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The effect of functional diversity within cross-functional teams on team cohesion and team performance

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The effect of functional diversity within cross-functional teams on team cohesion and team performance.

Thesis Report

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Abstract

This explorative master thesis tries to identify the effect of functional diversity on the level of team cohesion and team performance. Functional diversity is the difference in educational background and knowledge between employees. During team work, employees experience the differences between among themselves in the way of working and thinking about situations. These differences could lead to less cohesion within the teams, whereas, team cohesion has a positive link with team performance. In this study it was tested what the effect of this functional diversity was on the level of team cohesion and the team performance. In addition, the effect of several moderators on these relationships have been tested to see what kind of effect these moderators may have on the level of team cohesion and/or team performance. For this study a quantitative research model has been used, questionnaires were distributed at one of the world's largest cargo handler at Schiphol Amsterdam airport. Likewise, observations were made to get a feeling for the daily activities experienced by the respondents. The analysis showed that for the work done by these respondents, no significant direct effect of functional diversity on the level of team cohesion was found. However, the interaction between functional diversity and need for cognition, as well as, the interaction between functional diversity and team size resulted in an increase of the level of team cohesion. Furthermore, team cohesion was positively significantly related to the level of team performance. However, the interaction between team cohesion and work pressure was significantly related to team performance. In addition, work pressure negatively moderates the relationship between team cohesion and team performance. In essence, the research showed that the level of team cohesion of task-oriented teams profit form functional diversity within the team when the teams are large and in high need for cognition.

Acknowledgements

Management summary

Introduction

Due to competitive markets, cross-functional teams are often used and deployed in the development process of new products as stated by (Keller, 2001). Cross-functional teams can be described as teams that consist of members from different functional areas of the company. Therefore, it can be stated that people with different experience, knowledge or expertise are functional diverse. Functional diversity can be described as the amount of experience, knowledge and expertise that a person has in a specific field. Based on this functional diversity employees will have certain norms, values, interests and ideas about matters. Moreover, this difference in functional diversity will therefore affect the team dynamics in a certain way. According to the literature, functional diversity is proposed to have a negative effect on the level of team cohesion. However, team cohesion has a positive link to team performance. There are conflicting views and results on the effect of functional diversity on team cohesion, these may be due to moderators. As a result, several moderators have been selected to be researched in more detail. The moderators have been selected based on their influence on the relationships researched between functional diversity and team performance earlier and team cohesion and team performance according to literature.

The research is done at a large air cargo trader at Amsterdam Airport Schiphol South. The focus of the research is to investigate the effect of functional diversity on the team cohesion and team performance. The two main research questions that are answered are:

''What kind of effect does functional diversity have on the level of team cohesion within teams?'' and ''What is the effect of the level of team cohesion on the team performance?''

Literature review

First, a literature study was conducted to get theoretical insight regarding the topics functional diversity, team cohesion and team performance. Following the obtained literature two main relationships have been investigated often, namely the relationship between functional diversity and team performance (Jehn, Neale, & Northcraft, 1999) and the relationship between team cohesion and team performance (Tekleab, Quigley & Tesluk, 2009 ; Beal, Cohen, Burke & McLendon, 2003). In addition, both relationships were found to be positive, meaning that functional diversity enhances team performance, as well as, team cohesion enhances team performance. Although, the effect of functional diversity on team cohesion has not been researched often, one of the few who researched the relationship was Keller (2001) who suggests that functional diversity has a negative link with team cohesion. Nevertheless, still a lot of information has to be found on the exact effect of functional diversity on team cohesion. Therefore, based on the obtained literature on these several moderators have been included. These moderators were selected based on that fact that they influenced the two previously research relationships and may therefore influence the relationship between functional diversity and team cohesion. However, the current research has to prove in which way these moderators will affect the direction and/or strength of the relationship between functional diversity and team cohesion. For this reason, the proposed relationship between functional diversity and team cohesion is expected to be a negative one, meaning that the level of functional diversity will decrease the level of team cohesion. The relationship between team cohesion and team performance on the other hand is a positive one.

Methodology

The aim of this research is to investigate the relationship between functional diversity, team cohesion and team performance. Based on a quantitative analysis, the interactions between the constructs will be tested. To obtain the data for the analysis a questionnaire with 89 questions, divided between different constructs was distributed within cargo handling company dnata.

The literature study was used to get theoretical insight in the topics of functional diversity, team cohesion and team performance. Based on this literature study several moderators were proposed, and what kind of effect they probably would have on the main relationship. To get a better insight in the daily activities, observations were made during shift and conversations were held with the employees to ask about their work and vision about the company.

Result

Out of the distributed 283 questionnaires 71 employees responded by filling in the questionnaire, out of these 71 questionnaires 69 were usable for the analysis. Based on these 69 questionnaires a correlation matrix was made for the individual level as well as the aggregated level. These matrixes showed that several constructs strongly correlated with each other.

For the analysis MLwiN has been used, a statistical package for multilevel analysis. From the analysis several statistical significant results appeared. With as most important results that, functional diversity has no significant negative effect on the level of team cohesion (Estimate = 0.002, $P > 0.10$) , whereas, team cohesion has a significant effect on the level of team performance (Estimate = 0.50, $P < 0.01$). In addition, three significant moderators of the relationships have been found. Need for cognition within the teams moderates the relationship between functional diversity and team cohesion. Teams with high levels of need for cognition appeared to be much more cohesive (Estimate= 0.291, $P < 0.05$,). Team cohesion is positively related to functional diversity when need for cognition is high and negatively related when need for cognition is low. Whereas, team size positively moderates the relationship between functional diversity and team cohesion (Estimate= 0.168, $P < 0.05$) team cohesion is positively related to functional diversity when team size is high and unrelated when team size is low .In addition, work pressure moderates the relationship between team cohesion and team performance. Diverse teams who experience high levels of work pressure tend to perform worse than functional diverse teams who did not experience high levels of work pressure (Estimate= -0.347, $p < 0.01$). So team cohesion is positively related to team performance when work pressure is low and unrelated when work pressure is high.

Conclusion

This research shows that functional diversity within task-oriented teams has not got a direct effect on the level of team cohesion, which is different from what Daily (1977) and Kozlowski *et al* (2000) found. This is because the work done at dnata is decomposed in small tasks, that can be done in one specific way. This means that different interpretations to perform the task will not often lead to arguments. Due to the absence of this situations functional diversity will not have a direct effect on the level of team cohesion. However, the interaction effect between functional diversity and need for cognition was significantly related to team cohesion, resulting in an increase of the level of team cohesion. This is because teams who are in high need for cognition are more willing to collaborate with each other, this can be seen as a form of mutualism. Team members can learn from each other and are therefore more willing to collaborate, resulting in a higher level of team cohesion.

In addition, the interaction between functional diversity and team size will also have a positive effect on the level of team cohesion; meaning that team cohesion is positively related to functional diversity when team size is high and unrelated when team size is low. Therefore, it can be concluded that there is a difference in optimal team size for functional diverse task-oriented teams and less-functional diverse task-oriented teams when it comes to the level of team cohesion.

In like manner, the research reinforces the proposed effects of team cohesion on the level of team performance of Senior (1997), who stated that team cohesion will have an postive effect on the team performance. The analysis showed that team cohesion will enhances the level of team cohesion. However, the interaction between team cohesion and work pressure was negatively significantly related to team performance. In essence, this means that team cohesion is positively related to team performance when work pressure is low and unrelated when work pressure is high. Therefore, it can be concluded that functional diverse task-oriented teams flourish when experiencing low levels of work pressure.

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Chapter 1 Introduction

1.1 Phenomenon of interest

Companies are becoming less interested in individuals; teams are becoming more important. This transition from individuals to teams has come into practice rapidly the last two decades. Cross-functional teams are getting more and more important for companies, due to their flexibility and their diversity. Due to competitive markets, cross-functional teams are therefore used and deployed within companies (Keller, 2001), because they are able to reach goals that conventional teams cannot. These teams can easily be equipped to handle the most diverse problems; this is because of their diverse knowledge. Cross-functional teams can be described as teams that consist of members from different functional areas of the company. Therefore, it can be stated that people with different experience, knowledge of expertise are functional diverse. Functional diversity can be described as the amount of experience, knowledge and expertise that a person has in a specific field. Based on this functional diversity employees will have certain norms, values, interests and ideas about matters. Moreover, this difference in functional diversity will therefore influence the team dynamics in a certain way. However, there are several snags that come into play when using functional diverse teams. This master's thesis will describe the dynamics that comes into play when using functional diverse teams.

1.2 Research focus

The construct of functional diversity, group cohesion and team performance has stimulated active research in group dynamics, team behaviour, collaboration, diversity, diversity management and just about any other discipline in (organisational) psychology that has turned its attention toward the behaviour of people in groups. Therefore, this thesis focuses on the following research gap found within the existing literature. The existing literature is more focused on the relationship between functional diversity and team performance and the relationship between team cohesion and team performance, than on the relationship between functional diversity and team cohesion. For example, Daily (1977) and Kozlowski *et al*(2000) describe the effect of cohesiveness on the level of team performance. Whereas, Jehn *et al* (1999) and Senior (1997)describe the effect of diversity on team performance. As explained previously functional diversity can be described as the amount of experience, knowledge and expertise that a person has in a specific field; whereas team cohesion is "the extent to which group members feel part of the group and desire to remain in the group". According to Lu, Zhou, & Leung (2011). Furthermore, (Isaksen, 2002) emphasized that team cohesion is conceptually related to trust and openness, which is associated to the degree of emotional safety in relationships.

However, the known results from literature show that the link between the constructs of team cohesion and team performance has found to be postive. This means that team cohesion strengthen the level of team performance. Moreover, the link between functional diversity and team performance has found to be positive as well. Therefore, it could be expected that a combination of these three constructs together would give rather positive results. However, the combination of the three constructs team; cohesion, functional diversity and team performance has not been researched often before; although both constructs are important for the team performance of cross-functional teams. Therefore, the relationship between functional diversity and team cohesion can be seen as the research gap of this proposed research. Based on expectations from literature and

preliminary observations the proposed relationship will be negative, meaning that functional diversity will decrease the level of team cohesion and team performance.

1.3 Research objective and question

The main question addressed by this thesis is if the level of team cohesion and team performance within teams is positively or negatively affected by the level of functional diversity. In seeking to answer this question, the research explores the team dynamics that are relevant to explain this phenomenon. Therefore, in seeking to answer this question, an internship has been done at the Dubai national air travel agency (dnata) at Amsterdam Schiphol airport. This resulted in the following two research questions:

''What kind of effect does functional diversity have on the level of team cohesion within cross-functional teams?'' and

 ''What is the effect of the level of team cohesion on the team performance?''

In order to answer these main questions, extensive data collection was necessary. Therefore, 30 different teams within dnata have been analysed. As became clear, different moderators have effect on the main relationships between the three constructs. However, the current research has to deteremine in which way these moderators will affect the direction and/or strength of the relationship between functional diversity and team cohesion. Therefore, several sub questions can be stated. The following sub questions helped to investigate the effect of the selected moderators on the relationship between functional diversity, team cohesion and team performance?

1. What is the effect of task, relational and process conflicts on the relationship between functional diversity within cross-functional teams and team cohesion?
2. What is the effect of collaboration and informal internal communication on the relationship between functional diversity within cross-functional teams and team cohesion?
3. What is the effect of individual reasons to be on the team on the relationship between functional diversity within cross-functional teams and team cohesion?

1.4 Outline

This master's thesis consists of the following chapters, chapter two is about the literature review with the focus on ''functional diversity'','' team cohesion'' and ''team performance''. Chapter three will elaborate up on the research method. The fourth chapter is about the results found during the research on the topics functional diversity, team cohesion and team performance. Chapter five consists of a discussion of the results, the conclusions that can be drawn from the results, the limitations and a recommendation for future research on the chosen topics.

Chapter 2 Literature review

2.1 Introduction

This literature review has been used to get the theoretical insight in the subjects of this study. The chapter is built-up as follows; Chapter 2.2 is about the construct functional diversity. Based on the literature the advantages and disadvantages of the construct will be elaborated upon. Chapter 2.3 defines team cohesion, what is team cohesion and which effect does it has on team performance. Chapter 2.4 is about the proposed model in which all constructs are represented. Chapter 2.5 will give an overview of the used moderators; these moderators are included in the model, because these moderators have had significant influence on the used literature. The specific moderators are Relational conflicts, task conflicts, process conflicts, collaboration, internal communication, team size and personal reasons to join teams. Chapter 2.6 is about the team performance, the team performance will be measured by the constructs team effectiveness and team efficiency. Chapter 2.7 is about the conclusions that have been found by using the found literature.

2.2 Functional Diversity

Functional diversity can be described as the amount of experience and expertise that a person has in a specific field. There are several forms of functional diversity like dominant functional diversity, functional background diversity and functional assignment diversity. Dominant functional diversity is the extent to which team members differ in the functional area in which they have spent the main part of their careers. Functional background diversity is about the degree of difference in the functional backgrounds of team members. The difference with dominant functional diversity is that were dominant function diversity is focused on the distribution of dominant functions across some range of functional categories, functional background diversity focuses on the extent to which team members differ in the functional background (Bunderson & Sutcliffe, 2002). Functional assignment diversity is not about whether team members have experience in different functional areas but whether their current functional assignments cover some relevant range of functional categories or are concentrated in just a few (Bunderson & Sutcliffe, 2002). Functional background diversity is the type of functional diversity that will be used in this model, because it fits the research best due to its similarity with the research scope.

Functional diversity is a common seen characteristic of cross-functional teams. By using functional diversity, cross-functional teams can be equipped with the required knowledge. However, there are several positive and negative sides linked to the use of functional diversity within cross-functional teams on. Based on the literature used it can be suggested that functional diversity within cross-functional teams both has a positive and a negative effect on the team cohesion. The positive views on functional diversity are delivered by Jehn *et al*(1999) who found that functional diverse teams have the ability to improve the decision making process. This is because the team members of the teams have different functional backgrounds, meaning that they have different perspectives, interests and values about issues. What becomes clear is that teams that use functional diversity are able to be more creative and innovative. By combining these different views, new ideas that are out of the box can emerge; this is in line with Bunderson & Sutcliffe(2002). Likewise, functional diverse teams are able to develop clearer strategies and can react more aggressive to competitive threats. This is because functional diverse teams have a lot of knowledge within the team, which means that they are more able to react to different situations (Bunderson & Sutcliffe, 2002; Bantal K.A., 1993; Bantel & Jackson, 1989). This is in line with (Keller, 2001) who states that ''diversity supposedly leads

to greater diversity in ideas, creativity, and innovation, thus generating better group performance''. Moreover, functional diversity with teams will create a situation in which group thinking is not easily possible. This is because functional diverse teams differ from homogeneous teams, because of the difference between characteristics between the team members. Homogeneous teams have the tendency to demonstrate group thinking. Group thinking is a process in which people want to be so cohesive and in harmony that the decision making process suffers from this vision. Groups that use group thinking try to avoid every kind of conflict and be in consensus about every decision. The result of this is that people will always think in a certain way and that new ideas or thoughts will be put aside, just to keep the consensus in the group. Therefore, this kind of groups has problems to adapt to new situations and new ideas. Comparatively, due to high diversity within the teams people are not able to collaborate with people with the same background. The team members have to work together to reach the goals. Therefore, functional diverse teams are able to make better decisions than homogeneous teams. The different knowledge leads to the best solutions.

At the same time, other authors found that functional diversity has a negative effect on team cohesion. Whereas, additional empirical research shows that there is also a downside on the use of functional diversity within teams. Functional diversity within cross-functional teams is associated with differences of opinion and perspective. Besides the differences of opinion and perspective functional diversity will make teams work harder than teams without functional diversity (Keller, 2001).This is because every team member has a different view on certain challenges based on his specific knowledge and experience, which means that it often can take time to get everybody on board when a direction has to be chosen; which will finally decrease the team cohesion. By the same token, for many team members it is hard to work with people who have other views on challenges (Keller, 2001). Therefore, the difference of opinions and perspectives can often lead to conflicts. Process conflicts are a kind of conflict that is based on the difference in interests (Rispens, 2015), relational conflicts are based on a difference in values (Rispens, 2015) and task conflicts are based on a difference in insight about the topic (Rispens, 2015). This kind of conflicts will always appear, because cross-functional teams always consist of people with different functional backgrounds. These types of conflicts have mostly a negative influence on the level of team cohesion (Institute of management accountants, 1994). Only small levels of task conflicts have a positive effect on the team cohesion.

As the number of functional areas of the team increases, so does the variety of ideas and perspectives brought on the team. This, in turn, increases the possibility of discovering novel linkages. On the other hand, at some point, the diversity of ideas can create information overload, but because many of these perspectives are at odds with one another, high diversity also makes it difficult to resolve differences among perspectives (Sethi, Smith, & Park, 2001). Therefore, it can be expected that the different perspectives can enhance the separation between team members. This is because team members want to stick to their own ideas in the beginning.

Likewise, Harrison & Klein (2007) found that if people with the same functional background are on a cross-functional team they will cluster to a subgroup.Again, this is because people like to work with others who are similar to them, because they don not have to go out of their confort zone. This clustering leads to less interaction in the team, which leads to less cohesion within the team.

Based on these advantages and disadvantages, it becomes clear that functional diversity within cross-functional teams mostly has a negative effect on the level of team cohesion. The negative

outcomes outweigh the postive ones. Therefore, based on the literature used the negative side most of the times will surmount the positive side.

2.3 How to measure the level of functional diversity within cross-functional teams

As explained in the previous chapter functional diversity can be described as the amount of experience and expertise that a person has in a specific field. Furthermore, cross-functional teams can be described as teams that consist members from different functional areas of the company (Keller, 2001) .The goal of the research is to see what the effect is of functional diversity within cross-functional teams, but how can cross-functionality be defined? The construct of cross-functional teams is built-up out of different dimensions which together form the construct. These dimensions are the diversity within the teams (Institute of management accountants, 1994), the team goal (Denilson, Hart, & Kahn, 1996) and the team life cycle (Denilson, Hart, & Kahn, 1996). The reasons why these dimensions are used to measure the level of cross-functionality is that cross-functional teams differ from conventional teams on these dimension .Therefore, these different dimensions will be used to measure the level of functional diversity within cross-functional teams. However, each of these dimensions is applicable to measure the degree of functional diversity within cross-functional teams, but more important is to keep in mind that not every team will meet all three descriptions to the full extent. To be more specific, every cross-functional team is different, but have similar traits. Correspondingly, Table 1: Difference between team structures gives an overview of the differences between conventional and cross-functional teams.

2.3.1 Diversity within teams

The first of the three dimensions is the diversity of the employees within the group, to be more specific, the functional background and the level of hierarchy of the employees have to be measured. Cross-functional can be described as teams that consist of members from different functional areas of the company. Furthermore, functional diversity can be described as the amount of experience and expertise that a person has in a specific field. Cross-functional teams contain at least two people with a different functional background. By having members with a different functional background on the team, cross-functional teams are able to solve demanding tasks which ask for different kinds of expertise. But, to be even taken into account for this research, a cross-functional team has to have at least five different people (Institute of management accountants, 1994). Furthermore, cross-functional teams are typically built-up out of people who are in different levels of hierarchy within the company (Institute of management accountants, 1994; Denilson, Hart & Kahn, 1996) . This has been done to ensure that the team consists of the right people with the required knowledge and skills, this knowledge cannot always be found within the same level of hierarchy.

