasoning has been supported by empirical evidence from several studies. Tjosvold (1984) showed that cooperation facilitates performance as well as social interaction. Laughlin (1978) found a positive relationship between cooperation and productivity. The study done by Sinclair (2003) reached the conclusion that the more cooperative a team, the higher the quality of the outcome and the fewer the errors. The positive effect of communication on performance found by Ancona and Caldwell (1992) suggests that the effect of cooperation on performance will also be positive, since communication is a part of cooperation. Based on previous statements, the following hypothesis is proposed:

Hypothesis 3: Cooperation is positively related with the team performance

Mediation effect of cooperation between the relationship of value diversity and team performance.

Out of the previously stated hypotheses can be concluded that cooperation mediates the relationship between value diversity and team performance, as value diversity influences the cooperation and cooperation can in turn be seen as related to the team performance. In light of both important theories that have been discussed before, taking cooperation as a mediator in the suggested relationship can be explained well.

Cooperation can be seen as a good mediator for the relationship between value diversity and team performance, in light of the similarity attraction paradigm. When people make distinctions between their team members, this can create a blockade for cooperation (Jackson & Joshi, 2003). An explanation for this is that team members with different values will not as easily cooperate with each other as team members with the same values will, which will result in a lower team performance.

When taking the view of the information decision making perspective, cooperation can also be seen as a good mediator, however now with a positive effect (van Knippenberg et al., 2004). While value diversity does not automatically imply diversity in knowledge and expertise, it does often coincide with different perspectives and viewpoints. The company can only benefit from these differences when cooperation is present, which means that the perspectives have to be communicated and shared (Pinto & Pinto, 1990). These behaviors enable the team to reach the best possible decision given a certain circumstance, which is then based on all team member knowledge and perspectives. Without cooperation, individuals are not aware of the different values that exist in the group and cannot learn from each other's values, both negatively affecting the performance. To conclude, the information decision making perspective states that value diversity has a positive effect on team performance when cooperation is present as a mediator.

The mediating effect of cooperation is suggested by several authors (Argyle, 1991; Bell, 2007; Deutsch, 1949). Deutsch (1949) stated that the way individuals think about the goals in their team and how to reach these, determines how they interact with each other, which in turn influences the group performance and cohesiveness. In line with the previous statement is the suggestion of Bell (2007) that personality factors are related to the interaction of team members and how they pursue their team goals. Personality factors are explained as "characteristic patterns of thinking, feeling, and acting" by Bell (2007, pp 597). As the explanation of personality factors is closely linked to the explanation of values, Bell

therefore suggests that values are related to the interaction of team members and the performance of the team.

Despite the suggestions of other researchers to take cooperation into account as a mediator, empirical evidence is scarce. To contribute to the existing evidence, the following hypothesis is stated:

Hypothesis 4: The relationship between value diversity and team performance is mediated by cooperation.
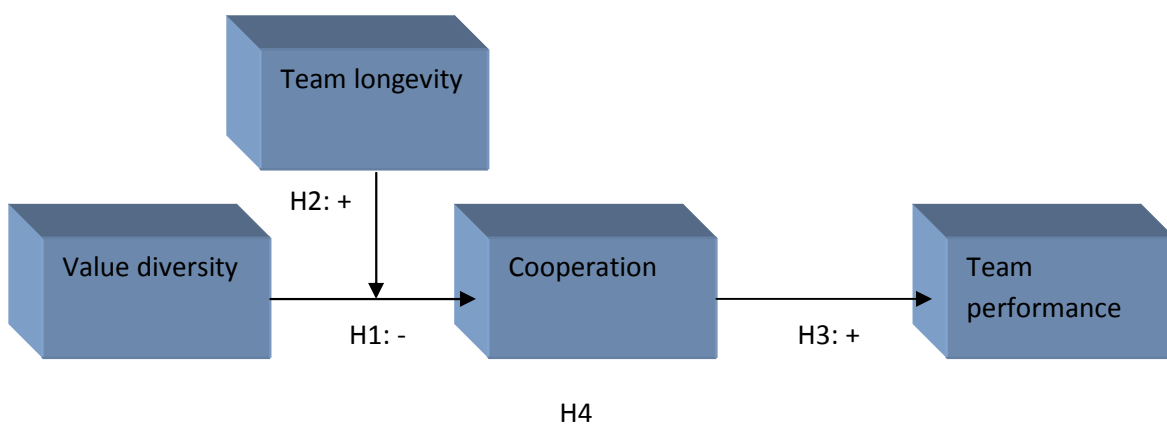
Based on the assumptions that were made, the following conceptual model is expected:

Figure 1: Conceptual model with the hypotheses

Method

Procedure and sample

In this explanatory research the conceptual model that is stated in Figure 1 will be tested. The design is a cross sectional quantitative study as questionnaires have been conducted in multiple teams at one period of time. Four students of the Master Human Resource Studies of the University of Tilburg have collected the data. The respondents all filled out a questionnaire on the internet, the link and invitations were sent by e-mail. The team leader has also been asked to participate in filling out the questionnaire, which could make the results on the team outcome scales like cooperation and team performance better, as two measures are better than one.

In total, 345 questionnaires have been sent to members of 50 different teams. A total of 14 teams have been deleted from the sample as less than three members of the team participated. Due to the fact that conclusions have to be drawn on team level, three or more team members had to fill in the questionnaire to be taken into account in this research. The response rate was 48,4%, the sample consists of 167 respondents from 36 different teams. The respondents came from teams within six (international) organizations in the Dutch labor market. Four out of the six organizations that participated in this study operate in the technical sector, one organization operates in fire fighting and one organization operates in the food sector. These organizations have been chosen because we could easily make contact with them through networks of friends, colleagues, family etc. R&D teams, project teams and fire fighting teams have been selected in these organizations to participate. These types of teams have in common that they have to come up with new ideas in every situation and innovation can be seen as an important characteristic of the work. The sample consists of teams within the same branch or type of work, to reduce the influence of other variables..

On average there were 8,2 members per team ranging from three members per team till a team size of 14.The sex of the respondents was unequally distributed, 77,4% of the respondents was male and 22,6% was female. The age of the respondents ranged from 23 to 60 years, the average age of the respondents was 38,4. Of the respondents, 1,9% has secondary education as level of education, 25% higher vocational education, 31,7% Bachelor, 39% University/Master and 2,4% other education. The respondents were on average eight years and eight months working in the organization, ranging from two months till 38 years and ten months. The Nationality was mainly Dutch (82,7%), 4,5% was German, 3,2% French, 3,2% Italian and 6,4% of the respondents had another nationality. The

percentage of the respondents that worked part-time was 11,9% (less than 36 hours per week, ranging from eight till 34 hours) and 88,1% worked fulltime (36 till 48 hours per week).

The scores of the individuals on cooperation ranged from 1.92 till seven (on a scale from one to seven), the average score was 5.40. The scores of the individuals on team performance were on average a little bit lower, the scores ranged from 2.50 till seven (on a scale from one to seven) and the average score was 5.28. The respondents were categorized in five different value types, based on their work value diversity, 32,3% of the respondents were categorized in the value type of honesty, 28.7% in the highest on helping and concern for others category, 22.2% in the fifth category, with no primary value type, 8.4% received the label of achievement and another 8.4% of the respondents were categorized as fairness. The team longevity ranged from 0.08 years (one month) till 12.33 years, on average the individuals worked 2.04 years in the current team.

Measurements, factor analysis and reliability

Value diversity has been measured by the Comparative Emphasis Scale (CES) developed by Ravlin and Meglino (1987). This ipsative scale consists of 24 pairs of statements; the respondents had to select the statement which they feel they should emphasize more in their behavior at work. The scale measured four general values; achievement/ working hard, concern for others/ helping others, fairness, and honesty/ integrity. An example of a pair of statements to choose from is: "Refusing to take credit for ideas of others" versus "Maintaining the highest standard for your performance". The candidates have been categorized based on their primary value type into four different types. For each individual was calculated which value type has been filled out the most, this was the value score they received. A fifth category, called 'no primary value' was added for individuals who did not have one primary value, they had a highest score on two or more value types.

To determine the value diversity score of a team, the Teachman formula ($-\sum_{pk} \times I_n(p_k)$, where p is the proportion of team members in the kth category) has been used (Konrad, Prasad & Pringle, 2006). The teams could have a score on value diversity ranging from 0 (minimum diversity) till 1,61 (maximum diversity) as there were five categories (Konrad, Prasad & Pringle, 2006). As ipsative measures have analytical limitations, it is not possible to calculate a Chronbach's Alpha and execute a factor analysis for this scale.

Team performance is a multidimensional construct which can be measured in several ways (Horwitz & Horwitz, 2007), for instance by measuring the quality, efficiency,

productivity, employee satisfaction and work excellence (Ancona & Caldwell, 1992; Campion, Medsker & Higgs, 1993). In this study team performance has also been measured by multiple dimensions as the performance can be different for each dimension. The team performance was measured by a scale developed by Ancona and Caldwell (1992) where the team members were asked to rate their team performance on six different dimensions (α= . 834). A seven-point Likert scale varying from one (= poor) to seven (= excellent) was used to assess the variable. An example of a question in this scale is "How would you rate the performance of your team on the following dimensions: efficiency, quality of innovations, adherence to schedules, adherence to budgets and work excellence"? To determine the validity and see out of how many dimensions/factors of the scale consist, a factor analysis was necessary. When looking at the eigenvalues (>1), the Scree plot and the loadings of the items on the factors (>.3) it can be determined out of how many dimensions the scale consists (Pallant, 2005). The conclusion that could be drawn for team performance was that the scale consists out of one factor (see Table 1 in the Appendix). The explained variance of the scale was 55.859%.

After the factor analysis the reliability of the scale and items were calculated to see if they were sufficient. The reliability of the scale of team performance was sufficient (α= *.834*). The items were also reliable, all were greater than .3 and the Cronbach's alpha if item deleted was lower than the reliability of the complete scale (Pallant, 2005). Because the data has been collected at an individual level and the variables are measured at team level, it was necessary to aggregate the individual data. In the next part of the study, when talking about the variable team performance, it is meant a variable on team level. The ICC1 and ICC2 scores of team performance were sufficient (ICC1= 0.308, ICC2 = 0.673) to aggregate the scale (Bliese, 2000). These two scores represent the amount of individual-level variance that can be explained by group membership (ICC1) and the reliability of group means (ICC2) (Bliese, 2000). For more information of the calculations of these scores see Table 3 in the Appendix.