2.3.2 Team goals

The second dimension used to check for functional diversity within the teams is the goal of the team. According to the Institute of management accountants (1994) cross-functional teams have a specific purpose, for example creating specific knowledge or combining the needed knowledge that a normal team can not possess. In this perspective cross-functional teams differ from conventional teams, therefore, the goal of the team is an important measure to check te level of cross-functionality. It is important to define the goals in a way that it is possible to measure them. The exact goal of the team is not important for the research, because it is not comparable with other teams, but comparable is if

the team is proposed to make a radical innovation or if the team has to do something incrementally. Therefore, this measure will be used to check the level of cross-functionality. Cross-functional teams typically confront a different set of performance expectations than conventional work teams and are often expected to reduce cycle time, create knowledge and disseminate organization learning (Denilson, Hart, & Kahn, 1996); whereas, teams who have to make incremental changes are invent to make small changes and follow a pre-scheduled path.

2.3.3 Team life cycle

The third dimension to measure the degree functional diversity within cross-functional teams is the team life cycle. There is a big difference between cross-functional teams and conventional teams. To begin with, the fact is that cross-functional teams are often temporary task teams experiencing abundant pressure and conflict. This is because of the importance of the task the team often performs. Therefore, the early development of stable and effective group processes is critical to their success (Denilson, Hart, & Kahn, 1996). Furthermore, cross-functional teams try to overcome the limitations of the hierarchical structure. Therefore, there is another type of hierarchy than in the organization. Cross-functional teams are teams that have not got a long life cycle, (Institute of management accountants, 1994) the average life time of a cross functional project team is between the two and three years, after this time the team will be dissolved. The advantage of cross-functional teams is that they can easily be formed, reshaped and dismantled.

Table 1: Difference between team structures

Conventional team:	Cross-functional team:
Consists of people with similar functional backgrounds.	Consist of people with different functional backgrounds.
Incremental goals e.g. Small changes in existing work, Improving effectivity of a process.	The goal is to generate radical new data or innovations. Something that is only possible by using different sources of knowledge. e.g. reduction of cycle time, create knowledge and disseminate organization learning
Long lifecycle, up to more than 10 years.	Short lifecycle, between maximum of 3 years.

2.4 Team cohesion

According to Lu, Zhou, & Leung (2011), a possible definition of group cohesion is "the extent to which group members feel part of the group and desire to remain in the group". Indeed, (Isaksen, 2002) emphasized that team cohesion is conceptually related to trust and openness, which is associated to the degree of emotional safety in relationships. In the case of a high degree of trust, team members trust each other and engage in the utilization of available resources in the spirit of constructive relationships. However, in the case that trust is missing, team members are suspicious of each other and therefore they closely guard themselves, their plans and ideas. Experiencing strong team cohesion leads to a strong group norm that leads to positive attitudes toward the team and the organization (Mullen & Copper, 1994). The more cohesive the teams are, the greater the opportunities for collaborative efforts in generating ideas and in solving problems. On the other hand

cultural differences between the functional groups in cross-functional teams will make it harder to create team cohesion. Although, if the group used its power—that is, its cohesion—to influence its members to act and think alike, then cohesion should relate positively to the homogeneity of members' attitudes and behaviours, reflecting a group standard, and should relate negatively to the percentage of deviates. Lack of a relation between cohesion and homogeneity presumably reflected the absence of a group standard (Kenneth, 2000). Additionally, a distinction has to be made between team as a whole who are cohesive and sub-groups of teams that are cohesive with each other. Following Kenneth (2000) non-cohesive teams can also have sub groups that are cohesive. Therefore, we define group cohesion in this research as the cohesion between all the members of the whole group.

Cross-functional teams and team cohesion are two factors that are related. According to (Institute of management accountants, 1994) this is because this kind of teams has certain characteristics, which are as follows. Cross-functional teams consist of people who all have a shared vision; team members within cross-functional teams share leadership roles and are role flexible. This means that the team members share the responsibility for team processes. Also, the members of the team have both individual and mutual accountability, this means that the individual is responsible for his or her own task, and that the team as a whole is responsible for the collective team performance. The characteristics mentioned above will stand or fall with the presence of a strong team feeling, in other words team cohesion and commitment. This is only possible if there is consensus within the team. Therefore, it is important for managers who construct functional diverse cross-functional teams to ensure that the people within the team are cohesive, only than cross-functional teams have a chance of being successful.

Correspondingly, following Wolfe & Box (1987) the cohesiveness of a group revolves around such factors as personal liking or mutual admiration, personal similarities, the acceptance of the group's goals and activities, satisfaction with the leadership style exercised, the decision making process employed by the group, as well as its structure and overall climate. Following Kenneth (2000) the social communication theory had the following effect; high cohesion was hypothesized to instigate greater communication among group members, creating greater uniformity of opinion and behaviour between and among them. As well as communication, shared values and team loyalty are keys to create group cohesiveness. What becomes clear is that teams who have shared values will make decisions that are in line with the goals of the team. This means that the employees will try to do the best for the team. Likewise, alignment between the team members is key factor. Otherwise individuals within the team will do things they think is best and will affect others, meaning that the team can get off-track. Moreover, according to (Institute of management accountants, 1994) cohesive groups are marked by strong ties among members, a positive emotional feeling about membership, and by a tendency for members to perceive events in similar terms. Correspondingly, Wolfe & Box(1987) found that there is a direct relationship between team's cohesiveness and its productivity level. The research shows that the level of cohesiveness has influence on the productivity level. Teams with a higher level of cohesion seem to score higher on productivity than teams who are less cohesive. This is also in line with what Institute of management accountants (1994) stated. Therefore it is good for teams to be more cohesive, meaning that the performance of the team will increase. The value of the team within the company will increase. However, team

cohesion has also other effects on team members. If the level of cohesion is high and the team has overall accepted team values, team members will be more committed to do work for the team. As mentioned by (Daily, 1977) members of highly cohesive groups are more strongly motivated to contribute to the group's welfare, to achieve its objectives and to participate in its activities. By doing so, the members will assure that the level of the group work will keep up. Furthermore, cohesiveness has been shown to affect group productivity, the maintenance of group membership, member conformity and group loyalty concluded that productivity and cohesiveness are interrelated. Meaning that if the cohesion within teams increases the productivity and therefore the group performance will improve. As a matter of facts, it would be interesting for companies to see what the level of cohesion is within their cross-functional team. Companies depend more and more on the use of cross-functional teams. Furthermore, the level of cohesion is interesting; this is because there are several proven ways to increase the team cohesion.

In the same way, team cohesion will increase the level of communication between members. Beal et al (2003) states that cooperation and communication in teams enhances the efficiency of teams. In addition the Institute of management accountants(1994) states that cohesion affects the amount of interactions between the team members. Highly cohesive groups communicate more with each other than less cohesive groups. Similarly, the interaction in cohesive groups more cooperative, the tone of discussion is often more friendly and the members try to come to an agreement. Moreover, the members of cohesive groups have more influence on each other. But what is the reason that group cohesion improves the communication within groups? Under those circumstances when teams are cohesive, members are able to show their personal feelings or ideas about issues. The improvement of the communication within the team will enhance a healthy working environment. In the same fashion, groups that have worked with each other before will be more cohesive in terms of performance, this is because all members understand each other's altogether (de Dreu, Bechtoldt, & Nijstad, 2009). This is useful because team members are assigned a specific task to perform. Most of the times people have to interact with team members to complete the tasks, which means that communication is key factor. Furthermore, members of cohesive groups are willing to respond objective and interested to others in the team. Therefore, people are willing to take responsibility for their tasks. The favourable attitude towards the group, reduces the amount of energy that is needed to keep the group together, (Kenneth, 2000)

In contrast, there are also down-sides on high levels of cohesion; these down-sides will negatively influence the team performance. The two major problems are Group thinking and group conformity. In chapter 2.3 Functional diversity group thinking has already been reviewed. However, in this chapter the subject will be touched from another perspective, the perspective of group cohesion. Wolfe & Box(1987) implies that very cohesive teams have to watch out for group thinking. This is because cohesive groups are often less self censoring and have problems to be objective to colleagues, because they are afraid to destroy the group solidarity. Group conformity can be described as the act of matching norms, attitudes and believes to the group norms. Team members are adapting similar behaviors. This is often done to fit in the group or to reduce the disagreement in the group. This behavior is becoming the group norm for the teams, this can have influence on the group productivity, creativity and innovativeness (University of Oxford, 2011).The disadvantages of conformity are that team members are not able to give their opinion freely about issues, because it will damage their position within the group. Furthermore, due to this lack of new ideas, the team will not push the limits and is not busy with finding new solutions to work better or to optimise the work.

Furthermore, de Dreu, Bechtoldt & Nijstad(2009) state that conformity within cohesive groups is common.

Therefore, the following hypothesis have been suggested:

Hypothesis 1*: Functional diversity (within cross-functional teams) has a negative effect* on team cohesion

Hypothesis 2: *High levels of team cohesion within functional diverse cross-functional teams will enhance the team performance of the team.*

2.4 Moderators

There are conflicting views and results on the effect of functional diversity on team cohesion, these maybe due to moderators. Therefore, several moderators have been selected to be researched in more detail. The moderators have been selected based on the fact that they have had influence on the earlier researched relationships between functional diversity and team performance and team cohesion and team performance following the literature. However, the current research has to prove in which way these moderators will affect the direction and/or strength of the relationship between functional diversity and team cohesion .The moderators that are included in this research are task conflicts, relational conflicts, process conflicts, informal communication, collaboration, team size and individual reasons to join the team. The literature shows different views on the effect of conflicts on the relationship between functional diversity and team cohesion. The proposed can be seen in .
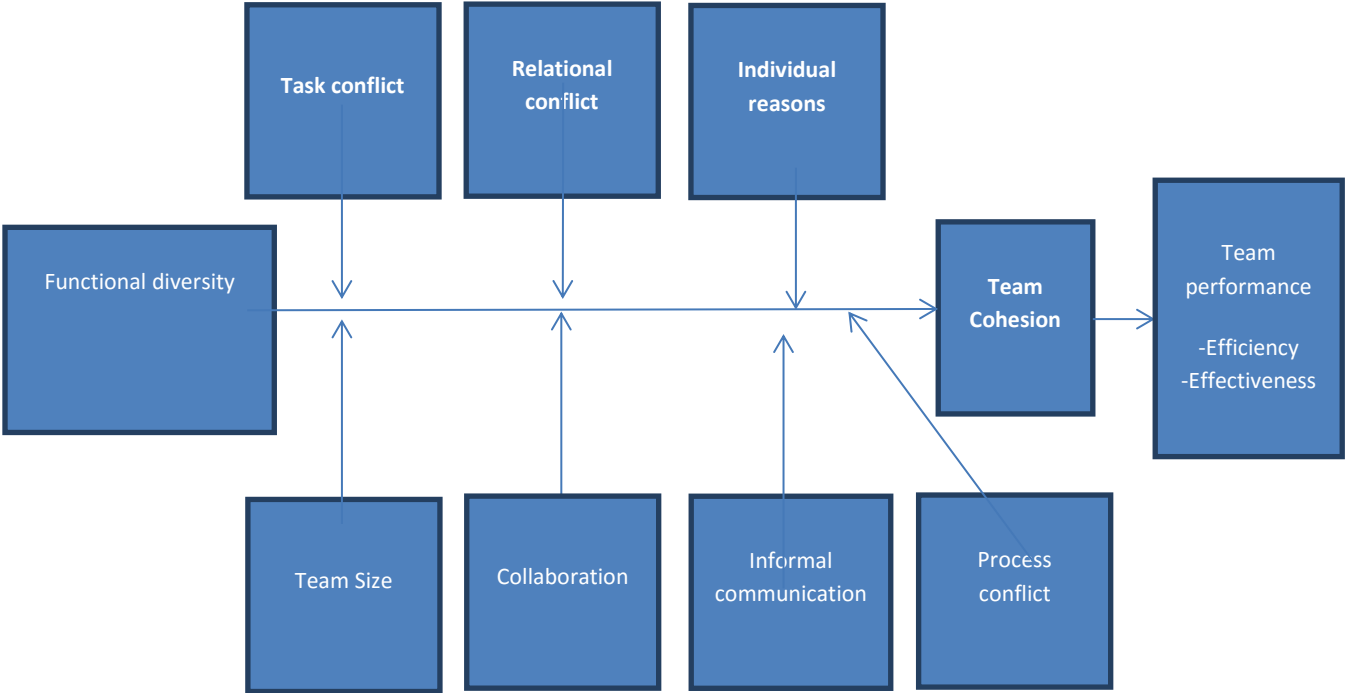
2.4.1 Conflicts

Empirical research indicates that functional diversity within cross-functional teams can increase conflicts (Bunderson & Sutcliffe, 2002). One reason why teams can work together effectively is because they establish a positive, reliable group climate, based on interpersonal appeal and shared norms and values. Likewise, one reason why teams fail to be productive is because they fail to develop a positive team climate and instead develop different kind of conflicts (Tjosvold & de Dreu, 2001). Three types of conflicts can arise within a team, to be more specific these are task, relational and process conflicts. But not every type of conflict has the same origin. The different sources are according to Peterson & Harvey (2009) the first source of conflict is differences in information between group members, based on their experiences, backgrounds, and skills. The second is differences in interests that require team members to compete for the same scarce resources. The third is the result of underlying differences in values. However, it is important to take into consideration that not every source of conflict will result in the same kind of conflict. To be more specific the difference in information will result in task conflicts, the difference in values will result in relational conflicts and the differences in interests will result in process differences.

The three different types of conflicts will all occur due to different reasons and in different circumstances. Therefore, the different types of conflicts will all have different effects on the proposed relationship between functional diversity and team cohesion. The first type of conflict that was elaborated on was the task conflicts, these conflicts are based on the difference in information (Rispens, 2015). Task conflicts refer to the kind of conflicts and arguments among individuals who are related to each other by a certain task. Different ideas about decisions, the way of solving problems and doing work are examples of task conflicts (Northouse, 2015; Lu, Zhou & Leung, 2011). According to Rispens (2015) task conflicts are disagreements between team members about the content of the task. To be more specific, task conflicts occur when goals or objectives of team members interfere. This is in line with Simons & Peterson(2000) who state that Task conflict, or cognitive conflict, is a perception of disagreements among group members about the content of their decisions and involves differences in viewpoints, ideas, and opinions. Different authors have different ideas about the effect of task conflicts on the level of team cohesion. Following de Dreu & Weingart (2003) low levels of task-conflicts have a positive effect on the decision-making process and the team cohesion. De Dreu & Weingart(2003) state that task conflict increases group members' tendency to scrutinize task issues and to engage in deep and deliberate processing of task-relevant information. This fosters learning and the development of new and sometimes highly creative insights, leading the group to become more effective and innovative. The groups will become more effective and innovative, due to the discussion which will follow the task conflicts. Different insights of the issue will be shown and therefore the best solution can be chosen. Further evidence for this vision can be found in the article of de Dreu & Weingart (2003), in which they state that a task conflict has a positive impact on the team performance. This vision was further refined by Simons & Peterson(2000) who summarized the literature by noting that groups who experience task conflicts tend to make better decisions because such conflict encourages greater cognitive understanding of the issue being considered. This counts for individuals as well as groups. Additionally, Simons & Peterson (2000) found that task conflict can lead to more satisfaction with the group decision and a desire to stay in the group. Moreover, task conflicts give individuals a more satisfied feeling within a group. This means that task conflicts can have a positive effect on the level of relational conflicts within teams, meaning that task conflicts can decrease the level of relational conflicts. However Simons *et al*(2000) states that medium/ high levels

of task conflicts can be harmful for the team. High levels of task conflicts can result in a lack of collaboration and therefore a lack of team cohesion. Therefore, it can be concluded that only low levels of task conflicts will have a positive effect on the level of team cohesion. In a similar manner, this vision is strengthened by Peterson(2009) who found that task conflicts also have influence on relational and process conflicts, meaning that high levels of task conflicts will increase the change on these two types of conflicts (Peterson, 2009). The literature shows that task conflicts have a moderating effect on the main relationship between functional diversity and team cohesion, with both positive and negative effect depending on the level of conflict. Although, more often the negative side of task conflicts are proven by authors. As a matter of fact, we expect that task conflicts have a negative effect on the reltionship between functional diversity and team cohesion.

The second type of conflicts discussed were the relational conflicts, these type of conflicts can be described as conflicts that are based on the difference in values (Rispens, 2015). All things considered, what becomes clear is that groups in which members differ significantly from one another in terms of underlying values, assumptions, and backgrounds tend to have more conflict and less cohesion and satisfaction (Williams & O'Reilly, 1998). However, relational conflicts are counter-productive and can be destructive for the team. It has a negative impact on the individuals who work in the team. This will result in project delays and poor outcomes. Likewise, Simons & Peterson (2000) explain relational conflicts as a perception of interpersonal incompatibility and typically includes tension, annoyance, and animosity among group members. Equally, Peterson & Harvey (2009) state that relational conflicts produce tension and frustration within teams. This tension and frustration have influence on the level of task and process conflicts. Meaning that high level of relational conflicts can create an increase in the level of task and process conflicts and create a decrease in the level of team cohesion. This is in line with Simons (2000) who states that relationship conflict limits the information processing ability of the group because group members spend time and energy focusing on each other rather than on the group problems, meaning that the level of task conflicts will increase easier, due to the lack of information. By the same token, relationship conflict limits group members' cognitive functioning by increasing their stress and anxiety levels. Meaning that team members are less willing to collaborate and this will also negatively influence the level of team cohesion (Simons, 2000). In addition, relational conflicts are based on differences in esteem, control and affiliation. Esteem can be described best as the feeling of being appreciated, people like to feel being useful. When this need is not fulfilled, people experience relational conflicts, because they are not regarded as they want to be seen. Control is about the degree of what kind of control a person has over others and the circumstances. Affiliation is about feeling include, being part of something. These three points together form the relational conflicts following (Northouse, 2015).
Relational problems do not only have effect on commitment and group satisfaction, but also on the decision making process, this happens in three ways following Simons & Peterson (2000). First, relationship conflict limits the information processing ability of the group because group members spend time and energy focusing on each other rather than on the group problems. Second, relationship conflict limits group members' cognitive functioning by increasing their stress and anxiety levels. Third, relationship conflict encourages antagonistic or sinister attributions for other group members' behaviour, which can create a self-fulfilling prophecy of mutual hostility and conflict escalation. This are three ways in which the decision making process is thwarted. However, relational conflicts with regard to the decision making process has also effect on the team cohesion, the team cohesion will decrease if the relational conflict influences the decision making process.

Empirical research shows that relational conflicts are harmful for the performance as it inhibits information transmission; it has a negative effect on individuals working in groups and decreases team spirit (Lu, Zhou, & Leung, 2011). Therefore, we can conclude that relational conflicts will have a negative effect on the level of team cohesion.

Process conflicts refer to the difference in view about how work should be done. According to Rispens (2015) task conflicts are about the means to accomplish the specific tasks, not about the content or substance of the task itself, but about strategies for approaching the task. Equally, it is about disagreements about the composite of a team and who should do what, debates about resources, and fights about how to schedule tasks efficiently. Peterson & Harvey (2009), state that process conflicts are about differences in interests. However, differences in interest are hard to resolve, this is because people have to give up things and have to come to a compromise. Likewise, differences of interest are also likely to lead to discussion of deeper, underlying priorities and assumptions than are differences in information and therefore could provide a significant benefit to the task if they can be resolved. The process conflict in resolving them is of key importance, however, to ensure that it does not result in igniting relationship conflict (Peterson & Harvey, 2009). Cross-functional team are built-up in a way that is a big matrix for this kind of problems, due to the fact of the different backgrounds. Low levels of process conflicts can have a positive effect on the team performance, this is because it increases perspective taking. Under those circumstances, the team feels more united because the viewpoint of every member will be used and there will be a common solution. But high levels of process conflicts will result in loss of motivation and job dissatisfaction. All three conflicts could be solved with Fisher and Ury's approach. The first step in their model is to separate the people from the problem. Step two is to focus on the interest and not on the position. At last invent options for mutual gains and insist on using objective criteria (Northouse, 2015). By making use of this approach, team members are able to change conflicts into positive energy.

From these results, the following hypotheses have been defined:

Hypothesis 3: *Task conflicts reduce the negative effect of cross-functional teams on team cohesion*
Hypothesis 4: *Relational conflicts strengthen/enhance the negative effect of cross-functional teams on team cohesion*
Hypothesis 5: *Process conflicts strengthen/enhance the negative effect of cross-functional teams on team cohesion.*

2.4.3 Internal communication
Informal communication is the starting point for every team, by using different forms of communication teams are able to get common solutions and achieve their final goals. Most of the time people will be in touch with others with the same functional background. Nevertheless, following (Keller, 2001), more communication between people with different functional backgrounds was observed in cross-functional teams than when cross-functional teams were not used. Different theories about communication in cross-functional teams have been researched; these models show positive and negative outcomes. The most important result of this research is that communication is important in cross-functional teams. Reduced internal communication harms technical, schedule, training and orientations (Tsui, Xin, & Egan, 1995). Likewise, reduced communication among group members can be dangerous for the internal social relationships and group cohesiveness (Harrison,

Price, & Bell, 1998). Therefore, informal communication can be seen as a moderator of the main relationship. And so, depending on the level or amount of informal communication, we can conclude that high levels of informal communication will weaken the relationship between functional diversity within cross-functional teams and team cohesion.

All things considered it can be concluded that high levels of informal communication between team members will weaken the negative relationship between functional diversity and team cohesion. As mentioned by Tsui, Xin & Egan (1995) a reduction in informal communication will harm technical, schedule, training and orientations; meaning that the team will work less productive. In addition, this decrease in productivity can lead to more struggles between team members; meaning that conflicts can arise and have their effect on the team cohesion. Moreover, Harrison, Price & Bell (1998) found that a reduce in informal communication between members can damage the social relationships. Altogether, it can be concluded that low levels of internal communication will strengthen the negative relationship between functional diversity and team cohesion. Generally speaking the found literature shows both positive and negative effects of different levels of informal communication. Under these conditions, informal communication can be seen as a moderator of the main relationship. Given these points, depending on the level or amount of informal communication, we can conclude that high levels of informal communication will weaken the relationship between functional diversity within cross-functional teams and team cohesion.

From these results, the following hypothesis can be stated:

Hypothesis 6: *High levels of Informal internal communication will weaken the negative relationship between functional diversity within cross-functional teams and team cohesion.*

2.4.2 Collaboration

Collaboration is very important for cross-functional teams, due to the fact that cross-functional teams consist out of people with different functional backgrounds. Moreover (Daspit, Tillman, Boyd, & Mckee, 2013) suggest that when group members have to collaborate on projects with interdependent tasks as in cross-functional teams, identification with the group will be reflected in a shared focus on task accomplishment as well as unified behaviour toward a common focus. Following (Jassawalla & Sashittal, 1999) collaboration within a team is enhanced by the high levels of at-stakeness, transparency, mindfulness and synergy display. At-stakeness can be described as follows. High at-stake members enjoy equal stature and influence on decision making, and show high levels of enthusiasm while speaking over the team. Transparency is the level of insight that members have achieved about each other's motivation and intents as a result of internal sharing of information. Additionally, it is important that people can give their opinion about ideas, positive and more important negative reactions have to be accepted. Mindful decisions made as a team or by a participant, reflect an integrated understanding of the divergence points of view that exist in the task environment. Synergy can be describe as the degree of members feel in voicing divergent opinions and challenging each other's ideas helped stretch everyone's notion of what is achievable and how (Jassawalla & Sashittal, 1999). Similarly, collaboration within teams will enhance the division of labour. Meaning that the work is better divided, this will help when teams have to finish large projects. In such a situation it will enhance the effectivity of the team, because everyone is responsible for a small part of the total work load. Thereupon, people are able to do their work better, because they are responsible for a more manageable part (Jassawalla & Sashittal, 1999). As a

result, collaboration will also trigger a greater creative imput. Due to the different functional backgrounds of the team members, different ideas can be combined, meaning that new out of the box ideas can be invented. A negative effect of collaboration within teams is that members with different functional backgrounds have other ways of working, due to their different interests in the project (Rispens, 2015). These differences could lead to conflicts within the team. In addition, too many team members within cohesive teams want to take the lead. Generally this will work counter-productive (Jassawalla & Sashittal (1999)).

Literature suggests a moderating effect of collaboration on the relationship between functional diversity and team cohesion. Rispens (2015) found that low levels collaboration can have a negative effect on relationship between functional diversity and team cohesion. This is because team members with different functional background have other views on how work is done, resulting in conflicts. However, Daspit *et al*(2013) shows that high team levels of collaboration within teams will lead to a common focus; meaning that by collaborating team members will be more cohesive, due to the fact that they have the same goal. This view is supported by Jassawalla & Sashittal (1999) who propose that the key building blocks for successful collaboration are the levels of at-stakeness, transparency, mindfulness and synergy display; meaning that collaboration is making teams more cohesive. Therefore, it can be expected that high levels of collaboration will weaken the functional diversity within cross-functional teams and team cohesion.

From these results, the following hypothesis is defined:

Hypothesis 7: *High levels of collaboration within cross functional teams will weaken the negative relationship between functional diversity within cross-functional teams and team cohesion.*

2.4.4 Team size
The size of a team has influence on the team cohesion (Mullen & Copper, 1994). In essence, what becomes clear is that collaboration within teams will be influenced by the group size, the different types of conflicts within a team and this will have impact on the team cohesion. But the question is what the precise effect of team size is on team cohesion and later on the team performance. Altogether, larger groups tend to encourage de-individualization among group members meaning that the team cohesion will decrease, which will have a negative effect on the team performance. This is because in larger groups people tend to have the feeling that the project is less theirs; this will result in less motivation and dedication (Mullen & Copper, 1994). Furthermore, bigger groups of people have trouble interacting constructively as a group, much less agreeing on specific actions that should be taken. Likewise, these problems will have a negative effect on the team cohesion, most of the time decreasing the team cohesion (Institute of management accountants, 1994). The effect of smaller cross-functional teams is as follows. Smaller groups (ten or fewer people) are far more likely than larger groups to successfully work through their individual, functional, and hierarchical differences toward a common plan and hold themselves jointly accountable for the results (Institute of management accountants, 1994). Additionally, it is well established that smaller groups tend to be more cohesive and therefore are more productive (Mullen & Copper, 1994). For this reason, smaller teams will have a positive effect on the team cohesion. However, smaller groups also have their disadvantages like limited input, narrow perspective taking, less creativity and being insufficient due to too few people on the team. Following (Institute of management accountants, 1994) the optimal

time size for teams that work together is between five and eight members. As a result, this range will be used for this research; teams should at least contain five members to be included in the research.

From these results, the following hypothesis has been defined:

Hypothesis 8: *Team size (5-8 members) weakens the negative relationship between cross-functional teams with functional diversity and team cohesion such that effectiveness will be improved.*

2.4.5 Personal reasons to join a team

Cross-functional teams consist of people with a different functional background. People are most of the time placed in a team because of their outstanding capacities and skills that are needed for a specific project. This sounds like that being on a cross-functional team is not interesting for an individual, but several factors make it an opportunity for employees to be on a cross functional team. To begin with, individuals want work that offers achievement and fulfilment. Achievement means working and performing well. Fulfilment comes from work that provides a sense of meaning and authenticity (Institute of management accountants, 1994).

One of the reasons that it is interesting for individuals to join teams is that it will give them opportunities and support for the development of new competencies. In teams, individuals want more pleasure, freedom, and opportunity to participate. By being on a team an individual is placed out of his/her comfort zone and has to adapt to new situations. In addition, by working with people with a different functional background individuals will learn new competencies from others and can use this knowledge later on in their career. Furthermore, individuals seek for a sense of community and an atmosphere of tolerance and openness, working cooperatively with different kinds of people to achieve team goals (Institute of management accountants, 1994). Working on a team goal stimulates people to work hard, because an individual does not want to let the team down. Moreover, when the individual is responsible for a specific task, he/she wants to show the other team members that he/she has the capability to meet the challenge.

However, the company has also an important role in making it interesting to be on a team. To begin with, the organizational credit, the member of the team needs to get the credits for the work that has been done by him and the team. Given these points only the team performance is assessed, individuals feel less appreciation and will not feel stimulated to work as hard as before. Therefore, it is important to reward the team performance, but also the individual performance. Likewise, personal development should be stimulated. Team involvement must meet individual needs, preferences, and aspirations. Opportunity for personal development and growth motivates employees (Institute of management accountants, 1994). Personal development will stimulate the individual to search for new competencies to improve his or her skills. In addition, the individual becomes more valuable for the company. Nonetheless, companies have to show that being on a team has effect on the career enhancement. Companies have to promote that being on a team will enhance the career of people, being chosen for a specific team means that the person is ready for a next step in his or her career. Being on a team does not mean that the personal performance of the individual is not valued. It is important that an individual will be also judged on his performance and will get feedback on his work.

Given these points, the following effect is expected. Due to the fact that the people who are in the team are willing to learn new things, the are more open to collaborate. Because they see working in a team as a form of mutualism, therefore they have to be open-minded to profit form the situation

at its full extent. This open minded view is based in the fact that team members want to learn new things, due to this urge people are more willing to reach their goals. To reach their goals, people have to collaborate. Due to this common goal, the team will be more cohesive.

From these results, the following hypothesis can be defined:

Hypothesis 9: *Team involvement and personal development of team members will weaken the negative relationship between functional diversity within cross-functional teams and team cohesion.*

2.5 Team performance

Team performance is the performance that is delivered by a certain team. This performance is based on motivation of the team to accomplish the mission. Therefore, team performance can be described as the efficiency and effectiveness of a team to successfully complete a project. Getting people to focus on the right things is important to increase the team performance. A well-defined team finishes projects in a timely manner (Senior, 1997). A well-defined team has several aspects in common. To begin with, the team has a clear goal and vision and knows how to accomplish tasks with this vision. Moreover the team will have united values that each team member shares, and at last the pride and the reputation that comes out of the performance will influence the team performance. Team performance can be measured by several factors. In this research team performance will be measured by the level of team efficiency and group effectiveness. The reason to measure the team performance by the level of team efficiency and effectiveness is as follows. Team effectiveness and efficiency are positively related to team cohesion (Tekleab, Quigley, & Tesluk, 2009).Likewise, these measures can easily be compared between teams which will give useful insights in the quality of the work that the teams deliver. Finally, there are many high quality questionnaires on these topics, meaning that the subjects can be measured very accurately. In this chapter these factors will be elaborated.

As mentioned earlier team efficiency can be described as the efficiency of a team to successfully complete a project. All things considered cohesive groups should be able to use their group's resources more efficiently, because they know the members of the group better and are motivated to complete the task successfully. In addition, within cohesive teams, team members will trust each other's expertise, because interpersonal attraction, task commitment and group pride are important aspects of team cohesion; which means that team members can work on different parts of the project and by doing so the team is able to work more efficient. Therefore, cohesive groups are able to outperform less or non-cohesive groups (Beal, Cohen, Burke, & McLendon, 2003).

Group effectiveness is about doing the right things and achieves the goal set. The level of group effectiveness depends on the level of team cohesion in a team. Group effectiveness can be split up into team viability, team satisfaction and perceived team performance. Team viability can be described as the team's capacity to work together at future projects. Following (Tekleab, Quigley, & Tesluk, 2009) team cohesion will increase the level of team viability and therefore the level of team effectiveness. Team satisfaction can be described as the level of how satisfied the team is with the delivered performance. In the long run, conflicts and more specific relational conflicts have a negative effect on the team cohesion, as this view asserts that relationship conflict will be negatively associated with team effectiveness. This is in line with (Beal, Cohen, Burke, & McLendon, 2003)

which states that ''With respect to the relationship between relationship conflict and team cohesion, most scholars agree that relationship conflict negatively influences team effectiveness.

Members of teams who become mired in relationship conflict typically exhibit declines in satisfaction, liking of other team members, and intentions to stay'. For this reason, high levels of group cohesion should lead to an increase of team member satisfaction and team viability. Furthermore, following Knight (2009) cohesion within teams will lead to a higher level of effectiveness. Moreover, the relatively stable collective tendency for the members of a team to experience shared positive moods over time—aids in the development of three resources that research suggests are critical for project team effectiveness: team task routines, friendship network density, and team efficiency. This is in the following way related to team cohesion. Knight (2009) states that positive personal relationships among team members (e.g. friendships) generate positive emotions. These relation-based emotions in the context of a group can contribute to feelings of cohesion and attachment. But, the basis for the model of Knight (2009) is the level of team traits which have a positive effect on the three constructs. This means that if several members of a group experience similar kinds of affective states at work, then this effect is meaningful not only in terms of their individual experiences, but also at the group level. The group has its characteristic kind of affect or affective tone." Conceptualized as such, a team's characteristic level of affect is a "shared" (Kozlowski & Klein, 2000) or "consensus" (Chan, 1998) construct; relative homogeneity among team members with respect to affect is necessary for the construct to be meaningful at the team level. Likewise, the level of team efficacy leads to a feeling that the team is able to do the job together. This means that the team will become closer, moreover if the team cohesion increases so does the team effectiveness. Under those circumstances, it can be conclude that following the model of Knight (2009), team cohesion has a positive effect on team effectiveness. For this reason, higher levels of team cohesion will lead to higher levels of team effectiveness. The model that is proposed by Knight (2009) can be seen in Figure 1: Team effectiveness.
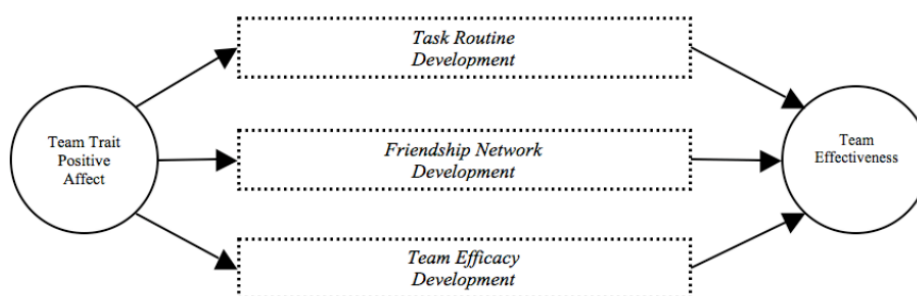
Figure 1: Team effectiveness

Other researchers share the vision that team cohesion has a positive effect on the team effectiveness. Kozlowski & Ilgen (2000) state that several meta-analytic reviews conducted over the last 15 years have consistently supported a positive relationship between cohesion and group performance. Furthermore, a more comprehensive meta-analysis by Mullen and Cooper (1994) also concluded that cohesion is significantly related to performance in a variety of teams.

Concluding these two sections it becomes clear that both the level of team efficiency and group effectiveness depend on the level of team cohesion. This view is supported by Tekleab *et al* (2009)

who stated that team effectiveness and efficiency are positively related to team cohesion. In addition, according to Tekleab, Quigley, & Tesluk (2009)the construct of group effectiveness can be divided into team the variables viability, team satisfaction and perceived team performance.

All three dimensions which are based on the main construct group effectiveness are affected by the level of team cohesion. Viability can be described as the willingness of team members to collaborate in a future project. Therefore, viability within the team will also increase the level of team effectiveness, because if the level of viability is high everyone in the team has the same goal, namely finishing the project. The construct of team satisfaction is about how satisfied the team members are with the collaboration, it is reasonable to expect that members who are satisfied with the level of collaboration will also have a higher level of team effectiveness. The construct the perceived team performance is about how team members see the performance of their team. If this performance is perceived positive, team members are willing to be more cohesive, because they see that collaborating with each other works for getting the expected result. The view of Tekleab *et al* (2009) is shared by Knight (2009) who states that team cohesion will lead to a higher level of team effectiveness. However, Knight's model uses other dimensions; these dimensions are team task routines, friendship network density, and team efficiency. As well as for the dimensions of Tekleab *et al* the dimensions of Knight are also positively influenced by the level of team cohesion. According to Knight(2009) team cohesion will have a positive effect on the team traits that positively effects on the three dimensions, which in their turn positively affects team effectiveness and efficiency. Based on these two models it becomes clear that higher levels of team cohesion will have a positive effect on the level of team effectiveness and efficiency.

From these results, the following hypothesis is stated:

Hypothesis 10: *Team cohesion within cross-functional teams with functional diversity will enhance the team effectiveness and efficiency.*

Chapter 3 Method

3.1 Company profile

The research will take place at the Dubai national air travel agency(dnata)warehouse site at Schiphol South. Several people within the company were contacted via email; this email contained the research proposal with further explanation about the proposed study. Finally, one of the employees showed interest which was the beginning of the process.

The former Aviapartner cargo department was taken over by dnata in september 2015. dnata is one of the world's biggest suppliers of combined air services offering aircraft ground handling, cargo & logistics, travel and flight catering services. The company was found by Ahmed bin Saeed Al Maktoum in 1959. Through the years dnata has gradually grown, although the first international expansion was only in 1993. Currently dnata serves 19 airports in countries all around the world with their services. dnata differs from other companies with their vision in which is stated that they do not want to be the world biggest air services supplier, but the one with the best quality delivered.

Within the Schiphol airport sub diary dnata does the ground and cargo & logistics handling, meaning that the company is responsible for the handling of incoming and outgoing cargo flights. The aim is to load and unload the cargo planes within 2.5 hours. The received cargo is stored in Schiphol cargo terminals 5 and the cargo that is ready for export is stored in terminal 6. Within these terminals cargo is assembled for transport based on the customer requirements or take down if it comes of a cargo plane and has to be shipped in smaller parts to the hinterland. Therefore, the company uses different functional areas which are separated from each other. Moreover, three different functional areas are specified within dnata for this master thesis. These functional areas and their function can be found in Table 2: Functional area description. Furthermore, Appendix 1: Difference airside and landside, can be used to visualize the difference between the functional areas landside handling and airside handling. In addition, Figure 7: Landside/Airside shows a clear distinction between the two areas and gives an overview. The situation as found by dnata can be seen in Figure 8: dnata

Table 2: Functional area description

Functional area	Function
Landside handling	Handling of goods and everything before the customs. Strictly separated from airside.
Airside handling	Handling of goods after customs and all other tasks around the airplane.
Supporting departments	Several departments that support the land and airside handling like planning, HR, Procurement, etc.

Within the functional areas dnata use pre-designed teams which differ in size between 3 to 12 members per team. Within the organization a team is defined in the organization as a group in which all personnel report directly to the same supervisor and interact to complete tasks. Teams consist of members with the required functional background to complete the tasks; however, some teams do not need members with a specific functional background in advance. These team members are internally trained to learn to fulfil the tasks.

3.2 Research site and sample

The data that are used for this master thesis are obtained by a questionnaire containing 91 multiple choice questions. The respondents who were invited for this questionnaire came from three different functional areas within the company dnata Schiphol. The sample was taken from the head quarter of the company within the Netherlands at Amsterdam Schiphol International Airport. Within this master thesis the functional areas have been divided in landside handling, airside handling and supporting departments as shown in Table 2: Functional area description. However, this combination of functional areas makes this sample size unique. Due to the fact that different teams within different combinations of functional backgrounds will be investigated within different disciplines.

The minimum amount of teams was thirty, to ensure sufficient power of the statistical reliability. Therefore, the managers of airside and landside were asked to help to allocate the maximum amount of available teams. In addition, it was decided that participation for the questionnaire was voluntary. Important requirements for the teams to be selected were that they were built-up out of people with a different functional diverse background. Furthermore, the team needs a team leader to which the teams report, to ensure the measured data can be compared to the supervisor's vision about team performance.