Cooperation within a team is also a multidimensional concept. Researchers addressed to this by stating that cooperation exists of multiple facets such as communication, task orientation and interpersonal relations (Pinto & Pinto, 1990; Pinto, Pinto & Prescott, 1993; Song, Montoya-Weiss & Schmidt, 1997; Tjosvold, 1984). The cooperation within a team is derived from a scale with multiple facets that has been developed by Pinto, Pinto and Prescott (1993) (α = .913). It consists of 15 items based on a seven-point Likert scale ranging from one (= strongly agree) to seven (= strongly disagree). A representative

question of this scale is: "A friendly attitude exists among team members". The factor analysis showed that the scale had that three items insufficiently loaded on one factor, two of them had Alpha if Item deleted higher than α. These three items have been deleted from the scale. De scale of team cooperation now consists of 12 items. After deleting the three items (Q22, Q23, and Q24) the scale consisted of one factor (see Table 2 in the Appendix). The reliability of the scale and items was sufficient ($α$ = .917), the explained variance of the scale was 53.694%. Because the data of cooperation has been collected at an individual level and the variables of the conceptual model are measured at team level, it was necessary to aggregate the individual data (for more explanation of the ICC scores, see Table 3 in the Appendix). The ICC1 and ICC2 scores of cooperation were sufficient to aggregate the individual data of cooperation to team data (ICC1 = 0.307, ICC2= 0.673).

Team longevity was measured by calculating the mean tenure of a team.

Control variables

To reduce the influence of other unmeasured variables, control variables have been taken into account in the analysis. These have been chosen based on the literature and available data regarding the respondents. The following three control variables have been taken into account in this study: team size, gender diversity and age diversity.

The first control variable is *team size*. It is to be expected that team size has an influence on the value diversity for the reason that bigger teams have a higher possibility to be more diverse than smaller teams (Schippers et al., 2003; Jackson et al., 1999). Further, the addition of one extra person to a small team can increase the level of diversity. Moreover in the results part was checked if the team size has a curvilinear effect on the team performance and cooperation as one could expect that there is an optimal point of the team size. Team size has not been asked in the questionnaire as the participating companies have given information about who belongs to which team, the team sizes and how many teams participate.

The second control variable is *gender diversity*, the reason to choose this as a control variable is because there are multiple types of diversity which can have an influence on the team outcomes and processes. Respondents had to answer the question "What is your gender" by filling out the accurate box: "Male" or "Female". The Teachman formula (Konrad, Prasad & Pringle, 2006) has been used to determine the score on gender diversity. Teams could have a score ranging from zero till 0.69 as there were two categories.

Finally, differences regarding *age diversity* have been taken into account. Besides the diversity in gender is this type of diversity also interesting to take into consideration as different types of diversity can have different effects in this study, furthermore it is suggested that values are influenced by age (Smola and Sutton, 2002). Every team member was asked to give his/hers birth year in the questionnaire, the age for every person has been calculated by 2010 minus the birth year. To calculate the age diversity of a team, the standard deviation of the team was divided by the mean (Allison, 1978).

Missing variables/ teams

All the individuals who have started to fill out the questionnaire, though have not completed it have been deleted from the sample. Due to the fact that the units of analysis are teams, the individual data has to be aggregated to team level. To say something about a team at least three members (or two team members and the team leader) had to fill out the questionnaire, teams with less than three respondents on the questionnaire have been deleted from the sample.

Multiple regression:

To examine the relations between the variables there are different procedures as it is proposed that there is a mediating and also a moderating effect. Baron and Kenny (1986) suggest using the hierarchical regression analysis to test the hypotheses. To measure this relation several stepwise regression analyses has to be made. The first analysis was of the relationship of value diversity and team performance, the second analysis was of the effect of value diversity on cooperation, the third analysis was of the effect of cooperation on team performance. The mediation effect of cooperation was calculated with use of the Aroian-version of the Sobel-test, which was recommended by Baron and Kenny (1986). After calculating the mediation in the model, the moderator has to be added. The moderating effect of team longevity was calculated by measuring the effect of value diversity x team longevity on cooperation. This means that an extra step was added in the hierarchical regression analyses. The control variables have to be added in each step of the analysis. Each time there will be assessed which control variables have a possible effect on the analyzed relationship.

Results:

Correlations:

In Table 4 the mean scores, standard deviations and correlations of the variables and control variables are presented. The scores of two scales of team performance and cooperation in Table 4 have been divided in the overall scores per team, the scores of the team members and the scores of the team leaders. The correlations between the overall scores of a team (team member and team leader) and the team member scores and the correlations between the overall scores and the team leader scores are significant, which means that the scores can be seen as similar. Therefore in the following part, the overall scores of team performance and cooperation and will be used for testing the hypotheses.

Curvilinearity

It is suggested that the control variable team size has a curvilinear effect on team performance and cooperation. When testing for curve linearity, comparing a linear model with a quadratic model in ANOVA and test which curve explains the relationship best, the curvilinear effects (of the quadratic model) are only described a little bit better or the same as linearity. The ΔR^2 of the effect of team size on team performance is .046, the ΔR^2 of the effect of team size on cooperation is .056 (see Table 5 in the Appendix). Nevertheless, this difference is very small and not significant, for that reason curvilinearity will not be taken into account.

Table 4: Correlation Matrix on Team Level:

	M	Range	s.d.	1.a)	1. b)	1.c)	2.	3.a)	3.b)	3.c)	4.	5.	6.	7.
1. Team performance														
a)overall	5.3163	1 - 7	.60448	1,000										
b)team members	5.1689	1 – 7	.61788	.965**	1.000									
c)team leaders	5.4752	1 - 7	.78624	.746**	.556**	1.000								
2.WorkvalueDiversity	.9239	0 - 1.61	.30015	-.063	-.130	.224	1,000							
3. Cooperation														
a)overall	5,4444	1 – 7	.70080	.751**	.780**	.352*	-.092	1,000						
b)team members	5,2917	1 – 7	.68956	.663**	.746**	.239	-.014	.972**	1.000					
c)team leaders	5.5730	1 - 7	.76680	.597**	.542**	.569**	.022	.667**	.487	1,000				
4. Team longevity	2.2232	0 - ∞	1.56328	.320*	.389**	.225	-.302*	.029	.036	.068	1,000			
5.Team size	8.1944	3 - ∞	3.02201	-.033	-.030	.143	.127	-.363**	-.293	-.050	.411**	1.000		
6. Gender diversity	.2081	0 –0.69	.28749	.078	.191	.301	.264	-.165	.030	.285	-.046	.261	1.000	
7. Age diversity	7.0107	0 – ∞	3.38168	-.173	.063	-.106	-.217	-.069	-.036	.034	.109	-.221	.031	1.000

N = 36, * p<.10, ** p < .05

Analysis of the conceptual model:

The conceptual model (Figure 2) represents the direct effect of work value diversity on cooperation and the direct effect of cooperation on team performance. The interaction effect of team longevity and work value diversity on cooperation is also presented.