The questionnaire that was used to get the survey data was handed out to over 30 different teams within dnata. These teams are all built-up out of 5 to 15 different members. The questionnaires were sent to all teams with an introduction letter to explain the intentions of the questionnaire and that the data would only be used for empirical research. Furthermore, the confidentiality of the results was guaranteed, by explaining that the information would not be shown to supervisors or third parties. Moreover, to ensure the promised level of confidentiality the questionnaires had to be returned in a closed box placed at the department. To ensure that the questionnaire would measure the intended constructs, it had been validated in depth by two human performance management (HPM) experts and the reliability was tested by three TU/e students of the department of IE&IS.

The response rate of the questionnaire was 24.8 percent of those invited to participate and returned in the closed box before the set end date. The participation rate finally rose to 25 percent after sending a reminder after 1 week, which is a quite low response rate. Out of the 25 percent response rate 95 percent of the questionnaires were completed and could be used for data analysis. In addition, 3 percent of the participants held a master degree or higher, 10 percent a bachelor degree, 46 percent a MBO degree and 41 percent of all participants had another degree as can be seen in Figure 2: Education. Functional areas represented within the analysis where 59% Landside, 30% airside, 11% supporting departments as can be seen in Figure 3: Functional areas. Moreover, 87 percent of the participants were male and 13 percent of the participants were female. The average age was 42 years, and 80 percent of the respondents worked fulltime.
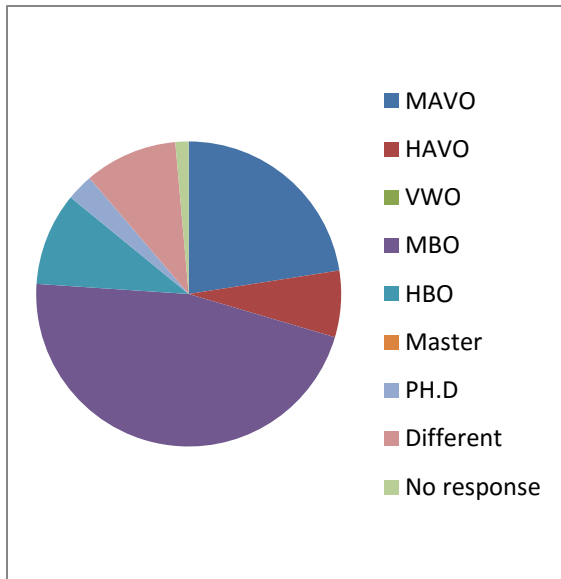
Figure 2: Education
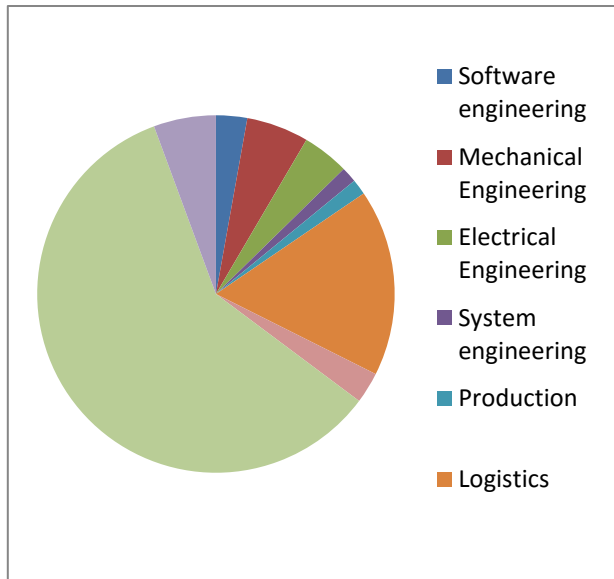
Figure 3: Functional areas

3.3 Measurement

Originally the used measures were constructed in English, however, due to fact that a substantial amount of the invited people have not got a English working proficiency the questionnaire was translated into Dutch. Therefore, the author of the thesis translated the questionnaire and later on the questionnaire was checked by three native speakers to check the literal quality. In addition, these three persons were asked to give feedback on the questions and subjects of the questionnaire Based on this feedback the questionnaire has been formed and can be found Appendix 2: Blau index. To improve the quality of the questionnaire, each chapter was accompanied with an introduction text about the topic to create an understanding of the questions and the situation in which they are asked. The questionnaire can be found in Appendix 3: Questionnaire

3.3.1 Cronbach's alpha

Cronbach's alpha is a measure of the reliability of a scale, it checks the correlation between the items, to see it they can form a construct together. Following Field (2009), a Cronbach's alpha of 0.7 or higher indicates that the scale is reliable. The Cronbach's alphas of the used constructs can be seen in Table 3: Cronbach's alpha. In addition, Table 3: Cronbach's alpha also shows the sources of the used questionnaires, the amount of items per construct and the used question format. What becomes clear after analysing table 3 is that all constructs except need for cognition have a Cronbach's alpha above 0.7 on the individual level. However, the score of the construct need for cognition is 0.69. However, this is such a small difference with the cut-off value of 0.7, and, therefore it is considered that the scale is still reliable. On the aggregated level only the construct of need for cognition was below the cut of value, by deleting several questions the Cronbach´s alpha rose to 0.67.

Table 3: Cronbach's alpha

Variable	Original source		Cronbach α Individual	Cronbach α Aggregated
Team cohesion	(Wendt, 2009)	7 Items, 7 point scale	α = 0.85	α = 0.90
Psychological safety	(Edmondson, 1999)	4 Items, 7 point scale	α = 0.73	α = 0.72
Team identification	(Van Der, 2005)	4 Items, 5 point scale	α = 0.85	α = 0.95
Relational conflicts	(Rispens & Jehn, 2012)	4 Items, 5 point scale	α = 0.85	α = 0.87
Task conflicts	(Rispens & Jehn, 2012)	6 Items, 5 point scale	α = 0.70	α = 0.87
Process conflicts	(Rispens & Jehn, 2012)	4 Items, 5 point scale	α = 0.82	α = 0.81
Collaboration	(Chrislip & Larson, 1994)	8 Items, 4 point scale	α = 0.81	α = 0.68
Task interdependence	(Van der Vegt, 2003)	5 Items, 7 point scale	α = 0.74	α = 0.87
Internal communication	(Veldhoven, 1994)	4 Items, 4 point scale	α = 0.88	α = 0.87
Team size	(Wageman, Richard, & Lehman, 2005)	3 Items, 9 point scale	α = 0.79	α = 0.75
Need for cognition	(Cacioppo, Petty, & Kao, 1984)	18 Items, 9 point scale	α = 0.69	α = 0.67
Work pressure	(Veldhoven, 1994)	3 Items, 5 point scale	α = 0.79	α = 0.86
Autonomy	(Veldhoven, 1994)	3 Items, 5 point scale	α = 0.72	α = 0.83
Team performance	(Gibson, Cooper, & Conger, 2009)	4 Items, 7 point scale	α = 0.84	α = 0.89
Goal accomplishment	(Gibson, Cooper, & Conger, 2009)	5 Items, 7 point scale	α = 0.95	α = 0.98

3.3.2 Functional diversity

For assessing the level of functional diversity within the teams the level of education and the specialization of the employees will be used. The respondents will be asked what their level of education is which can vary between common education levels in the Netherlands like MAVO, HAVO, VWO, MBO, HBO, WO, PhD or the choice ''other'' if the level which the respondent did is not one of the above mentioned. Additionally, the respondent will be asked about his or her specialization. These can vary between ICT, mechanical engineering, electrical engineering, systems engineering, production work, logistics, aviation, marketing or the choice ''other''. Consequently these two measures will be used as the base for the construct functional diversity. However, these data has to

be translated into data that can display the level of functional diversity within the teams. For this reason the Blau diversity index will be used to display the level of diversity within the teams (Blau, 1977) (van Knippenberg, Dawson, West, & Homan, 2010). The Blau diversity index can be used to assess the level of functional diversity within teams. The formula of the Blau index is $1 - \sum \left(\frac{P}{K}\right)^2$ were the P stands for a certain amount of team members with a specific education and K for the total group size. The Blau index goes from 0(teams are completely homogeneous) to 1(teams are completely heterogeneous) (Harrison & Klein, 2007). For example a team consist of five people with a MAVO degree(General secondary education), two with a MBO degree(Secondary vocational education) and three with a Ph.D degree which will result in the following calculation $: 1 - \sum \left(\frac{5}{10}^2 + \frac{2}{10}^2 + \frac{3}{10}^2\right) = 0.62$ which means that the team is slightly heterogeneous. In the same way, the specialization of the respondents will be measured. These two scores will be aggregated together to one score between the 0(Not functional diverse) to 1 (completely functional diverse). For this research the blau indixes of the educational level and specialization were together combined into the construct of functional diversity, in addition Table 18: Blau index of diversity presents the levels of diversity of the team and can be found in Appendix 2: Blau index.

3.3.3 Team cohesion

For assessing the level of team cohesion within the functional diverse teams, three dimensions consisting of different items where measured, namely psychological safety, team identification and team cohesion. Psychological safety was measured by the seven items of Edmondson(1999). These seven items were measured with a seven point Likert scale, ranging from 1 (very inaccurate) to 7 (very accurate). Psychological safety is the belief that the team is safe for inter personal risk taking. Within psychological safe teams, members feel accepted and respected by each other. Team members and leaders were asked to rate the level of psychological safety within the team for example following the items: ''Mensen binnen het team accepteren het als men een risico neem'' and ''Als men fouten maak wordt dit tegen hen gebruikt''.

Team identification was measured by the questionnaire of van der Vegt(2005), consisting out of four items. These four items were measured with a seven point Likert scale ranging from 1(completely disagree) to 7 (complete agree). Team identification can be described as the level of psychological attachment felt by a member of a team with his/her team. Team members and leaders were asked to rate the level of team identification within the team for example following the items:'' teamgenoten voelen zich emotioneel verbonden met het team'' and ''teamgenoten maken zich druk over problemen waarmee het team geconfronteerd wordt.''

Team cohesion was measured by the questionnaire of Wendt *et al*(2009), consisting out of a four items. These four items were measured with a five point Likert scale ranging from 1(strongly disagree) to 5(strongly agree). Team cohesion can be described as the extent to which group members feel part of the group and desire to remain in the group. Team members were asked to rate the level of team cohesion within the team for example following the items: ''Er heerst een goede verstandhouding in het team''and''Teamleden zijn trots dat ze onderdeel zijn van het team ''. All 15 items of the construct team cohesion can be found in Appendix 3: Questionnaire

3.3.4 Conflicts

To measure the level of conflicts within the functional diverse teams the questionnaire of Jehn & Rispens (2012) was partly used. Within the conflicts a distinction is made between three types of conflicts namely relational, process and task conflicts.

The first type of conflicts discussed are the relational conflicts, these type of conflicts can be described as conflicts that are based on the difference in values (Rispens, 2015). All things considered, what becomes clear is that groups in which members differ significantly from one another in terms of underlying values, assumptions, and backgrounds tend to have more conflict and less cohesion and satisfaction (Williams & O'Reilly, 1998). Relational conflicts were measured by the questionnaire of Rispens & Jehn (2014), consisting out of a four items. These four items where measured with a five point Likert scale ranging from 1(Not at all) to 5(a lot). Team members were asked to rate the level of relational conflicts within the team for example following the item:' 'We hebben ruzie over niet-werkgerelateerde zaken''.

The second type of conflicts discussed were the task conflicts, these refer to the kind of conflicts and arguments among individuals who are related to each other by a certain task. Different ideas about decisions, the way of solving problems and doing work are examples of task conflicts (Northouse, 2015; Lu, Zhou & Leung, 2011). Task conflicts were measured by the questionnaire of Rispens & Jehn (2014), consisting of six items. These six items were measured with a five point Likert scale ranging from 1(Not at all) to 5(a lot). Team members were asked to rate the level of task conflicts within the team for example following the item: ''In welke mate heeft dit team onenigheid over hoe de dingen gedaan moeten worden in dit team?''.

The third type of conflicts discussed were the process conflicts, process conflicts refer to the difference in view about how work should be done. According to Rispens(2015) process conflicts are about the means to accomplish the specific tasks, not about the content or substance of the task itself, but about strategies for approaching the task. Process conflicts were measured by the questionnaire of Rispens & Jehn (2014), consisting out of a four items. These four items were measured with a five point Likert scale ranging from 1(Not at all) to 5(a lot). Team members were asked to rate the level of process within the team for example following the item: ''In welke mate heeft dit team onenigheid over hoe de dingen gedaan moeten worden in dit team?''.All 14 items of the constructs Relational, process and task conflicts can be found in Appendix 3: Questionnaire

3.3.5 Internal communication

The level of internal communication within the functional diverse teams was measured by using the questionnaires of Veldhoven(1994). The used items were extracted from his survey named the ''beleving en beoordeling van de arbeid''(VBBA). For this questionnaire a four items of the VBBA were used. These four items were measured with a four point Likert scale ranging from 1(Always) to 4 (Never). Informal communication is the starting point for every team, by using different forms of communication teams are able to get common solutions and achieve their final goals. Most of the time people will be in touch with others with the same functional background. Likewise, reduced communication among group members can be dangerous for the internal social relationships and group cohesiveness (Harrison, Price, & Bell, 1998). The questions about the internal communication within the team are about to which extent the team members communicate with each other and under which circumstances this takes place. Sample questions were: ''Hoort u voldoende over de gang van zaken binnen het bedrijf'''and ''Wordt u van de belangrijke dingen binnen het bedrijf goed

op de hoogte gehouden?''. All 4 items about internal communication can be found in Appendix 3: Questionnaire

3.3.6 Collaboration
The level of collaboration within the researched teams will be measured by using the questionnaires of Chrislip & Larson (1994) and van der Vegt (2005). The construct collaboration is built-up out of 13 questions which are divided over the dimensions collaboration and task interdependence. The questionnaire which was made by Chrislip & Larson(1994) is based on their book collaborative leadership: how citizens and civic leaders can make a difference in which the author elaborate on the essence of collaboration in diverse communities and the consequences of being static and less collaborative. Although, the solutions sketched by Chrislip & Larson(1994) seems easy to implement, strong devotion and changes in the mind set are needed to be collaborative. To measure the level of collaboration eight items of Chrislip & Larson(1994)were used. These eight items were measured with a four point Likert-scale ranging from 1 (true) to 4 (false).An Example of a sample item was: ''Mijn teamleden maken goed onderscheid tussen taak en sociaal gerelateerde behoefte, zodat het team gefocust en productief kan werken''.
Furthermore, interdependence was measured by the questionnaire of van der Vegt (2003), in addition, to measure the level of interdependence five items were used. These five items were measured with a seven point Likert-scale ranging from 1 (completely disagree) to 7 (completely agree). Examples of sample items were : '' Ik kan mijn taak uitvoeren onafhankelijk van mijn collega's'' . All 15 items about the construct collaboration can be found in Appendix 3: Questionnaire.

3.3.7 Team size
For assessing data about the construct team size the questionnaire of Wageman *et al*(2005) was used. Wageman's questionnaire will be used to see what the effect is of team size on the level of team cohesion. The questionnaire consists of a three items, these three items were measured with a nine point Likert scale ranging from -4(too small) to 4(too large), with 0 as the optimum score that can be obtained. The size of a team has influence on the team cohesion (Mullen & Copper, 1994). In essence, what becomes clear is that collaboration within teams will be influenced by the group size. Different group sizes will have different effects on the level of cohesion, team identification, effectivity and effectiveness. The questionnaire of Wageman *et al*(2005) checks the opinion of the team about the team size of their own team. Sample items were: ''Dit team is precies groot genoeg om de taken uit te voeren'' and ''Dit team heeft te weinig leden voor de taak die het moet uitvoeren''. All 3 items about team size can be found in Appendix 3: Questionnaire

3.3.8 Personal reasons to join a team
The construct personal reasons to join a team was measured by the dimensions of need for cognition. The construct need for cognition was measured by the questionnaire of the need for cognition scale by Cacioppo *et al*(1982). This questionnaire consisted of 18 questions
to see if the participants are willing to discover new knowledge and to learn new skills. In addition, it will give an indication about how well motivated the person is. Moreover, the Likert scale used is ranged from 4(very strong agreement) to -4 (very strong disagreement). Sample items were:'' Mijn team voelt voldoening wanneer er een kwestie langdurig en nauwgezet afgewogen moet worden'' and '' vindt ingewikkelde vraagstukken leuker dan simpele vraagstukken''.
All 18 items of the construct reasons to join a team can be found in Appendix 3: Questionnaire

3.3.9 Work pressure and autonomy

The construct work pressure and autonomy is measured with a section of the questionnaire of Veldhoven & Meijmans(1994), this questionnaire is called the perception and assessment of labour. For assessing data about the level of work pressure and autonomy six items were used, these six items were measured with a five point Likert-scale ranging from 1 (never) to 5 (always). Work pressure is about how much pressure the team members feel during their work and how hard they have to work to fulfil their tasks. Furthermore, it gives insight in how they perceive the amount of work delegated out of the company. Autonomy is about the level of freedom the team members experience during their work. Are they allowed to do work in their own way, can they make decisions by their self about the work and do they have large amounts of responsibilities. There are three items to measure the level of work pressure, as well as three items to measure the level of work autonomy. Sample items were ''Do you have to work fast?'' and ''Do you have the freedom to decide how to carry out your activities?''. All 6 items of the constructs work pressure and autonomy can be found in Appendix 3: Questionnaire

3.3.10 Team performance

For assessing the level of team performance within the teams the dimensions team performance (Conger et al, 2009) and goal accomplishment (Gibson, Cooper, & Conger, 2009) will be used. The dimension team performance will be measured by four items, these four items were measured with a seven point Likert scale, the Likert-scale ranged from 1(very inaccurate) to 7 (very accurate). The team performance scale was used to assess the effectiveness of the team and to check if the team leaders and team members have the same perception about their perceived performance. Team performance can be measured in various ways and various things can be concluded out of this data. The used questionnaire measures the effectiveness of the team, are the teams getting the work done, one time and do they deliver good quality. Sample items were: ''Dit team werkt effectief'' and ''Dit team presteert goed en is constant in zijn prestatie''.

The dimension goal accomplishment was measured to assess the team performance following the questionnaire of Conger et al(2009).The level of goal accomplishment will give a further insight in the performance of the teams. Goals play a particularly central role in most theories of team effectiveness. Perceptions of goal accomplishment are important in determining how well a team will make use of feedback-related catalysts for collective cognition. The construct of goal accomplishment was measured by 5 items, these five items were measured with a 7 point Likert scale ranging from 1(very inaccurate) to 7 (very accurate). Sample items were: ''Dit team vervult haar missie'' and ''dit team behaalt haar doelen''. All items can be found in Appendix 3: Questionnaire

3.4 Data Analysis

Before it is possible to analyse the data set it has to be checked to be sure that the data set is complete. Therefore, the data set will be tested on sampling errors, missing values, outliers and the data will be recoded into the same variable to ensure the quality of the data set. Under those circumstances, the data can be used to perform the analysis to test the proposed hypothesis.

The missing values are the values within the data set that are missing, however there are several types of missing values. There are several reasons for missing values such annual data entry procedures, equipment errors and incorrect measurements. Following Kaiser (2014) problems associated with missing values are loss of efficiency complications in handling and analyzing the data and bias resulting from differences between missing and complete data. However, missing values can also appear in the form of outliers or wrong data. Therefore, it is important to remove this data from the data set to decrease their effect on the data set. After searching through the dataset 19 missing values where found. Furthermore, Little's mcar test was used to see if the missing data was completely at random. The data shows that Little's test was not statistically significant, meaning that it is not possible to reject the 0-hypothesis. As a matter of fact it is possible to conclude that the missing data were completely at random. However, detecting the missing data is only the first phase of working with them. The second step is to choose to recode or remove the missing values. The choice for this research is to recode the missing values with the value means of the given classes. The reason to handle these missing values in this way is, because the missing values are mcar values and due to the small sample size.