As can be seen in the conceptual model as well in the tables on the following page presented below, there are two control variables that have a significance relationship with one variable in the model. Team size has a negative relationship with cooperation (β = -.508), gender diversity has a positive relationship team performance (β = .214). Therefore the control variables team size and gender diversity have been added to the conceptual model. In Table 6 the outcomes of the regression analysis are presented.
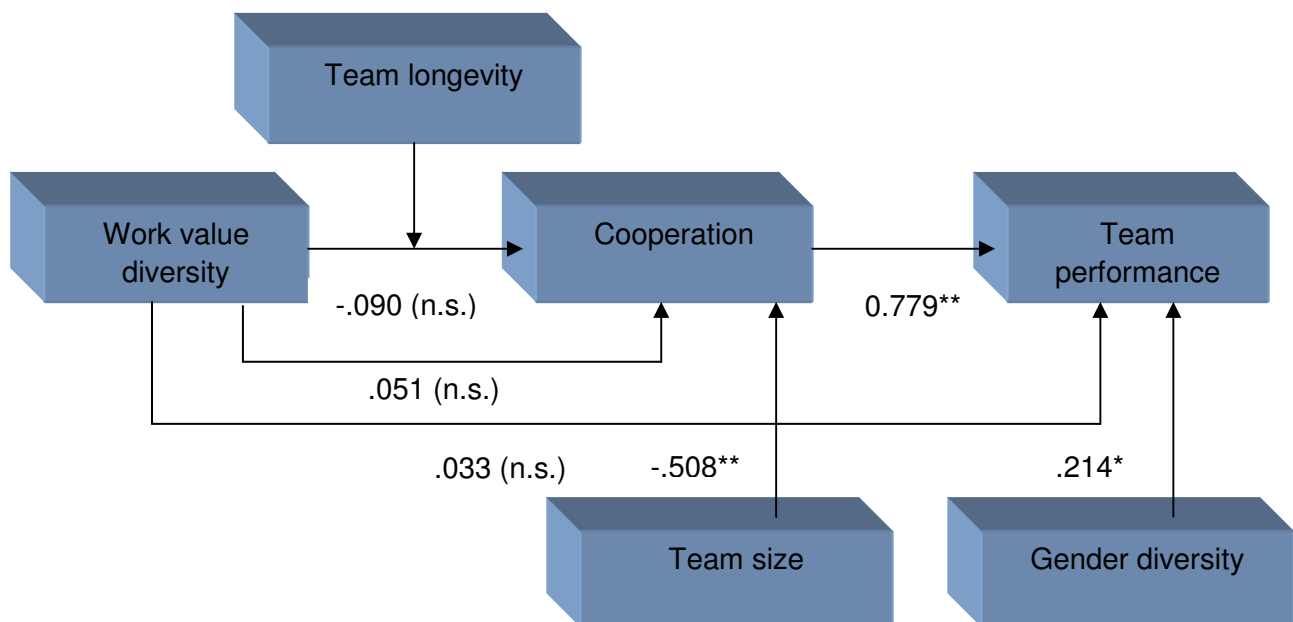
* p < .10, ** p <.05

Figure 2: The Relationships after Regression Analysis:

Table 6: Regression Analysis of the Suggested Hypothesis:

	Team Performance			Cooperation		
Model	1	2	3	1	2	3
Value diversity	.007	-.080	.033	-.092	-.069	.051
Cooperation	.752**	.847**	.779**			
Team size		.217*	.036		-.380**	-.508**
Gender diversity		.185	.214*		-.043	-.016
Age diversity		-.089	-.150		-.167	-.208
Team longevity* value diversity			-.052			-.090
Team longevity			.363			.352
R²	.564	.664	.727	.009	.163	.212
ΔR²		.100**	.063*		.155	.049
F	21.352**	11.894**	10.624**	.293	1.510	1.300

* p < .10, ** p <.05

Due to the fact that in Table 6 the second model (with control variables) explains the effects on team performance significantly better (ΔR^2 = .100) than the first model and the third model regarding team performance is significantly better than the second model at the p<.10 level (ΔR^2 = .063), the third model will be used for explaining the results. Regarding the effects on cooperation, no model is significant, therefore the effects of the best model for team performance (model three) will be discussed in this paper.

The first hypothesis states that value diversity has a negative relationship with the team cooperation. As can be seen in Table 6, the effect of value diversity on cooperation is positive (β = .051, n.s.) though the effect is very small and therefore non-significant. The first hypothesis has thus not been confirmed.

The second hypothesis suggests that team longevity has a positive interaction effect on the relationship between value diversity and team cooperation. The results of the moderating effect are presented in Table 7.

Table 7: Moderating Effect Team Longevity on Work Value Diversity – Cooperation Relationship:

	Cooperation	
Model	1	2
Team longevity	.001	.464
Value diversity	-.092	.118
Team longevity* value diversity		-.467
R²	.009	.027
ΔR²		.019
F	.142	.299

*: p < .10. * p <.05

As can be seen in Table 7, the interaction effect of team longevity x value diversity does not give a significant improvement ($\Delta R^2 = .019$) of the first model, which is also not significant. The second hypothesis has neither been confirmed.