However, the data set still contains items that are reverse coded. Therefore these data has to be transformed into the same scale as other items with which they will form a construct. Several items of the constructs size and need for cognition have to be recoded before they can be included. Based on this transformations it becomes possible to measure the reliability of the constructs by measuring the Cronbach's alpha's on individual level (α= .69 to α= .95) as well as team level(α= .67 till α= .98). The Cronbach's alpha's on the team level are slightly lower than on the individual level.

To analyse the data multilevel analysis will be done by using the program MLwiN, a statistical package able to do analysis on multiple levels of the data set. Multilevel analysis makes use of a nested structure of the data. In other words, the individual data is nested within the teams, this means that the individual data about team-related aspects are not independent. In addition, this effect can be expected in the data, team members will answer the questions partly based on the overall opinion of the team. Therefore, the program is able to see different underlying structures on the individual level as well as on the team level. This description fits the purpose of this master thesis in which data is obtained by questionnaires answering questions on the individual level that have to be translated to the team level in a later phase. However, to do a multilevel analysis with MLwiN several assumptions have to be met, the data has to be distributed normally, the data needs to be homoscedastic and the models need to be linear (Maas & Hox, 2004) .

The first assumption that needs to be satisfied is that the data has to be normality distributed throughout the data set. Without a normally distributed dataset MLwiN cannot make reliable estimations. Therefore, the data is checked in different ways to ensure normality within the data set. First, P-P plots were made of each construct, the P-P plots two cumulative distributions plots against each other. As a matter of fact, each construct is compared to the normal distribution. In the P-P plot the normal distribution is visualized as a straight line, the data points of the constructs are visualized as dots. The wanted scenario is that the dots are on the straight line (normal distribution), meaning that the data is normally distributed. However, it is possible that the data is skewed, meaning that there is a peak in the dataset on one side of the spectrum or that outliers influence the distribution. The P-P plots were examined with this information in mind, the results showed that most of the constructs seems to be normally distributed based on visual monitoring, however, the constructs relational conflict, task conflicts and need for cognition showed some deviations from the normal distribution. Therefore, the data was tested on outliers to see if the P-P plots of the concerned constructs would improve. After checking the boxplots it became clear that there were several cases of outliers. The boxplot of the construct task conflicts showed one extreme outliers, this case has been removed from the data set (case 32). The boxplot of the construct need for cognition also showed an extreme outlier for case 45. This case was checked on errors, additionally, the case was removed from the sample and the P-P plot has improved. The boxplot of the construct relational conflicts show two outliers, however, these outliers were just outside the boxplot and therefore the will be kept in the model.

However, on visual tests only the normality of the data set cannot be secured in total. Therefore, a second statistical test will be used to ensure normality, namely the Kolmagorov-Smirnov test (K.S. test). The Kolmagorov-Smirnov test compares the scores in the sample to a normally distributed set of with the same mean and standard deviation. If the test is non-significant ($p >= 0.05$)it tells that the distribution of the sample is not significantly different from a normal distribution (Field, 2009). The results of the Kolmagorov-Sminrov test can be seen in Table 4: Results MLwiN assumptions.
The third assumption that needs to be satisfied to use the multilevel analysis is that the constructs have to be linear itself. To test this linearity an F-test was performed by doing an one way Anova test. The constructs are linear if the F-test is not significant, therefore, all things considered it can be concluded that all constructs are linear except collaboration. However, the construct will be used as linear because of the small sample size.

All things considered, it becomes clear that not every construct satisfies all assumptions for the multilevel analysis. After all, the constructs relational conflict and team size are not normally distributed, whereas, the construct team size is also heteroscedastic instead of homoscedastic and In addition the construct collaboration is not linear. Under these circumstances, it would be expected that this data set cannot be used for multilevel analysis. However, it is important that the dependent variables fulfil the set assumptions, which is the fact for this data set. For this reason, the whole data set can be used for analysis.

Table 4: Results MLwiN assumptions shows that most of the constructs are normally distributed, except relational conflicts and team size. Which means that the effect of these constructs cannot be measured with MLwiN, because this will violate one of the main assumptions of MLwiN, the data needs to be normally distributed. However, it is interesting for this thesis to see what effect these two moderators would have on the data. Therefore, an independent sample t-test will be used to see if the construct is normally distributed within sub classes. In contrast, if normality is found within a subgroup this could be an interesting finding for future research. Therefore, to do an independent sample t-test, the sample is divided in two different classes.

The smaller teams of 2 and 3 will be left out at first and will later on be used to compare the findings, to see if there is a large difference between groups(2 a 3 members) and large groups(6 a 7 members). Furthermore, this separation has been made to create equal size groups that are closer to the optimal group size of groups between the 5 and 8 members (Institute of management accountants, 1994). The reason for this is that this will give an equal sample, meaning that there will be six teams in group one(teams with 4 or 5 members) and six teams in group two(teams with 6 or 7 members). The independent sample t-tests for team size and relational conflict show that there is no significant difference (Rel = 0.454, size = 0.252) between the two classes, meaning that both classes are not significantly different from each other. This means that there is no difference in the level of normal distributions. If the smallest groups are compared to the largest groups it becomes clear that there is also no significant difference between the two groups (Rel = 0.85, size = 0.353), meaning that the two constructs are not normally distributed, even when divided in sub groups.

The second assumption that needs to be satisfied is that the data needs to be homoscedastic. Homoscedasticity means that at each level of the predictor variable, the variance of the residual terms should be constant. This just means that the residuals at each level of the predictor should have the same variance (Field, 2009). With this in mind the homoscedasticity test was done, to be more precise the Levine's test was used to assess the level of homoscedasticity. Additionally, a significant score($X < 0.05$) of the Levene's test means that the construct is heteroskedastic. The results of the test can be seen in Table 4: Results MLwiN assumptions. As has been noted, except the construct team size all constructs are homoscedastic.

The third assumption that needs to be satisfied to use the multilevel analysis is that the constructs have to be linear itself. To test this linearity an F-test was performed by doing an one way Anova test. The constructs are linear if the F-test is not significant, therefore, all things considered it can be concluded that all constructs are linear except collaboration. However, the construct will be used as linear because of the small sample size.

All things considered, it becomes clear that not every construct satisfies all assumptions for the multilevel analysis. After all, the constructs relational conflict and team size are not normally distributed, whereas, the construct team size is also heteroscedastic instead of homoscedastic and In addition the construct collaboration is not linear. Under these circumstances, it would be expected that this data set cannot be used for multilevel analysis. However, it is important that the dependent variables fulfil the set assumptions, which is the fact for this data set. For this reason, the whole data set can be used for analysis.

Construct	K.S. test	Homoscedasticity test	F-Test
Relational conflict	.00	.60	.77
Task conflict	.15	.86	.92
Process conflict	.15	.22	.87
Communication	.72	.13	.65
Team size	.04	.03	.44
Collaboration	.93	.81	.03
Functional Diversity	.13		
Need for cognition	.26	.53	.48
Team performance	.45	.91	.70
Team cohesion	.93	.48	.20
Working pressure	.14	.06	.09

Chapter 4 Results

4.1 Descriptive statistics

Under those circumstances sketched in chapter 3.4 the dataset can be used for the analysis. Therefore, descriptive analysis was done, which can be seen in Table 5:Descriptive statistics correlation matrix Individual level and Table 6:Descriptive statistics correlation matrix aggregated team level. These figures show the means, standard deviations, the correlations between constructs and the level of significance of these constructs. As can be seen in both tables, several different constructs are strongly and significantly correlated with each other on the individual level as well as the team level. Other constructs show less correlation or no significance. For example, as can be seen, functional diversity was not significantly correlated to team cohesion(r= .012 ,P > 0.1) on the individual level, the same counts for the team level(r=-. 071, p > 0.05). All things considered this gives a weak foundation for the hypothesis 1. However, whereas, team cohesion and team performance are significantly correlated to each other on the individual level(r = .468, p < 0.01), likewise the same trend can be seen on the team level were team cohesion and team performance strongly significantly correlate (r = .652, p < 0.05).Generally speaking, this findings give a strong hint for a positive outcome for hypothesis 2. In summary, the three different types of conflicts all negatively correlated with the construct team cohesion on the individual level as well as the team level. As has been noted, relational conflicts are not significantly correlated on the individual level(r= -.191, p > 0.1) with team cohesion, whereas an trend can be seen on the team level(r= -.519, p < 0.1). By the same token, task conflicts and process conflicts are significantly correlated on the individual level (process conflict r= -.241, p < 0.05; task conflict r= -.245, p < 0.05). Moreover, similarly, both constructs are also negatively significantly correlated with team cohesion ($r_{task\ conflicts}$= -.674, p < 0.01; $r_{process\ conflicts}$= -.655, p < 0.05). This gives did not a strong indication for a possible positive foundation for hypothesis 3, 4 and 5. Furthermore, communication was negatively non-significantly correlated to team cohesion on the individual level(r = -.114, P > 0.1), however, on the team level communication has a positive significant correlation with the construct team cohesion(r = -.640, p < 0.05). Therefore, on the individual level there is a possible weak foundation for the hypothesis 6, in addition, there is a possible strong foundation for hypothesis 6 on team level. Similarly, there is a weak non-significant correlation between collaboration and team cohesion on the individual level(r = .0095, P > 0.1). Likewise, the same trend can be seen on the team level where collaboration is not significantly correlated with team cohesion (r = 0.254, P > 0.1). Given these points, a weak possible foundation was found for hypothesis 7.In addition, the correlation between team cohesion and team size is non significantly correlated on the individual level(r = -.133 p, P > 0.1). Although, team size is negatively significantly correlated with team cohesion on the team level (r = -.565 , P < 0.05). Altogether, this means that there is a potential possible foundation for hypothesis 8. On the other hand, team cohesion is not significant correlated with need for cognition(r_{Nfc} = -.136 p, P > 0.1). Moreover, the same trend can be seen on the team level for the construct need for cognition (r_{Nfc} = -.152 p, P > 0.1). Be that as it may, it gives an average foundation for hypothesis 9. In addition, team cohesion has a significant correlation with goal accomplishment on the individual level(r = .474, p < 0.01), the same trend can be seen on the aggregated team level (r = .820, p < 0.01). In summary, this gives a strong possible foundation for hypothesis 10.

Table 5:Descriptive statistics correlation matrix Individual level

		M(sd)	1	2	3	4	5	6	7	8	9	10	11	12
1	Functional diversity	6.77(1.08)												
2	Relational conflict	1.36(0.45)	-0.031											
3	Task conflict	1.67(0.61)	0.079	.498*										
4	Process conflict	1.72(0.59)	-0.09	.618*	.773*									
5	Communication	2.58(0.59)	0.087	.257**	.296**	.269**								
6	Team Size	1.23(1.33)	-0.07	0.124	.312*	.285**	.210***							
7	Need for cognition	0.036(0.65)	.242**	0.091	-.025	0.036	-0.069	.208***						
8	Working pressure	3.00(0.94)	0.128	0.070	-.037	-0.040	-.218***	.210***	.268**					
9	Team cohesion	4.32(0.81)	0.012	-0.191	-.245**	-.241**	-.114	-.133	-.136	.345*				
10	Collaboration	3.36(0.62)	0.228***	0.158*	.118	0.039	-.006	000	0.072	.258**	0.095			
11	Team performance	5.63(0.89)	0.118	-.240**	-.210***	-.160	0.015	0.072	.151	.191	.468*	0.053		
12	Goal accomplishment	5.81(0.93)	0.116	-0.312*	-0.226***	-0.199***	-0.03	0.032	0.252**	0.188	0.474*	0.047	0.903*	

Note. N=69; Pearson Correlation (2-tailed); ***p < 0.1; **p < .05; *p < .01.

Table 6:Descriptive statistics correlation matrix aggregated team level

		M(sd)	1	2	3	4	5	6	7	8	9	10	11	12
1	Functional diversity	6.77(1.08)												
2	Relational conflict	1.36(0.45)	-.0019											
3	Task conflict	1.67(0.61)	.126	.706*										
4	Process conflict	1.72(0.59)	-.124	.718*	.818*									
5	Communication	2.58(0.59)	.307	.281	.288	.311								
6	Team Size	1.23(1.33)	-.185	0.197	.338	.217	..560**							
7	Need for cognition	0.036(0.65)	.766*	0.003	.093	.141	.390	-.112						
8	Working pressure	3.00(0.94)	.196	-.302	-.484***	-.551**	-.580**	-.419	.050					
9	Team cohesion	4.32(0.81)	-.071	-0.519***	-.674*	-.655**	-.640**	-.565**	-.152	.759*				
10	Collaboration	3.36(0.62)	..321	0.011	-.242	-.410	-.062	-.144	.117	.410	.254			
11	Team performance	5.63(0.89)	.112	-.230	-.281	-.417	-.390	-.433	-.228	.346	.652**	.268		
12	Goal accomplishment	5.81(0.93)	.154	-.363	-.448	-.501***	-.433	-.478***	-.006	.529***	.820*	.269	.908*	

Note. N=14; Pearson Correlation (2-tailed); ***p < 0.1; **p < .05; *p < .01.

4.2 Testing the hypotheses

4.2.1 The main effects

Hypothesis 1 stated that functional diversity (within cross-functional teams) has a negative effect on the level of team cohesion. As can be seen in Table 7, consistent with the correlation matrices results, there was no significant relationship evidenced between functional diversity and team cohesion(Estimate= 0.002, P > 0.1,). Furthermore, table 7 shows that functional diversity has no negative effect on the level of team cohesion. In contrast, functional diversity has a small positive effect on the level of team cohesion, which is the opposite effect of the proposed hypothesis. All things considered, the results of the analysis show that this hypothesis can be rejected.

Table 7: Main relationship between functional diversity and team cohesion

	Estimate	SE	Z	P
Constant	4.35	0.12	35.08	0
Functional diversity	0.002	0.11	0.19	0.85

Dependent variable: Team cohesion   Independent variable: Functional diversity

Hypothesis 2 stated that high levels of team cohesion within functional diverse cross-functional teams will enhance the team performance of the team. As can be seen in Table 8, consistent with the correlation matrices results, there was a significant relationship evidenced between team cohesion and team performance (Estimate = 0.50, P < 0.01). The results show that team cohesion has a strong positive effect on the level of team cohesion, in other words higher levels of team cohesion will lead to higher levels of team performance. This is in line with the proposed hypothesis, therefore, equally important, hypothesis 2 can be justified.

Table 8: Main relationship between team cohesion and team performance

	Estimate	SE	Z	P
Constant	5.65	0.11	51.36364	0
Team cohesion	0.5	0.119	4.201681	0.000027

Dependent variable: Team performance   Independent variable: Team cohesion

4.2.2 The moderators

Hypothesis 3 stated that task conflicts reduce the negative effect of cross-functional teams on team cohesion. As can be seen in Table 9 a trend was observed between task conflicts and team cohesion. Additionally, task conflicts when directly related to team cohesion will have a negative effect on the level of team cohesion(Estimate = -0.25, P < 0.15). As a result, task conflicts will decrease the level of team cohesion. By the same token, the interaction between functional diversity and task conflicts was not significantly related to the level of team cohesion (Estimate= -0.054, P > 0.1,).

In summary, the results show that the interaction between functional diversity and task conflicts will reduce the level of team cohesion, which is the opposite outcome of the hypothesis. However, this interaction is not significantly related to the level of team cohesion . Therefore, based on the results in table 5, hypothesis 3 will be rejected.

Table 9: The effect of functional diversity regarding task conflicts on the level of team cohesion

	Estimate	SE	Z	P
Constant	4.35	0.11	38.16	0
Functional diversity	0.019	0.10	0.19	0.85
Task conflicts	-0.25	0.15	-1.62	0.10
Interaction	-0.054	0.13	-0.42	0.34

Dependent variable: Team cohesion   Independent variable: Functional diversity

Hypothesis 4 stated that relational conflicts strengthen/enhance the negative effect of cross-functional teams on team cohesion. As can be seen in Table 10, no significant relationship was observed between relational conflicts and team cohesion. In essence, relational conflicts when directly related to team cohesion will have a negative effect on the level of team cohesion (Estimate = -0.24, P > 0.10). However, the interaction between functional diversity and relational conflicts was not significantly related to team cohesion (Estimate = 0.096, P > 0.1). The results show that the contradistinction of the hypothesis has been found. In contrast, relational conflicts have a slight positive effect on the level of team cohesion. To be more specific, this would mean that higher levels of relational conflicts will lead to higher level of team cohesion. Nevertheless, the interaction between functional diversity and relational conflicts was not significantly related to team cohesion, likewise, hypothesis 4 will be rejected .

Table 10:The effect of functional diversity regarding relational conflicts on the level of team cohesion

	Estimate	SE	Z	P
Constant	4.35	0.12	37.83	0
Functional diversity	0.001	0.10	0.01	0.99
Relational conflicts	-0.243	0.21	-1.16	0.25
Interaction	0.096	0.22	0.44	0.66

Dependent variable: Team cohesion   Independent variable: Functional diversity

Hypothesis 5 stated that process conflicts strengthen/enhance the negative effect of cross-functional teams on team cohesion. As can be seen in Table 11, a trend was observed between process conflicts and team cohesion. Additionally, process conflicts when directly related to team cohesion will have a negative effect on the level of team cohesion(Estimate = -0.25, P < 0.15). The results show that process conflicts will decrease the level of team cohesion. Likewise, the interaction between functional diversity and process conflicts was not significantly related to team cohesion(Estimate = -0.145, P > 0.1). In addition, the results are in line with the proposed hypothesis, meaning that process conflicts will decrease the level of team cohesion. However, the relationship is not significantly correlated, even though, the direction of the moderator is correct. Likewise, hypothesis 5 will be rejected.

Table 11:The effect of functional diversity regarding process conflicts on the level of team cohesion

	Estimate	SE	Z	P
Constant	4.35	0.12	37.5	0
Functional diversity	0.003	0.10	0.03	0.97
Process conflicts	-0.25	0.16	-1.56	0.12
Interaction	-0.145	0.14	-1.03	0.30

Dependent variable: Team cohesion   Independent variable: Functional diversity

Hypothesis 6 stated that High levels of Informal internal communication will weaken the negative relationship between functional diversity within cross-functional teams and team cohesion. As can be seen in Table 12, no significant relationship was observed between communication and team cohesion. In essence, communication when directly related to team cohesion will have a slightly negative effect on the level of team cohesion (Estimate = -0.077, P > 0.10). Furthermore, the interaction between functional diversity and communication was not significantly related to team cohesion (Estimate = 0.052, P > 0.1), even though it would had a positive effect on the level of team cohesion. Therefore, in summary, hypothesis 6 will be rejected, due to the absence of an interaction between functional diversity and communication that was significantly related to team cohesion.

Table 12: The effect of functional diversity regarding communication on the level of team cohesion

	Estimate	SE	Z	P
Constant	4.35	0.12	37.18	0
Functional diversity	0.005	0.10	0.049	0.96
Communication	-0.077	0.12	-0.63	0.53
Interaction	0.052	0.10	0.50	0.62

Dependent variable: Team cohesion   Independent variable: Functional diversity

Hypothesis 7 stated that High levels of collaboration within cross functional teams will weaken the negative relationship between functional diversity within cross-functional teams and team cohesion. As can be seen in Table 13, no significant relationship was observed between collaboration and team cohesion. In essence, collaboration when directly related to team cohesion will have a positive effect on the level of team cohesion (Estimate = 0.115, P > 0.10). In addition, the interaction between functional diversity and collaboration was not significantly related to team cohesion (Estimate = -0.232, P > 0.1). The direction of the interaction is the opposite of the proposed effect of hypothesis 7. Therefore, hypothesis 7 will be rejected, due to the direction and the absence of an interaction between functional diversity and collaboration that was significantly related to team cohesion

Table 13:The effect of functional diversity regarding collaboration on the level of team cohesion

	Estimate	SE	Z	P
Constant	4.35	0.124	35.08065	0
Functional diversity	-0.012	0.107	-0.11215	0.91
Collaboration	0.115	0.156	0.737179	0.46
Interaction	-0.232	0.172	-1.34884	0.18

Dependent variable: Team cohesion   Independent variable: Functional diversity

Hypothesis 8 stated that team size (5-8 members) weakens the negative relationship between cross-functional teams with functional diversity and team cohesion such that effectiveness will be improved. As can be seen in Table 14, no significant relationship was observed between team size and team cohesion. In essence, team size when directly related to team cohesion will have a negative effect on the level of team cohesion (Estimate = -0.061, P > 0.10). However, the interaction between functional diversity and team size was significantly related to team cohesion (Estimate = 0.168, P < 0.01). The results show that the interaction between functional diversity and team size will have a positive effect on the level of team cohesion, meaning that the team cohesion will increase. In addition, the interaction between functional diversity, teams size and its effect on team cohesion was visualized in Figure 5, to get a better understanding of the interaction. In summary, functional diversity is positively related to team cohesion when team size is high and unrelated when team size is low. This is in line with hypothesis 8, because the largest team in the dataset consist out of 7 employees, which is within the optimal team size(5-8 members) proposed by the institute of management accountants(1994). Therefore, these arguments are in support of hypothesis 8 and therefore it will be accepted.

Table 14: The effect of functional diversity regarding team size on the level of team cohesion

	Estimate	SE	Z	P
Constant	4.35	0.11	38.16	0
Functional diversity	-0.044	0.10	-0.44	0.66
Team size	-0.061	0.07	-0.90	0.37
Interaction	0.168	0.06	2.85	0.0044

Dependent variable: Team cohesion   Independent variable: Functional diversity
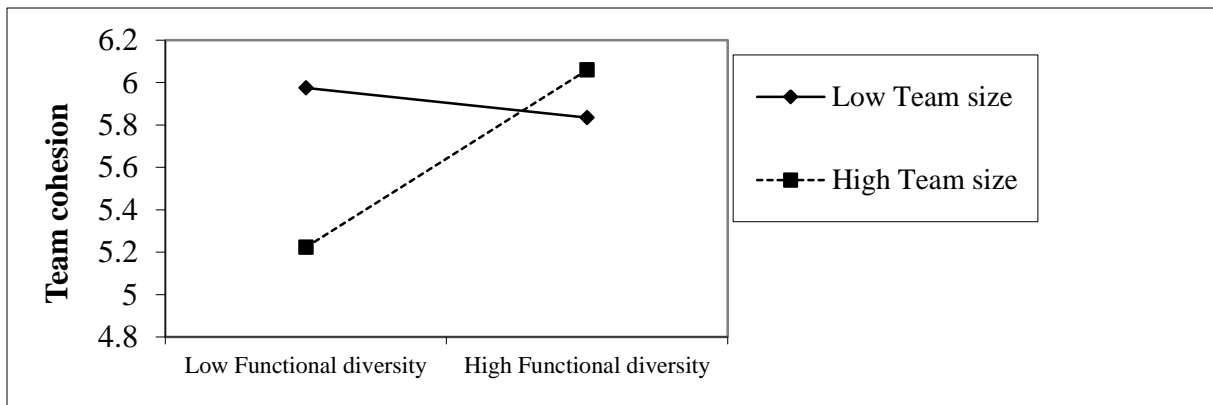
Figure 4: The effect of team size as a moderator on the relationship of functional diversity and team cohesion

Hypothesis 9 stated that Team involvement and personal development of team members will weaken the negative relationship between functional diversity within cross-functional teams and team cohesion. As can be seen in Table 15, no significant relationship was observed between need for cognition and team cohesion. In summary, need for cognition when directly related to team cohesion will have a negative effect on the level of team cohesion (Estimate = -0.164, P > 0.10). However, the interaction between functional diversity and need for cognition was significantly related to team cohesion (Estimate = 0.291, P < 0.01). The results show that the interaction between functional diversity and need for cognition will have a positive effect on the level of team cohesion, meaning that it will enhance the level of team cohesion. In addition, the interaction between functional diversity, need for cognition and its effect on team cohesion was visualized in Figure 6. In essence, functional diversity is positively related to team cohesion when need for cognition is high and negatively related when need for cognition is low. This is in line with hypothesis 9, in which is stated that team involvement and personal development will weaken the negative effect of functional diversity on team cohesion. To summarize, there has been found support for hypothesis 9, the significant relationships and figure 9 support the hypothesis, therefore it will not be rejected.

Table 15: The effect of functional diversity regarding need for cognition on the level of team cohesion

	Estimate	SE	Z	P
Constant	4.35	0.13	34.80	0
Functional diversity	0.041	0.11	0.39	0.7
Need for cognition	-0.164	0.13	-1.23	0.22
Interaction	0.291	0.11	2.67	0.0076

Dependent variable: Team cohesion   Independent variable: Functional diversity
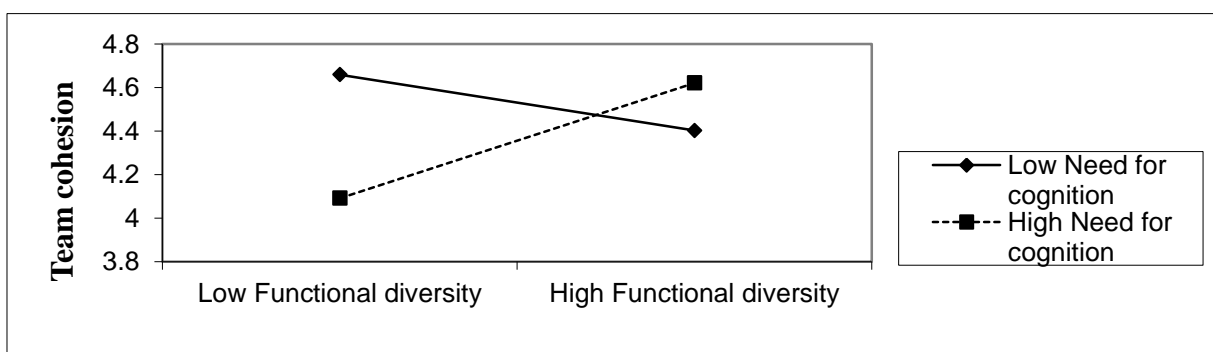

Figure 5: The effect of need for cognition as a moderator on the relationship of functional diversity and team cohesion

Hypothesis 10 stated that Team cohesion within cross-functional teams with functional diversity will enhance the team effectiveness and efficiency. As can be seen in Table 16, a significant relationship was observed between team cohesion and goal accomplishment (Estimate = 0.544, P < 0.01). The results show that team cohesion has a strongly positive significant effect on the level of goal accomplishment. Meaning that cohesive teams are better able to achieve their goal, in other words that the effectiveness and efficiency of this teams are likely to improve. The highly significant correlation between these two constructs means that there is a strong relationship between the two constructs. This is in line with the hypothesis, meaning that the result support the proposed relationship. Therefore, hypothesis 10 is justified.

Table 16:The effect of team cohesion on the level of goal accomplishment

	Estimate	SE	Z	P
Constant	3.00	0.54	6.41	0
Team cohesion	0.544	0.12	4.39	0.000011

Dependent variable: Goal accomplishment   Independent variable: Team cohesion

4.3 Additional analysis

After testing all hypotheses another effect was observed during the distribution of the questionnaires. Moreover, this effect was seen in the identical way on the different departments. It seems to be that the team performance decreased when the level of working pressure increased. This means that teams were not able to deliver the needed quality and did not follow every procedure in this stress situation to avoid time loss. Likewise, the performance of this team fell down. Therefore, it can be expected that team performance will decrease when there are high levels of working pressure. As can be seen in Table 17, no significant relationship was observed between work pressure and team performance. In summary, work pressure when directly related to team cohesion will have a positive effect on the level of team performance (Estimate = 0.058, P > 0.10). However, the interaction between team cohesion and work pressure was significantly related to team performance(Estimate = -0.347, P < 0.01). The results show that the interaction between team cohesion and work pressure has a negative effect on the level of team performance, meaning that it decrease the level of team performance. Furthermore, the interaction between team cohesion and work pressure and its effect on team performance was visualized in Figure 7. In essence, Figure 7 shows that team cohesion is positively related to team performance when work pressure is low and unrelated when work pressure is high.

Table 17: The effect of team cohesion regarding work pressure on the level of team performance

	Estimate	SE	Z	P
Constant	5.64	0.01	57.55	0
Team cohesion	0.489	0.12	4.14	0.000034
Work pressure	0.058	0.11	0.52	0.6
Interaction	-0.347	0.12	-2.82	0.0048

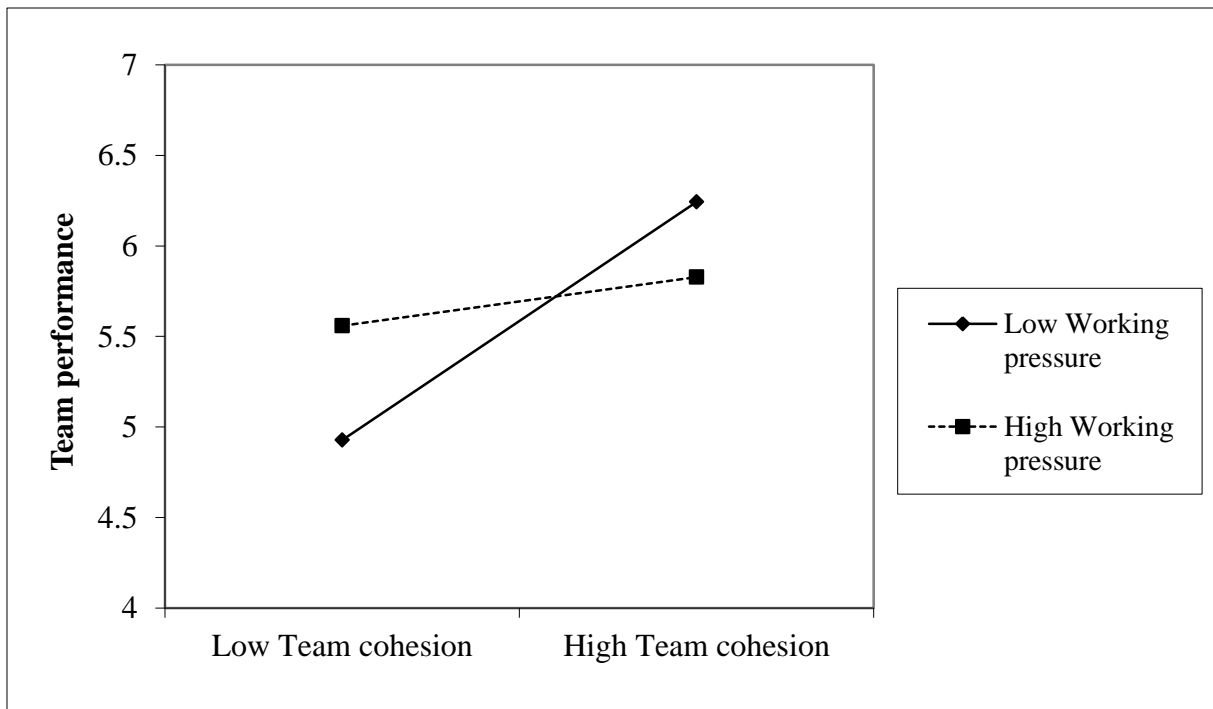Dependent variable: Team performance   Independent variable: Team cohesion

Figure 6: The effect of working pressure as a moderator on the relationship of team cohesion and team performance

Chapter 5 Conclusion and recommendations

5.1 Conclusion

The main focus of this thesis was to examine the effect of functional diversity within teams on the level of team cohesion and team performance. Moreover, in which way several moderators would influence this relationship for the better or worse. All things considered, the analysis shows that functional diversity has a non-significant direct effect on the level of team cohesion. Whereas, this is in contrary with Bunderson & Sutcliffe (2002) and Bantal (1993) who proposed that functional diversity would have a positive effect on the level of team cohesion. Likewise, the outcome of this thesis is also in contrary with Keller (2001) and Sethi, Smith, & Park (2001) who state that functional diversity will have a negative effect on the level of team cohesion. This result shows that the structure of the team, the way it is built-up, does not make that much difference for the level of team cohesion for these task-related work teams, without the interference of moderators. Meaning that the composition of the team is of less importance for the level of team cohesion of these teams when looking to the direct relationship between functional diversity and team cohesion. Additionally, the multilevel analysis showed that the construct of team cohesion is positively significantly related with the level of team performance. This results reinforce the findings of Tekleab, Quigley, & Tesluk(2009) who state that team cohesion will improve the level of efficiency and effectiveness, and, therefore the level of team performance. Equally important, other significant correlated relationships were found during the analysis. Team size postively moderates the relationship between functional diversity and team cohesion, meaning that the right team size increases the level of team cohesion. In addition, need for cognition also positvely moderates the relationship between functional diversity and team cohesion. And, in like manner, working pressure moderate the relationship between team cohesion and team performance. Likewise, these findings will be elaborate on in the following chapter.

The first major finding is that functional diversity has no direct influence on the level of team cohesion for task-related work teams. The analysis showed that there was no significant negative relationship between functional diversity (measured in terms of level of education and specialization) and team cohesion (Measured in terms of team cohesion, team identification and psychological safety). This is in opposition to Keller (2001) who state that team members most of the time find it hard to work with people who have another view on challenges (Keller, 2001). In addition, Keller(2001) stated that team members with the same functional background will cluster within functional diverse teams. This will lead to polarisation within the team which will make the decision making process more complicated. However, this outcome is applicable for this specific branch. This is because the team members all have their specific task, altogether these tasks will complete the job. Therefore, it can be expected that functional diversity has less effect on the level of team cohesion. Because, the only interaction which the team members have is when they hand over their work to the next in the chain. Generally speaking, the team members do not often have to think together to come to an solution to fix the job. Under these circumstances, this means that team members with different interpretations to perform the job will not often colide with each other. Due to the absence of this situations. Furthermore, the task are clearly described meaning that there is less space for another interpretation, the task can only be done in a certain way, which leads to completing the job.

Again, due to this restriction and the nature of the work, functional diversity has not got an negative effect on the level of team cohesion.

The second major result is that team cohesion is positively significantly related to the level of team performance(measured in terms of team effectiveness and efficiency). This finding reinforces the work of Teklaeb *et al*(2009) who stated that team effectiveness and efficiency are postively affected by the level of team cohesion. The analysis shows a strong postive relationship between the two constructs, meaning that higher levels of team cohesion will lead to a more effective and efficient team. Likewise, the results of the analysis are in line with the work of the institute of management accountants(1994), Beal *et al*(2003) and Senior(1997). In all three articles is stated that cross-functional teams consist of people who all have a shared vision; team members within cross-functional teams share leadership roles and are role flexible. Also, the members of the team have both individual and mutual accountability, however all team members are responsible for the collective team performance. The characteristics mentioned above will stand or fall with the presence of a strong team feeling, in other words team cohesion and commitment. This is only possible if there is consensus within the team. When these findings are translated to the situation within the company, evidence can be seen. Within the teams is consensus over the set goal, for example an airplane has to be unloaded and loaded within two hours. The team members all have the same goal, doing their specific task, in other words work as hard as needed to fulfil the goal. Furthermore, due to their individual and mutual accountability a feeling of cohesiveness can be experienced. The separate members have to work together to complete the job. Being cohesive is the basis for being able to perform the overall task.

The third major result is that functional diversity is positively related to team cohesion when team size is high and unrelated when team size is low. This means that a large team size positively moderates the relationship between functional diversity and team cohesion. Within this research sample, the smallest team consisted out of 2 members, whereas, the largest team was built-up out of 7 members. The analysis showed that functional diverse teams profit from being the right size. To be more specific teams with an optimal size(between the 5 – 8 members) seems to be more cohesive than smaller (Institute of management accountants, 1994). In addition, the analysis showed that larger teams (For this sample teams with 6 or 7 members) are more cohesive than functional diverse smaller teams. However, a limitation for this part of the analysis is that there were no teams with a larger group size, therefore, it cannot be said what the effect would have been of teams with more than 8 members (Institute of management accountants, 1994). With this in mind, it can be expected that based on the size of the used teams, the optimal team size does have a positive effect on the level of team cohesion. This results sound reasonable, for the reason that if the team is too small, teams are not effective because most of the times teams do not have to strength to pull of the work. Teams existing out 5 till 8 persons are equipped with the knowledge and men strength to perform their tasks. Furthermore, the members will feel part of the team, due to the individual and mutual accountability. Following the Mullen & Copper (1994) larger teams tend to be less cohesive due to the absence of feeling part of the group. In addition, the practice shows that too large teams are less cohesive, because they know that the work will be finished on time and members tend to be less motivated, members will easier think that other people will do their work if they do not work. Smaller teams are less cohesive, because they tend to have the feeling that the work will without a

doubt not be finished on time and likewise that it does not make sense to work as a team because the damage has already been done.

The fourth major result is that functional diversity is positively related to team cohesion when need for cognition is high and negatively related when need for cognition is low.
This reinforces the view of the Institute of management accountants (1994) who stated that by being on a team an individual is placed out of his/her comfort zone and has to adapt to new situations. In addition, by working with people with a different functional background individuals will learn new competencies from others and can use this knowledge later on in their career. Furthermore, individuals seek for a sense of community and an atmosphere of tolerance and openness, working cooperatively with different kinds of people to achieve team goals. Due to the fact that members who are in need of cognition want to learn new things they are open to experience and wanting to collaborate with others. Therefore, being more cohesive will result in mutual profit. Within the observed teams a high level of need of cognition was found, meaning that the individuals in the team want to learn new things and therefore are likely to demonstrate the just explained behavior. This also explains the reason why individuals with a high level of need for cognition want to be involved in teams.

The fifth major result is that team cohesion is positively related to team performance when work pressure is low and unrelated when work pressure is high. Meaning that team performance will increase when the level of work pressure is low. During observations of the teams this phenomenon was seen often. After testing this relationship it became clear that the team performance of high cohesive teams was beter when the teams experienced less working pressure. Whereas, low cohesive teams worked better when they experienced high working pressure. The results show a logical outcome, less cohesive teams will not feel any urge to perform together when there is low pressure on their performance, this will change when they have to perform, in other words when there is put pressure on their performance.The analysis showed that the observed teams all have a high level of team cohesion, meaning that their team performance will suffer from high levels of working pressure.

In contrast, there were also several non-significant findings during the analysis of the data, however these findings can also give a clew about interesting trends. This part will describe the effect of these constructs.
First, based on the literature review, it was proposed that the three types of conflict would negatively effect the relationship between functional diversity and the level of team cohesion. Bunderson & Sutcliffe(2002) stated that empirical research indicates that functional diversity within teams can increase conflicts. However, based on the data obtained it becomes clear that the conflicts were not significantly negatively correlated with the level of team cohesion. Likewise, there was no evidence found for the proposed hypothesises, therefore, the proposed effects cannot be confirmed. Nevertheless, these finding can partly be explained by the type of work done by the respondents. The work done by the employees are small specific tasks that can be done in one certain way and most of the time does not need any interaction with colleagues until the work progress into the next phase of the work, for example bringing the pallets to the airside and put them on dollies, were someone else will pick up the pallet of the dolly and bring it to the plane. With this in mind, given that there is one certain way to perform the job and the absence of frequent interaction with

collegues this explains why less conflicts are experienced and therefore have no significant effect on the level of team cohesion.