The third hypothesis states that cooperation has a positive effect on the team performance. This is confirmed by the results that have been found (see Table 6). Even though the sample of this research is very small, significant results have been found ($\beta = .779$, $p < .05$) which support the hypothesis.

The last hypothesis, hypothesis 4, states that the effect of value diversity on team performance is mediated by cooperation. With use of the Aroian version of the Sobel test, recommended by Baron and Kenny (1986), the mediating effect can be tested for significance. With use of the effects presented in Table 8, the Sobel test can be done.

Table 8: Standard Errors and Beta's Needed for Calculating the Mediation Effect.

	Team performance		Cooperation	
	Std. error	Beta	Std. error	Beta
Value diversity	.345	-.126	.399	-.216
Cooperation	.098	.648		

Tabel 9: Sobel Test

	b-value
	-.140
	z-value
Sobel	-.540
Aroian	-.534

* p <.10, * p <.05
If the z-value > 1.96 then p < .05, if z value > 1.64 then p <.10

As can be seen in Table 9, the Sobel test is not significant, therefore the fourth hypothesis that value diversity has an effect on team performance, mediated by cooperation (b-value = -.069) is not supported. The z-value of the Aroian version of the Sobel test is -.230 whereas it is only significant with a higher value than 1.64 on p <.10.

Conclusion and discussion:

Previous studies have not found consistent results, often the results were contradicting, which can be addressed to the different perspectives that can explain the effects of diversity. There are two main perspectives that guide theory about diversity, the positive effects of diversity can be explained by the information/ decision making perspective while the negative effects can be explained by the social categorization perspective (Joshi & Jackson, 2003; van Knippenberg & Schippers, 2007). So far researchers have not found consistent results that explain the effects of diversity, a suggestion is made by several studies that mediators and moderators have to be added. This study investigated whether diversity in work values in a team affects team performance, and incorporated a mediation effect by cooperation and a moderation effect by team longevity in the research model. With use of a questionnaire, filled out by 167 respondents of 36 teams, information has been gathered to answer the research question and hypotheses. In contrast to the expectations it appeared that three out of the four hypotheses were not supported by the findings of this research. These are: "Value diversity has a negative relationship with cooperation" (hypothesis 1), "Team longevity has a positive moderating effect on the relationship between value diversity and cooperation" (hypothesis 2) and "The relationship between value diversity and team performance is mediated by cooperation" (hypothesis 4). The third hypothesis, "Cooperation is positively related with the team performance", has been confirmed. A possible explanation for the lack of significant results in three out of four hypothesis could be that the unit of analysis, the number of teams participating in the study, was too small (N=36).

Discussion

The first hypothesis, the negative effect of work value diversity on cooperation has not been confirmed by the data. A possible explanation is that the sample (N = 36) is too small to have significant results. The small sample hinders the chances of finding significant results. Based on the literature and previous research one can expect that value diversity has both positive and negative effects on cooperation (Beersma et al., 2003; Jehn & Mannix, 2001), the positive effects can be explained by the information/ decision making perspective (can Knippenberg & Schipper, 2007), while the negative effects can be explained by the similarity attraction paradigm (Byrne, 1971). These diverging findings could provide a lead on another possible explanation for the lack of significant results; they show the possibility that there could have been an interplay between the positive and negative effects of value diversity on cooperation.

The second hypothesis has neither been confirmed, it seems that team longevity has no effect on the relationship between value diversity and cooperation. Previous research pointed out that the relationship between deep-level diversity types and team processes change over time; the effect of diversity becomes stronger over time (Harrison, Price & Bell, 1998; Harrison et al., 2002). An explanation for this statement is that deep-level types of diversity become visible after a period of time, so only when individuals are together for a longer period of time, the values will become more visible (Jehn et al., 1999). The hypothesis has not been confirmed by the data of this study. A possible explanation for the lack of significant results could be the small number of teams, another feasible explanation for the non-significant finding could be that team longevity only has an effect on cooperation in the period from their formation until a certain point in time. After this point in time, a further duration of longevity is assumed to have no significant impact over and above the impact from the first period. To give an example, during the first year a team is in existence, cooperation is affected. However, after this year, the team members know their diversity in values and they are assumed to have adapted to this (Jehn et al., 1999), causing no further significant results of longevity on cooperation.

Significant results have been found concerning the third hypothesis. This finding is supported by Cox et al. (1991), who state that cooperation is a requirement to improve team performances, which ultimately improve organizational performance and competitiveness. Also Ancona and Caldwell (1992), Laughin (1978), Sinclair (2003) and Tjosvold (1984) argued or showed that cooperation positively influences the team performance. Even though the sample of this study was relatively small, a significant effect was found. Out of this must be concluded that the effect is very strong, otherwise there would not be a significant result.

Despite the recommendations from several researchers to incorporate mediators and moderators in new studies (van Dijk et al., 2009; van Knippenberg et al., 2004; Williams & O'Reilly, 1998), the results of the Sobel test point out that the mediating effect of cooperation is non-significant, the fourth hypothesis is therefore not been confirmed by the data. As was hypothesized that work value diversity had a direct effect on cooperation and that cooperation had a direct effect on team performance, the conclusion could be drawn that there should be an indirect effect of work value diversity on team performance, mediated by cooperation. The first hypothesis of the direct effect of work value diversity on cooperation has not been confirmed by the data, which made it hard to get significant results for the fourth hypothesis. The two main arguments which have just been made concerning the first

hypothesis, the small sample size and the interplay of positive and negative effects, therefore also apply for discussing the fourth hypothesis.