Second, based on the literature review it was proposed that high levels of internal communication and collaboration would weaken the negative relationship between functional diversity and team cohesion. The analysis showed that communication when directly related to team cohesion would have an negative effect on the level of team cohesion. Although, the interaction between functional diversity and communication had a positive effect on the level of team cohesion, however it was not significantly related to team cohesion.

Whereas, low functional diverse teams profit from less communication to enhance their level of team cohesion. Furthermore, the analysis showed that collaboration when directly reslted to team cohesion would have an positive effect on the level of team cohesion. Although, the interaction between functional diversity and collaboration was not significantly related to team cohesion. Therefore, the results were in favour of the proposed hypothesis, however, there was no significant relationships found. In other words the proposed effects cannot be confirmed.

5.2 Theoretical implications

The main purpose of this study was to explore the effect functional diversity would have on the level of team cohesion and team performance. This interest in this subject resulted in an in depth research to reveal this effect. Most literature described two interactions, the effect of functional diversity on team performance and the effect of team cohesion on the level of team performance. However, the combination of these three constructs has not been researched that often. The existing literature proposed that functional diversity would weaken the level of team cohesion, whereas tema cohesion would enhance the level of team performance. For example, Daily (1977) and Kozlowski *et al*(2000) describe the effect of cohesiveness on the level of team performance. Whereas, Jehn et al (1999) and Senior (1997)describe the effect of diversity on team performanceTherefore, the contribution of this research towards the existing literature can be seen as follows.

This research has investigated the effect functional diversity has on the level of team cohesion for task-oriented work. As has been noted, no significant relationship was evidenced between functional diversity and team cohesion. Generally speaking, functional diversity will not influence the level of team cohesion for task-related work teams in a direct way. Which is different from what Daily(1977) and Kozlowski et al(2000) found. The reason for this is because the work has been brought back to small specific tasks, for example bringing the pallets to the airside, loading the pallets from the dollys to the loaders or positioning the pallets from the loader on the desired place in the aircraft. This means that the only interaction with the team members is one of the team members fulfills his/her task and gives the job through to the next fase in the chain. Given these points, the team members do not often have to think together to come to an solution to fix the job. Under these circumstances, this means that team members with different interpretations to perform the job will not often colide with each other. Due to the absence of this situations. Furthermore, the task are clearly described meaning that there is less space for another interpretation, the task can only be done in a certain way, which leads to completing the job. In addition, the way of working within the branch in schiphol is very concervative, meaning that new ideas are most of the time received with a lot of scepticism. Under those circumstances it can be summarized that functional diversity has no effect on the level of team cohesion. Meaning that managers will not have to take the functional diversity in account when making the team compositions for task-oriented working teams.

However, the task-oriented way of working also explains the reason why conflicts will not have effect on the level of team cohesion. As earlier explained employees experience less interaction with each other during work and the task are predefined. Meaning that they will experience less process conflicts, because there is only one way to perform their work. Furthermore, although all members perform different tasks during the handling of the cargo, they all have the same goal. Therefore, the employees will experience less process conflicts, because they all have the same interest. To summarize, task and process conflicts will not have effect on the level of team cohesion for task-oriented teams, due to the way the work is executed.

Secondly, the relationship between the constructs team cohesion and team performance has been analysed. The research reinforces the proposed effects of team cohesion on the level of team performance of Senior(1997), who stated that team cohesion will have an postive effect on the team performance. Team cohesion will stimulate teams to performane better. Furthermore, the results of Tekleab et al(2009) are reinforced, the analysis showed that team cohesion will also has an postive effect on team effectiveness and efficiency. In summary, the analysis reinforces the literature found. Cohesive teams seems to perform better than non-cohesive teams, therefore, increasing the level of team cohesion will be of profit for teams who make use of the task-oriented way of working. In addition, based on the fact that functional diversity has not got a direct effect on the level of team cohesion team managers can easier compose teams for task-oriented work.

Thirdly, several moderators were tested to see how they influenced the relationship between functional diversity and team cohesion. Out of the set of seven moderators, three were found to have a significant moderating effect on the main relationships. Need for cognition and team size influence the relationships between functional diversity and team cohesion in such a way that the level of team cohesion increased. On the other hand, work pressure negatively moderates the relationship between team cohesion and team performance.
Need for cognition was described as an feeling or urge that has been inside people to learn new things (Cacioppo, Petty, & Kao, 1984). The analyis showed that need for cognition when directly related to team cohesion has a negative effect on the level of team cohesion. Meaning that need for cognition would reduce the level of team cohesion. However, the interaction between functional diversity and need for cognition was significantly related to team cohesion. In other words, need for cognition moderates the relationship between functional diversity and team cohesion, resulting in an increase of the level of team cohesion. The mechanism behind this moderation can be seen as follows. Individuals who experience high levels of need for cognition are open to experience, this is because they know that they have to interact with others to obtain new information and knowledge. This interaction can be seen as mutalism, because the team members know they can learn from each other, and, therefore will be more cohesive to profit from these opportunities. Especially, functional diverse teams in high need for will demostrate this behavior. This reinforces they view of the institute of management accountants(1994) who state that individuals seek for a sense of community and an atmosphere of tolerance and openness, working cooperatively with different kinds of people to achieve team goals (Institute of management accountants, 1994).

In addition, the analyis showed that team size when directly related to team cohesion will have a negative effect on the level of team cohesion. Meaning that team size would negatively influence the level of team cohesion. This is partly true, following the institute of management accountants(1994) who state that teams will perform best when they consist out of 5 till 8 members. In this composition, team members feel the urge to collaborate, because this will lead to successfully finishing their task. Whereas to large teams tend to be less cohesive, due to the fact that members know that the work will be finished. In addition, they have the feeling that their team members will make up for their lack of work input. Whereas, small teams tend to be less cohesive, because they think it is an hopeless situation and therefore cannot finish their work.

On the other hand, the interaction between functional diversity and team size was significantly related to team cohesion. In addition, team cohesion is positively related to functional diversity when team size is high and unrelated when team size is low. This is in line with the management of accountants (1994) because the largest team in the dataset consist out of 7 employees. In other words, task-oriented functional diverse teams profit from a large team size, which makes them more cohesive. What will result in a higher team performance. Therefore, it can be concluded that there is a difference in optimal team size for functional diverse task-oriented teams and less-functional diverse task-oriented teams when it comes to the level of team cohesion.

Finally, the analysis showed no significant relationship was observed between work pressure and team performance. In summary, work pressure when directly related to team cohesion has a positive effect on the level of team performance. In other words, work pressure will increase the level of team performance. However, the interaction between team cohesion and work pressure was negatively significantly related to team performance. In essence, meaning that team cohesion is positively related to team performance when work pressure is low and unrelated when work pressure is high. Therefore, it can be concluded that functional diverse task-oriented teams flourish when experiencing low levels of work pressure.

In summary, no significant relationship was evidenced between functional diversity and team cohesion for task-oriented teams. However, the interaction between functional diversity, team size and need for cognition resulted in an increase in the level of team cohesion. Although, functional diversity itself has no direct significant effect on the construct team cohesion, in combination with team size and need for cognition it has a significant effect on team cohesion. The analysis shows that functional diversity within task-oriented teams is good for team cohesion when groups are large or when groups possess high level of need for cognition. Furthermore, team cohesion positively influences the level of team performance. However, work pressure negatively moderates this relationship. In addition, team cohesion is positively related to team performance when work pressure is low.

5.3 Limitations and future research

This research has been conducted to explore the effect of functional diversity on the level of team cohesion and team performance. dnata, one of the largest cargo handler at Amsterdam Schiphol airport was willing to facilitate the quantitative research set up, needed to perform this master thesis. Several limitations were found during the research, each with their own effect on the final result.

The first limitation of this research is that the set goal of 30 teams of respondents was not achieved. The reason that 30 teams were needed was to ensure sufficient statistical power of the results. Low levels of statistical power mean that the findings have to be interpreted with more caution. Furthermore, small samples have problems with their normal distribution, which is one of the assumptions to do a linear regression. While handing out the questionnaires different reasons were told why people did not want to fill in the questionnaire, varying from the length of the questionnaire, the fear that the integrity could not be delivered as promised and that the questionnaire was to check if they performed as the management wanted . This lack of collaboration of the employees resulted in an response rate of 25%, far below the needed 50%. The low response rate resulted in a lack of normality for two constructs within the data set. However, the analysis was still done with these two constructs to see what their effect would have been if they were normally distributed.

Secondly, the research has been done within one company in a very specific branch, which means that it is hard to generalize the findings for other companies in a different type branch. Therefore, results can only be of use for companies who also make use of task-related work. In summary, work for which a specific educational level is not needed at the beginning of the job.

Finally, due to the task-oriented nature of the work(employees will all perform small tasks that together will fulfil the job), functional diversity will not have a direct effect on the work outcome and the amount of conflicts that will appear. Likewise, difference in functional diversity will not make much difference during the performance of these tasks. However, due to the fact that the observed teams were of a task-oriented nature, the results are only interesting for these type of teams. Therefore, it would be interesting to see if functional diversity will have an negative effect on the level of team cohesion for teams who are more free in the way of performing their work.

5.4 Recommendations for dnata

The following findings can be used by the company to maintain their current strong points and gradually improve their strength on other points. These findings of the study can be used for the organizational context.

As explained within the thesis the organization can be divided into four groups. On landside the work can divided within the sub groups import, export and the supporting departments. On the other hand the fourth group is airside. During the observations of the teams at the different departments it became clear that the teams within each department were too much focused on their part in the chain. The departments strongly emphasis on the faults of the other departments, however, the interaction between the different departments is far from optimal at the workplace. The departments see themselves as different companies within the company and behave like that. In addition, this results in that the teams are only focused on their own part in the work chain. Likewise, the different departments do not know what is beneficial for the other departments, for example quality standards, way of building pallets or the way of transporting pallets. Due to this lack of an common interest, the departments are not working efficiently together, meaning that the work can be done better by cooperating with each other. Therefore, several steps can be taken to improve the relationship between the different departments.

First, following Bordeianu & Lubas(2013) it is important that teams have institutional support that also provides legitimacy to collaboration and gives staff the incentive to put effort into such ventures. This legitimacy is important, because it enables staff and managers from various units, who normally are not in the same reporting lines, to establish lines of authority and responsibility without interfering with the established reporting hierarchies. Collaborative teams, like any other teamwork, require clearly defined lines of authority, responsibility, and leadership.

Secondly, following Kitzinger(1994) it is important to have several focus group sessions. These sessions are intended to let several representatives of the departments discuss the current situation. During these sessions it is momentous that each department has to state what the important working conditions are for their teams, for example quality conditions, but also common fault that happen on their department, due to work of others in the chain. In addition, these points has to be written down. These are several key points which most of the time are done fine by other departments and several which most of the time went wrong and need extra attention the next time. Likewise, the representatives get more feeling for the others work and the reason why things could go wrong in the chain. It is important that each department understands the other's ''language, concepts and their frameworks for understanding the world'' (Kitzinger, 1994).

Thirdly, after this focus group session it is important that the representatives work for several days at another department to experience the challenges the other departments will encounter. To get more understanding for the work other departments do and to smoothen the collaboration between the departments. It has been claimed that to establish a shared understanding of a task and solve problems, people need to interact continuously (Hinds & Kiesler, 2002).Interaction provides cues and information about others' responsiveness and actions that can reduce uncertainty about future events. It allows members to understand the cause-and-effect relationships involved in performing the task, monitor performance and predicting the actions of others can be called group awareness. Group awareness should lead groups to be more successful (Hinds & Kiesler, 2002)
In addition, these findings have to be translated to a roadmap how departments can interact better. Even more important, teams have to communicate about the delivered work their predecessors in the work chain. Furthermore, common goals must be acknowledged and promoted. This type of environment makes for a more efficient organization and one which can adopt change more quickly.

It also creates an environment with a better morale and provides a richer professional experience for its employees (Bordeianu & Lubas, 2013).

Fourthly, once per two weeks, the representatives of the departments have to plan common meetings with each other. During these meetings the current work progress has to be exhibited. Progression has to be monitored and improvements have to be communicated.

Fifthly, to ensure the collaboration will be maintain over time, employees have to be trained to be able to do different types of work. Meaning that employees can be deployed at different departments. This will make the company more flexible, meaning that shortages of employees can be partly prevented and that employees will experience different departments. By doing so, employees will understand the whole chain and can work more effectively.

Equally important, during the observations and the interactions with the respondents their dissatisfaction about the work pressure was ventilated. Likewise, the analysis shows how work pressure negatively moderates the relationship between team cohesion and team performance. In summary, the observed problem is that the employees have a high level of perceived work pressure. Following Coetzee & de Villiers(2010) there are different reasons that will lead to perceived work pressure. Coetzee & de Villiers defines workplace stress as the conditions arising from the interaction of people and their jobs, which are characterised by changes within people that force them to deviate from their normal functioning. Stressors in the workplace are those conditions that have the potential to result in a person's experiencing a situation as stressful.

Following the Tytherleigh et al (2005) and Cartwright et al (2002)common work-related stressors are overload, which is the extent to which individuals feel that the demands of their workload and the associated time pressure are a source of pressure. Control, this is the experience that the individual has a lack of influence and consultation in the way in which work is organized and performed. Work relationships, poor or unsupportive relationships with colleagues and/ or supervisors can be a potential source of pressure. Job security, this is the extent to which lack of job security and job changes can be turned into a potential stressor. And finally, resources and communication, to perform a job effectively, individuals need to feel that they have appropriate training, equipment and resources. They also need to feel that they are adequately informed and that they are valued. During the observations several of these stressors were observed. Therefore, I want to go further in detail on four of these stressors.

Firstly, job security is one of the stressors for parts of the teams. A significant amount of the employees within the company work via an employment agency. Meaning that these employees are not sure about the amount of hours they will work each week, which depends on the level of work available at dnata. Furthermore, the former Aviapartner cargo department has been just taken over by dnata last September, in addition, the company has been gone through a reorganization quite recently. Meaning that the other employees were not surely their jobs. Coetzee & the Villiers(2010) found a negative relationship between engagement and job security. Coetzee & the Villiers(2010) state that the statistically significant negative relationship observed between vigour and the security/stability career orientation suggests that those participants who experience a high need for job security, as represented by jobs that offer benefit packages and long-term employment, appear to have lower levels of energy and seem to be less willing to invest effort in their work due to their overriding need for employment security. In summary, due to the transition from Aviapartner to dnata most of the employees are surely about their jobs, which reduced the level of work pressure. Therefore, giving employees more job security will result in more engagement towards their job and an decrease in work stress.

Secondly, as stated by the University of Cambridge(2014) a lack of appropriate training, equipment and resources will increase the level of work pressure. The equipment used within the company is getting outdated, furthermore, the former owner Aviapartner had not got the resources to take care of the maintenance. This resulted in the fact that most of the current equipment is damaged due the lack of maintenance. This lack of good equipment results in an increase in stress by the employees, because they have to perform their work with this equipment. However, dnata is busy with the replacement and restoring of the current equipment, likewise, it takes time to replace the damaged equipment. In addition by replacing the equipment throughout the company, one of the stressors will decrease. Therefore, I would recommend to improve the working equipment if possible, meaning that badly damaged material can best be replaced, whereas other equipment can be recovered and if needed new equipment can be bought.

Thirdly, cargo flights are often delayed by hours, meaning that planes who are scheduled for the morning can arrive at the evening. However, this means that the other shifts during the day have to work harder to complete their intended job and the additional work of the delayed flights too. Resulting in the fact that sometimes work has to be done with less people, resulting in more working pressure. This could be lowered, if employees are trained to work at different departments. Meaning that employees can be used more flexible. Therefore, it will be easier to get enough people to handle the delayed plane.

Fourth, and finally, the questionnaire showed that 40 percent of the employees was older than 40 years of age, for example the average age at the airside department is 48 years. Likewise, lots of employees work longer than 10 or 15 years for the same company. The advantage of this long working relationship is that employees identify themselves with the company. However, working for the same company or with the same colleagues for a long time makes it easier for people to engage in group thinking. Group thinking is a process in which people want to be so cohesive and in harmony that the decision making process suffers from this vision. Groups that use group thinking try to avoid every kind of conflict and be in consensus about every decision. The result of this is that people will always think in a certain way and that new ideas or thoughts will be put aside, just to keep the consensus in the group. Therefore, this kind of groups has problems to adapt to new situations and new ideas(Jehn et al, 1999). In addition, older employees always refer that the old days were better than the current, which is not good for the mutual atmosphere. Therefore, it is important to keep employees objective about decision making and new phenomenon. (Tytherleigh, Webb , Cooper, & Ricketts, 2005)

Bibliography

(2003, December 12). *Centre for Health Leadership questionnaire*. Glamorgan, Wales: Gwent healthcare NHS.

Bantel, K. A. (1993). Strategic clarity in banking: Role of top management team demography . *Psychological reports* , 1187-1201.

Bantel, K. A., & Jackson, S. E. (1989). Top management and innovations in banking: Does the demography of the top-management make a difference. *Strategic management journal* , 107-124.

Beal, D. J., Cohen, R. R., Burke, M. J., & McLendon, C. L. (2003). Cohesion and Performance in Groups: A Meta-Analytic Clarification of Construct Relations. *Journal of applied psychology*, 989-1004.

Blau, P. M. (1977). Inequality and Heterogeneity. *New York: Free Press.*

Bluedorn, A. C., & Jaussi, K. S. (2008). Leaders, followers, and time. *The Leadership Quarterly*, 654-668.

Bordeianu, S., & Lubas, R. (2013). Interaction between departmentsL strategies for improving interdepartmental collaboration though communication. 1-14.

Bunderson, J. S., & Sutcliffe, K. M. (2002). Comparing alternative conceptualizations of functional diversity in management teams: process and performance effects. *Academy of management journal* , 875-893.

Cacioppo, J. P., Petty, R. E., & Kao, C. F. (2007, October). *The Need for Cognition Scale*. Retrieved from Liberalarts: http://www.liberalarts.wabash.edu/ncs/

Cacioppo, J. T., Petty, R. E., & Kao, C. F. (1984). The efficient Assessment of need for cognition. *Journal of personality assessement*, 306.

Cartwright, S., & Cooper, C. L. (2002). ASSET: An Organisational Stress Screening Tool — The Management Guide. *Manchester, RCL Ltd.*

Chan, D. (1998). Functional relations among constructs in the same content domain at different levels of analysis: A typology of composition models. *Journal of Applied psychology*, 234-246.

Chrislip , D. D., & Larson, C. E. (1994). *Collaborative Leadership: How Citizens and Civic Leaders Can Make a Difference.* San Francisco: Jossey-Bass.

Coetzee, M., & de Villiers, M. (2010). Sources of job stress, work engagement and career orientations of employees in a South African financial institution. 27-57.

Daily, R. C. (1977). The effect of cohesiveness and collaboration on work groups: A theoretical model. *Group & organization studies*, 461-469.

Daspit, J., Tillman, C. J., Boyd, N. G., & Mckee, V. (2013). Cross-functional team effectiveness: An examination of internal team environment, shared leadership, and cohesion influences. *Team performance management*, 34-56.

de Dreu, C. K., & Weingart, L. R. (2003). Task Versus Relationship Conflict, Team Performance, and Team Member Satisfaction: A Meta-Analysis. *Journal of applied psychology*, 741-749.

de Dreu, C. K., Bechtoldt, M. N., & Nijstad, B. A. (2009). Diversity and the creative capacity of organisations and teams. *Position Article Research Task 3.2 on SustainableDevelopment in a Diverse World*, 1-26.