Limitations:

One of the most important limitations in this research is the sample size. Even though 167 completed questionnaires of individuals are taken into account in this research, the units of analysis were teams which reduced the N to 36. This may have caused the overall lack of significant results.

Another important limitation of this research lies in the cross-sectional design. There has only been one point of measurement and the influence of time has not been taken into consideration. Concerning the variable of team longevity, retrospective data has been used as a way to incorporate the aspect of time into the research model. Nevertheless, even when taking team longevity into account, it is still impossible to determine causality. The changes in the variables, their influence on each other and causality can only be measured when there are multiple times of measurement.

As could be seen in Table 4, the correlations between the scale of team performance and the scale of cooperation are very high. One could state that when the correlations are extremely high, the scales measure the same concept. Another possible explanation for the high correlations is common method variance (Spector, 2006), which means that respondents have a tendency to fill out the scales of the questionnaire in the same way because these are measured with the same method.

In this paper there are many possible variables which could influence the results, which have not been taken into consideration in the model. First, there has only been looked at one specific dimension of diversity: work value diversity. Although two more types of diversity were incorporated as control variables, this gives an incomplete picture of the reality as one could expect that there is a variety of diversity dimensions which influence the cooperation and team performance. Secondly, the used control variables are probably not exhaustive. It is likely that in the complex reality and in every specific context more than the suggested control variables play a role.

The sample will probably not be representative for the whole population of teams, as the teams are not selected on basis of random selection in this research. The cases have been selected based on availability; not on the independent or dependent variable. It is therefore possible that the sample insufficiently varies in the reach of one or more variables.

Due to this reason it is possible that the strengths of the results are different for the whole population. A different sample could show different results.

Regarding the work value diversity scale it is noteworthy that this is an ipsative scale, which gave scores on four different types of values. Based on time considerations, this research has chosen to calculate the diversity of a team by making categories and selecting people based on their primary work value and using the Teachmann formula. Only the primary values of the individuals have been taken into account and not the scores on the other three value types. This may have had an influence on the outcome as this method is not as detailed as one would like. It might be the case that people with totally different scores received the same label as they both had one type of diversity which received the most emphasis. Moreover, all the people who had not one primary value were selected for the fifth category, regardless on the scores on the four value types. The fifth category thus piles together, i.e. mixes, multiple different scores on diversity.

Self-report bias has been reduced as much as possible, as the scores of the team leaders are taken into account. Unfortunately, not every team leader has participated in the research, causing not all of the team scores to include multiple measurement types. Next to this source of limitation, another source is that self-report bias may have occurred in the variables of cooperation and team performance since the opinions ('soft' data) of team members were asked instead of any form of 'hard' data.

Recommendations for future research

The effect of diversity on team performance has been much researched in the past. However, there has been a lack of empirical research on the possible mediating and/or moderating variables in this relationship. After conducting this research there are still several relationships that are unclear. To see what the actual effect is of value diversity on team performance and if this relationship is mediated by cooperation an or moderated by team longevity, it is recommended that future research supplements this sample by finding an additional sample which can be added to this sample, resulting in a larger data set in order to increase the likelihood of finding significant relationships.

The positive effect of cooperation on team performance found by this study is supported by the previous findings of other researchers. An interesting venue for future researcher is to strive to achieve a better understanding of the process via which cooperation in a team can be influenced in a positive way. One suggestion would be to research the work value diversity relationship (interacted with team longevity) on cooperation. Additionally,

many other variables can be investigated as possible influencers on cooperation. This research made the attempt to contribute to the understanding of the relationships between the variables of this study. This in turn can stimulate other researchers in this field of study.

Although this study is cross-sectional, longitudinal research is advisable. Multiple times of measurement (longitudinal research) are needed to make statements on the causality on the relationships.

To the extent that resources and statistical procedures allow for it, it is advisable for future research to expand the conceptual model. This could be done via including more variables and/or more control variables.

Recommendations for practice

The interest of companies often concerns the performance of the organization, of teams and individuals and in optimizing their performances. This is a complex combination of different processes, which all influence each other. Making decisions on practices and policies to positively influence the performance can be very difficult.

Considering the academic literature, including logical assumptions as well as empirical findings, can be enlighten for practitioners to enlarge their awareness of concepts which have proven to be of influence to performance, and concepts which have been made plausible as possible influencers. With this knowledge, they can make better informed decisions.

This study hopes to enlarge the awareness of practitioners concerning the possible effects of the concept of work value diversity in team members on cooperation and performance. Depending on their preferences and their goals for the team, practitioners can make more conscious decisions concerning the degree of work value diversity they desire.

Another relevant concept which this study has discussed is cooperation. It was found that this is very important for the team performance. Team members should be stimulated to cooperate with the other team members. Although this study did not find significant results concerning the mediating effect of cooperation, it has been made highly plausible that the benefits from having diverse work values can only be attained through cooperation.

Furthermore the team size has been found to influence cooperation. The effect was negative, which means that the larger the team, the lower the cooperation. An important

recommendation is to create teams that consist of a limited amount of team members, since smaller teams appear to cooperate better.

Gender diversity was the last variable which has been found to have a significance relationship with team performance. The found effect was positive, which means that the more diversity in gender in a team, the higher the team performance. Practitioners striving for team performance can thus be advised to include males and females in a team, advisably a 50/50 situation.

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Appendix:

Table 1: Factor Analysis for the Scale of Perceived Team Performance

Scale	Team performance
How would you rate the performance of your team on the following dimensions?	
49 Team productivity	,836
44 Being better / work excellence	,807
45 Being faster / speed of work	,782
48 Adherence to schedules and deadlines	,725
46 Being simpler / the ability to keep things simple	,671
47 Accuracy	,643
Initial Eigenvalues	*3,352*
Cronbach's α	*.834*
Explained Variance	*55.859%*

Principal Component Analysis with Varimax Rotation

Table 2: Factor analysis for the Scale of Cooperation After Deleting Q22, Q 23 and Q24.

Scale	Cooperation
20 Open communication of relevant information occurs among team members	*,830*
19 Team members recognize each other's special talents and expertise	*,795*
29 Team members openly share their ideas with other team members	*,774*
18 A friendly attitude exists among team members	*,769*
30 Team members help each other to more effectively perform their tasks	*,755*
27 If disagreements arise, team members are usually able to solve them	*,749*
21 If conflicts occur among team members, they are easily resolved	*,734*
32 Team members share resources to complete their tasks	*,722*
26 My team members are more like teammates than competitors	*,705*
28 When problems arise, team members search for solutions that are agreeable to each team member	*,666*
25 When problems arise, team members perceive them as "mutual" problems that need to be solved	*,641*
31 Team members often fail to communicate information to each other	*,625* (reversed)
Inital Eigenvalue	*6,443*
Cronbach's α	*.917*
Explained Variance	*53.694%*

Principal Component Analysis with Oblimin Rotation

Table 3: Calculations* of ICC1 and ICC2 (Bliese, 2000):

	MSB	MSW	ICC1	ICC2	
Team performance:	1.622	0.530	0.308	0.673	
Cooperation:	2.049	0.671	0.307	0.673	

*Formulas for the calculations:

Formula ICC1: $\dfrac{MSB - MSW}{MSB + [(k-1)*MSW]}$

Formula ICC2: $\dfrac{MSB - MSW}{MSB}$

ICC1 = The amount of individual-level variance that can be explained by group membership
ICC2 = The reliability of group means
MSB = Mean squares between groups
MSW = Mean squares within groups
K = Average number of individuals per team that have participated in the questionnaire = 4,3
N = number of groups = 36

Table 5: Curvilinearity of Team Size

	R-square	
	Lineair	Curvilinear
Team size → team performance	.001	.047
Team size → cooperation	.132**	.188**

**: p <.05 *: p<.10

Questionnaire:

Dear participant,

Thank you for your time to fill out this questionnaire. We are interested in the determinants of team performance. By filling out these questions you will help us gain insight into what enhances the performance and innovativeness of team.

The data is gathered by independent researchers from Tilburg University and is used for scientific research. Furthermore, the findings about what determines a team to function and perform well will be presented to your company to help them manage and lead teams to become high performance teams.

The anonymity of your responses is guaranteed. All individual responses will be aggregated to the team-level.

Please fill out all questions and do not leave a question blank.

We would like to thank you in advance for your time and for helping us in conducting our study. Filling out this questionnaire will take approximately 10 minutes.

In my team, members…….	To no extent			Average			To a great extent
1. Bring different task-relevant knowledge	O	O	O	O	O	O	O
2. Bring different task-relevant skills and/or abilities	O	O	O	O	O	O	O
3. Bring different task-relevant expertise	O	O	O	O	O	O	O
4. Bring different task relevant insights	O	O	O	O	O	O	O
5. Belong to different subgroups within the team	O	O	O	O	O	O	O
6. Interact more with some subgroups within the team than with other subgroups	O	O	O	O	O	O	O
7. Have different informal networks within the team	O	O	O	O	O	O	O
8. Have different informal networks outside the team	O	O	O	O	O	O	O
9. Differ in their status	O	O	O	O	O	O	O
10. That belong to different subgroups within the team, differ in their status	O	O	O	O	O	O	O
11. Differ in their level of influence on decision-making	O	O	O	O	O	O	O
12. Differ in the extent to which they are respected	O	O	O	O	O	O	O
13. Differ in the extent to which they are regarded as important	O	O	O	O	O	O	O
14. Compete for influence	O	O	O	O	O	O	O
15. Disagree about the relative value of member's contributions	O	O	O	O	O	O	O
16. Frequently take sides (form coalitions) during conflicts	O	O	O	O	O	O	O
17. Experience conflicts due to members trying to assert their dominance	O	O	O	O	O	O	O

To what extent do you agree with the following statements	Strongly disagree		Average			Strongly agree
18. A friendly attitude exists among team members	O	O	O	O	O	O	O
19. Team members recognize each other's special talents and expertise	O	O	O	O	O	O	O
20. Open communication of relevant information occurs among team members	O	O	O	O	O	O	O
21. If conflicts occur among team members, they are easily resolved	O	O	O	O	O	O	O
22. In general, it is difficult to contact fellow team members	O	O	O	O	O	O	O
23. My team members criticize each other non constructively	O	O	O	O	O	O	O
24. Some individuals intentionally provide misleading information to other team members	O	O	O	O	O	O	O
25. When problems arise, team members perceive them as "mutual" problems that need to be solved	O	O	O	O	O	O	O
26. My team members are more like teammates than competitors	O	O	O	O	O	O	O
27. If disagreements arise, team members are usually able to solve them	O	O	O	O	O	O	O
28. When problems arise, team members search for solutions that are agreeable to each team member	O	O	O	O	O	O	O
29. Team members openly share their ideas with other team members	O	O	O	O	O	O	O
30. Team members help each other to more effectively perform their tasks	O	O	O	O	O	O	O
31. Team members often fail to communicate information to each other	O	O	O	O	O	O	O
32. Team members share resources to complete their tasks	O	O	O	O	O	O	O

Please select what is applicable to you	To no extent		Average			To a great extent	
33. To what extent do people in your team disagree about opinions regarding the work being done?	O	O	O	O	O	O	O
34. To what extent are there conflicts about ideas in your team?	O	O	O	O	O	O	O
35. How much conflict about the work you do is there in your team?	O	O	O	O	O	O	O
36. To what extent are there differences of opinion in your team?	O	O	O	O	O	O	O
37. How much friction is there among members in your team?	O	O	O	O	O	O	O
38. How much is personality conflict evident in your team?	O	O	O	O	O	O	O
39. How much tension is there among members in your team?	O	O	O	O	O	O	O
40. How much emotional conflict is there among members in your team?	O	O	O	O	O	O	O
41. To what extent do you disagree about the way to do things in your team?	O	O	O	O	O	O	O
42. How much disagreement is there about procedures in your team?	O	O	O	O	O	O	O
43. To what extent are there disagreements about who should do what in your team?	O	O	O	O	O	O	O

How would you rate the performance of your team on the following dimensions?	Poor		Average			Excellent	
44. Being better / work excellence	O	O	O	O	O	O	O
45. Being faster / speed of work	O	O	O	O	O	O	O
46. Being simpler / the ability to keep things simple	O	O	O	O	O	O	O
47. Accuracy	O	O	O	O	O	O	O
48. Adherence to schedules and deadlines	O	O	O	O	O	O	O
49. Team productivity	O	O	O	O	O	O	O

For the next set of questions, imagine you are in a situation in which there are two different actions possible. Please select the option that suits you best.

50. O Taking care of all loose ends on an assignment or project
     O Being impartial in dealing with others

51. O Taking actions which represent your true feelings
     O Trying to avoid hurting other people

52. O Encouraging someone who is having a difficult day
     O Considering different points of view before taking action

53. O Speaking your mind even when your views may not be popular
     O Working to meet work requirements even when your personal schedule must be rearranged

54. O Making decisions which are fair to all concerned
     O Expressing your true opinions when asked

55. O Continuing to work on a problem until it is resolved
     O Trying to help a colleague through a difficult time

56. O Trying to help reduce a friend's burden
     O Admitting an error and accepting the consequences

57. O Being impartial in judging this agreement
     O Helping others on difficult projects or assignments

58. O Taking on additional tasks to get ahead or gain recognition
     O Admitting to making a mistake rather than covering it up

59. O Offering help to others when they are having a tough time
     O Doing whatever work is required to advance in your career

60. O Always being truthful in dealing with others
     O Taking steps to be sure that everyone has an equal opportunity at work

61. O Judging people fairly based on their abilities rather than only on their personalities
     O Seeking out all opportunities to learn new skills

62. O Trying to be helpful to a friend
     O Being sure that you are fair to everyone

63. O Refusing to take credit for ideas of others
     O Maintaining the highest standard for your performance

64. O Being determined to be the best at your work
     O Trying not to hurt a friend's feelings

65. O Trying to bring about a fair solution to a dispute
     O Admitting responsibility for errors made

66. O Finishing each assignment or project you start, even when others do not
     O Making sure that rewards or credit are given in the fairest possible way

67. O Refusing to tell a lie to make yourself look good
     O Helping those who are worried about things at work

68. O Trying as hard as you can to learn as much as possible about your area of expertise
     O Taking a stand for what you believe in

69. O Sharing information and ideas which others need to do their work
     O Always setting high performance goals for yourself

70. O Refusing to do something you think is wrong
     O Promoting fair treatment for everyone

71. O Making sure each person has an equal chance to get rewards or credit
     O Taking on more responsibility to advance in your career

72   O Correcting others' errors without embarrassing them
     O Holding true to your convictions

73. O Providing fair treatment for each person
     O Lending a helping hand to someone having difficulty

To what extent do you agree with the following statements	Strongly disagree		Average			Strongly agree	
74. In fulfilling our task, our team is highly innovative	O	O	O	O	O	O	O
75. When considering our potential, our team is not yet sufficiently innovative	O	O	O	O	O	O	O
76. Compared to other teams with similar tasks, our team is highly innovative	O	O	O	O	O	O	O
77. Experts who can evaluate our work have described our team as highly innovative	O	O	O	O	O	O	O
78. In our team, creative and innovative ideas are voiced frequently	O	O	O	O	O	O	O
79. Our innovations are of very high quality	O	O	O	O	O	O	O
80. Our team is highly involved in open innovation (partnerships to jointly develop meaningful new breakthroughs)	O	O	O	O	O	O	O

You have nearly reached the end. The remaining questions concern some general background information.

What is your gender   O   Male
                                                       O   Female

What is your year of birth?   …….

What is your nationality (and, if applicable, your   ……..
second nationality)?

Please select what is applicable to you

84.	What is your level of education?	O	University / Master
		O	Bachelor
		O	Higher vocational education
		O	Secondary school
		O	Other

Please fill out what is applicable to you

85.	What is your educational discipline (e.g. HR, Marketing, etc.)?	……….
86.	What is your functional background? (e.g. Engineer, designer, marketeer, etc.)	……….
87.	How many years and months are you working for this organization (yy, mm)?	……….
88.	How many years and months of experience do you have in your current function (including experience obtained outside this organization) (yy, mm)?	……….
89.	How many years and months are you working in your current team (yy, mm)?	……….
90.	What is the amount of hours that you work according to your contract?	……….

Thank you very much for filling out this questionnaire. If you have any questions or remarks regarding this study, you can send an e-mail to drs. Hans van Dijk, j.vandijk1@uvt.nl.