Denilson, D. R., Hart, S. L., & Kahn, J. A. (1996). From Chimneys to cross-functional teams:Developing and validating a diagnostic model. *Academy of management journal*, 1005-1023.

Dixon, M. A., & Cunningham, G. B. (2006). Data aggregation in multilevel analysis: a review of conceptual and statistical issues. *Measurement in physical education and exercise science*, 85-107.

Edmondson, A. (1999). Psychological safety and learning behavior in work teams. *Administrative science quarterly*, 350-383.

Field, A. (2009). *Discovering statistics using SPSS.* London: Sage.

Fraser, K. (2003). Functional diversity in work groups: a review and some practical suggestions.

G.S. Van der Vegt, O. J. (2003). Joint impact of interdependence and group diversity on innovation. *Journal of Management* , 729-751.

Gardner, H. K. (2010). Disagreement about the team's status hierarchy: An insidious obstacle to coordination and performance . *Havard business school*, 1-41.

Gbadamosi, G., & Ross, C. (2012). Perceived Stress and Performance Appraisal Discomfort: the Moderating Effects of Core Self-Evaluations and Gender. *Publi personnel management*, 637-652.

Gevers, J. M., & Rispens, S. (2015, march 14). Master Course: Human aspects of innovation. *Questionnaire*. Eindhoven, Noord-Brabant, the Netherlands: TU/e.

Gibson, C. B., Cooper, C. D., & Conger, J. A. (2009). Do you see what we see? The complex effects of perceptual distance between leaders and teams. *Journal of Applied Psychology*, 62-76.

Hackmann, J. R. (2009). Why teams don't work. An interview with J. Richard Hackman. *Harvard business review*, 2-8.

Hamel, C. P. (1990). Core competence of the corporation. *HBR*.

Harrison, D. A., & Klein, K. J. (2007). What is the difference? Diversity constructs as separation, variety or disparity in organizations. *Academy of management review*, 1199-1228.

Harrison, D. A., Price, K. H., & Bell, M. P. (1998). Beyond relational demography: Time and the effects of surface- and deep-level diversity on work group cohesion. *Academy of management journal*, 96-107.

Hinds, P. J., & Kiesler, S. (2002). *Distributed work.* Massachusetts institute of technology.

Hoonsopon, D., & Ruenrom, G. (2012). The Impact of Organizational Capabilities on the Development of Radical and Incremental Product Innovation and Product Innovation Performance. *Journal of Managerial Issues*, 250-267.

Institute of management accountants. (1994, September 12). *Managing cross-functional teams*. Retrieved from imanet: http://www.imanet.org/docs/default-source/thought_leadership/developing_organizational_leadership/managing-cross-functional-teams.pdf?sfvrsn=2

Isaksen, S. G. (2002). The Climate for Creativity and Change in Teams. *Creativity and innovation management*, 74-86.

James, L. R., Demaree , R. G., & Wolf, G. (1984). Estimating within-group interrater reliability with and without response bias. *Journal of applied psychology*, 85.

Janicik, G. A. (2003). Talking about time: Effects of temporal planning and time awareness norms on group coordination and performance. *Group Dynamics: Theory, Research, and Practice*, 122.

Jassawalla, A. R., & Sashittal, H. C. (1999). Building collaborative cross-functional new product teams. *The Academy of Management Executive*.

Jehn, K. A., Neale, M. A., & Northcraft, G. B. (1999). Why Differences Make a Difference: A Field Study of Diversity, Conflict, and Performance in Workgroups. *Administrative Science Quarterly*, 741-763.

Jehn, K. G. (2008). The effects of conflict types, dimensions, and emergent states on group outcomes. *Group Decision and Negotiation*, 465-495.

Kaiser, J. (2014). Dealing with Missing Values in Data. *Journal of systems integration*, 42-51.

Kearny, E. &. (2009). Managing diversity and enhancing team outcomes: The promise of transformational leadership. *Journal of Applied Psychology, ,* 77-89.

Keller, R. T. (2001). Cross-functional project groups in research and new product development: diversity, communications, job stress, and outcome. *Academy of management journal*, 547-555.

Kenneth, D. L. (2000). Group cohesion: From "field of forces" to multidimensional construct. *Group dynamics: Theory, research and practice*, 7-26.

Khurana, A., & Rosenthal, S. R. (1998). Towards holistic "front ends" in new product development. *Journal of Product Innovation Management*, 57-74.

Kitzinger, J. (1994). The methodology of focus groups the imortance of interaction between research participants. *Sociology of Health & Illnes*, 103-121.

Knight, A. P. (2009). Positive Affect and Pro ject Team Development and Effectiveness. *Proquest*, 1-148.

Kozlowski, S. W., & Ilgen, D. R. (2000). A multilevel approach to theory and research in organizations: Contextual, temporal, and emergent processes. In K. J. Klein. *San Francisco, CA: JosseyBass*, 3-90.

Kozlowski, S. W., & Klein, K. J. (2000). A multilevel approach to theory and research in organizations: Contextual, temporal, and emergent processes. *Jossey-Bass*, 3-90.

Lance, C. E., Butts, M. M., & Michels, L. C. (2006). The sources of four commonly reported cutoff criteria:What did they really say? *Organizational Research Methods*, 202-220.

Langerak, F. (2014, 11 24). Management of product development slide serie 5. *Role of Product Management, Interfunctional Coordination and New Product Development Teams* . Eindhoven, Noord-Brabant, Nederland: Langerak, Fred.

LeBreton, J. M., & Senter, J. L. (2008). Answers to 20 questions About interrater reliability and interrater agreement. *Organizational research methods*, 815-852.

Leifer, R. (2000). *Radical Innovation: How Mature Companies Can Outsmart Upstarts.* Harvard Business School: Harvard Business Press.

Lu, L., Zhou, F., & Leung, K. (2011). Effects of task and relationship conflicts on individual work behaviors. *International Journal of Conflict Management*, 131-150.

Maas, C. J., & Hox, J. J. (2004). The influence of violations of assumptions on multilevel parameter estimates and their standard errors. *Computational statistics & data analysis*, 427-440.

Mullen, B. &. (1994). The relationship between group cohesiveness and performance: an integration. *Psychological Bulletin*, 210-227.

Northouse, P. G. (2015). *Introduction to leadership.* Michigan: SAGE publications.

Peterson, R. S. (2009). Leadership and conflict using power to manage conflicts in groups for better rather than worse. 281-298.

Porter, K. H. (2015, November 4). *Louisville surveys*. Retrieved from Louisville: https://louisville.edu/ombuds/surveys/COMMUNICATION%20SURVEY%20QUESTIONS.pdf/at _download/file

Richard P. DeShon, S. W. (2004). A Multiple-Goal, Multilevel Model of Feedback Effects on the Regulation. *Journal of Applied Psychology*, pp. 1035–1056.

Rispens, S. (2015, September 3). Leaders' intervention in team conflict. Eindhoven, Noord-Brabant.

Rispens, S., & Jehn, K. A. (2012). De veelzijdigheid van een intrateam-conflict: Constructie en test van een Nederlandstalig instrument voor hetmeten van conflicttypen en conflictdimensies. *Gedrag en Organisatie*, 177-191.

Schaufeli, W. &. (2004). Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behavior, Vol. 25*, 293-315.

Senior, B. (1997). Team roles and team performance: Is there 'really' a link? *Journal of Occupational and Organizational Psychol*, 241-258.

Sethi, R., Smith, D. C., & Park, C. W. (2001). Cross-functional product development teams, creativity and innovativeness of new consumer goods. *Journal of marketing research*, 73-85.

Siemens Mobility, Fraport , & Fraunhofer IML. (2009, may 12). *Siemens Press*. Retrieved from Siemens: http://www.siemens.com/press/en/pressrelease/?press=/en/pressrelease/2009/mobility/imo200905027.htm&content[]=IM&content[]=TS&content[]=ICMOL&content[]=MO

Simons, T. &. (2000). Task conflict and relational conflict in top management teams : The pivotal role of intragroup trust. *Journal of applied Psychology*, 102-111.

Syrek, C. J., & Apostel, E. (2013). Stress in highly demanding IT jobs: Transformational leadership moderates the impact of time pressure on exhaustion and work–life balance. *Journal of occupational Health*, 252-261.

Tekleab, A. G., Quigley, N. R., & Tesluk, P. E. (2009). A Longitudinal Study of Team Conflict, Conflict Management, Cohesion, and Team Effectiveness. *Group & Organization management*, 170-205.

The Need for Cognition Scale. (2007, October). Retrieved from Liberalarts: http://www.liberalarts.wabash.edu/ncs/

Tjosvold, D., & de Dreu, C. K. (2001). Managing reslationship conflict and the effectiveness of organizational teams. *Journal of organizational behavior*, 309-328.

Tsui, A. S., Xin, K. R., & Egan, T. D. (1995). Relational demography: The missing link in vertical dyad linkage. *Diversity in work teams: Research paradigms for a changing workplace*, 97-129.

Tytherleigh, M. Y., Webb , C., Cooper, C. L., & Ricketts, C. (2005). Occupational stress in UK Higher Education Institutions: a comparative study of all staff categories. *Higher Education Research & Development*, 41-61.

University of Cambridge. (2014). *Stress causes*. Retrieved from Unversity of Cambridge: http://www.admin.cam.ac.uk/offices/hr/policy/stress/causes.html

University, O. B. (2011). *Characteristcs of groups* . Retrieved from Oxford Brooks University: http://www.brookes.ac.uk/services/ocsld/resources/small-group/sgt108.html

Van Der, G. S. (2005). Learning and Performance in Multidisciplinary Teams: The Importance of Collective Team Identification. *Academy of Management Journal*, 532-547.

van Knippenberg, D., Dawson, J. F., West, M. A., & Homan, A. C. (2010). Diversity faultlines, shared objectives, and top management team performance. *Human relations*, 307-336.

van Mierlo, H., Vermunt, J. K., & Rutte, C. G. (2009). Composing Group-Level constructs from individual-level survey data. *Organizational research methods*, 368-392.

Veldhoven, M. v. (1994). Het Meten Van Psychosociale Arbeidsbelasting Met Een Vragenlijst: De Vragenlijst Beleving En Beoordeling Van De Arbeid (VBBA) .

Wageman, R., Richard, J. H., & Lehman, E. (2005). Team diagnostic survey: Development of an instrument. *The Journal of Applied Behavioral Science*, 373.

Wang, E. C. (2005). The impacts of charismatic leadership style on team cohesiveness and overall performance during ERP implementation. *International Journal of Project Management*, 173-180.

Wendt, H. E. (2009). Leadership and team cohesiveness across cultures. *The leadership Quarterly*, 358-370.

Wendt, H. E. (2009). Leadership and team cohesiveness across cultures. . *The Leadership Quarterly*, 358-370.

Williams, K. Y., & O'Reilly, C. A. (1998). Demography and diversity in organizations: A review of 40 years of research. *Research in organizational behavior*, 77-140.

Wolfe, J., & Box, T. M. (1987). Team Cohesion Effects On Business Game Performance. *Developments in Business Simulation & Experiential Exercises*, 250-255.

Appendix 1: Difference airside and landside

Figure 7: Landside/Airside (Siemens Mobility, Fraport , & Fraunhofer IML, 2009) and Figure 8: dnata show how the differences between the airside and landside are formed. Furthermore, Figure 8: dnata shows the current situation at the dnata terminal at Schiphol. The red line in Figure 8: dnata shows the border between the air and landside.

Landside

Within the dnata side at Schiphol south a clear distinction is made between landside and airside. The land side is the part where the cargo trucks bring their cargo to the warehouses in which it will stored. Before the plane arrives the stored cargo will be packed on a pallet combined with other products that has to be shipped to the same destination. Based on the size and weight of the cargo different pallets can be chosen. After the pallets have been built-up they are prepared to be shipped to the air side, meaning that the will pass the customs check.

Airside

The airside is the place where the pallets that need to be shipped are placed in wait for their departure. When the plane arrives it will be parked on a predestined spot in front of the cargo warehouses. Then, the air side teams will unload the cargo that has the destination Schiphol, and, will place the ordered cargo on the plane. This is a continuous process to ensure that no cargo will pile up on the airside. The delivered cargo will be delivered at the customs department which will bring it to the landside.

Important to know is that the team of airside and landside will not come on each other's district. Meaning that they will collaborate, but they will not be on the same team

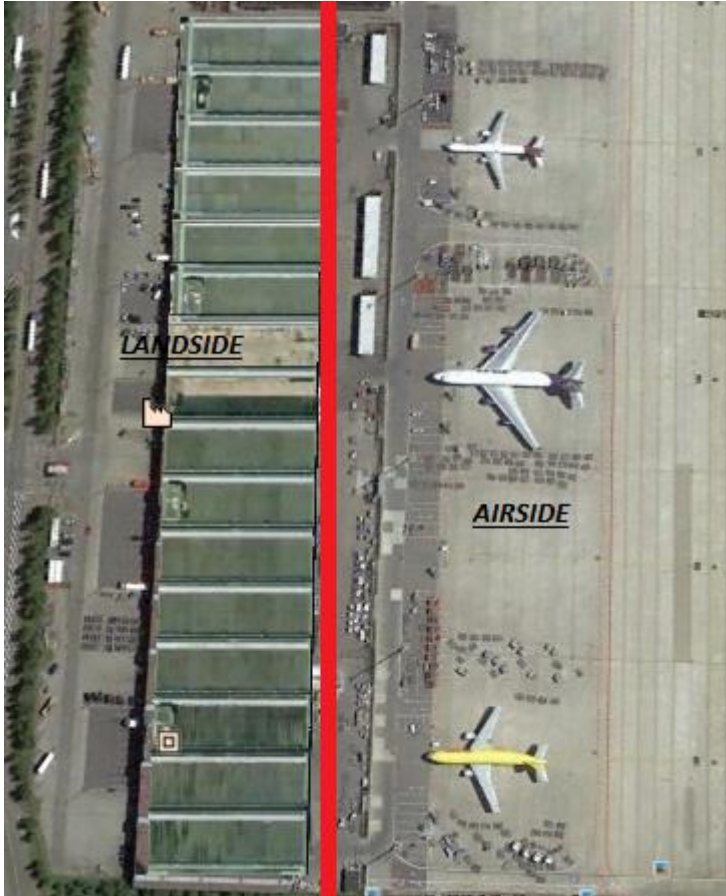Figure 7: Landside/Airside (Siemens Mobility, Fraport , & Fraunhofer IML, 2009)

Figure 8: dnata

Appendix 2: Blau index

Table 18: Blau index of diversity

Team	Blau index Education diversity	Blau index specialization diversity	Blau index total diversity
1	0.48	0.72	0.60
2	0.67	0.67	0.67
3	0.67	0.44	0.56
4	0.50	0.50	0.50
5	0.62	0.78	0.70
6	0.27	0.83	0.55
7	0.72	0.80	0.76
8	0.69	0.61	0.65
9	0.56	0.80	0.68
10	0.56	0.72	0.64
11	0.48	0.80	0.64
12	0.73	0.86	0.80
13	0.32	0.64	0.48
14	0.28	0.61	0.45

Appendix 3: Questionnaire

Introductie

Voor u vindt u de vragenlijst *samenwerken en team prestaties*. In het kader van mijn afstudeeronderzoek voor de studie Technische Bedrijfskunde aan de Technische Universiteit Eindhoven worden de ervaringen van meer dan 30 teams bij dnata Schiphol onderzocht. In het bijzonder wordt hierin gekeken naar de samenwerking van de teams.

- Voorafgaand aan het invullen van de vragenlijsten wil ik u graag wijzen op enkele aandachtspunten: Het invullen van de vragenlijst zal ongeveer 15 minuten van uw tijd in beslag nemen.

- De door u verstrekte informatie wordt ***anoniem*** en ***strikt vertrouwelijk*** behandeld. Alleen de onderzoekers van de Technische Universiteit Eindhoven krijgen uw gegevens te zien, deze worden niet getoond aan dnata, Schiphol en derden.

INSTRUCTIE
- Op de volgende pagina start de vragenlijst. Eerst wordt van u gevraagd een aantal persoonlijke gegevens in te vullen. Daarna volgen een aantal stellingen. Elke stelling bevat een aantal antwoordmogelijkheden. Lees de instructies en de vragen alstublieft goed door, maar blijf niet te lang bij een vraag stilstaan. Als u twijfelt over het antwoord, dan vragen we u alsnog een keuze uit de gegeven mogelijkheden te maken. Er bestaan geen foute antwoorden, u dient het antwoord te geven dat het meest bij uw mening aansluit. Voor het slagen van het onderzoek is het belangrijk dat u alle vragen invult. We willen u vragen om de vragenlijst ***volledig ingevuld*** te retourneren voor XXX datum.

Alvast hartelijk dank voor uw medewerking!

Drs Bart van Duijvendijk &

Prof. Dr. Evangelia Demerouti

Human Performance Management group

Persoonlijke gegevens

Het eerste deel van deze vragenlijst gaan over uw persoonlijke gegevens. U kunt uw antwoorden noteren op de stippellijntjes of het gewenste vierkant aanvinken.

CV_AGE = Leeftijd
CV_GEN = Geslacht
CV_EDU = Opleiding
CV_RIC = Studierichting
CV_DAT = Datum halen diploma
CV_COM = Hoe lang werknemer van bedrijf
CV_EMP = Hoe lang werknemer van dit team
CV_HOU = Hoeveel uren werknemer werkt in dit team
CV_MEM = Team size
CV_FUN = Functie binnen team
CV_DIV = Diversiteit binnen werkzaamheden

Hoe oud bent u?	_____ Jaar
Wat is uw geslacht?	□ Vrouw □ Man
Wat is uw hoogst behaalde diploma?	□ MAVO □ HAVO □ VWO □ MBO □ HBO □ WO □ Ph.D □ Anders
In welke studie richting is dit diploma gehaald?	□ Software Engineering □ Mechanical Engineering □ Electrical Engineering □ Systems Engineering □ Productie □ Logistiek □ Luchtvaart □ Marketing □ Anders, namelijk _____
Hoe lang werkt u voor dit bedrijf?	_____ jaar _____maanden
Hoe lang werkt u al voor dit team?	_____ jaar _____ maanden
Hoeveel uren werkt u gemiddeld in een team	_____uur

Hoeveel mensen zitten er in uw team? (inclusief u zelf)	… mensen
Wat is uw functie binnen het team?	……
Is uw dagelijks werk vaak hetzelfde ?	□ Ja □ Nee
Heeft u een leidinggevende functie	□ Ja □ Nee

Deel 1: Team cohesie

Hieronder volgen een aantal vragen over de mate waarin u psychologische veiligheid ervaart. psychologische veiligheid is een gedeelde overtuiging dat het in een team veilig is om interpersoonlijke risico's te nemen.

			Volledig onnauwkeurig	Zeer onnauwkeurig	Enigzins onnauwkeurig	Soms naukeurig, soms onnauwkeurig	Enigzins nauwkeurig	Zeer nauwkeurig	Volledig nauwkeurig
PS_1	1	Als men fouten maak wordt dit tegen hen gebruikt.	1	2	3	4	5	6	7
PS_2	2	Mensen in het team sluiten andere buiten, omdat ze ''anders'' zijn.	1	2	3	4	5	6	7
PS_3	3	Mensen binnen het team accepteren het als men een risico neem.	1	2	3	4	5	6	7
PS_4	4	Het is lastig om teamgenoten om hulp te vragen.	1	2	3	4	5	6	7
PS_5	5	Teamgenoten in dit team praten over problemen en lastige kwesties.	1	2	3	4	5	6	7
PS_6	6	Mijn teamgenoten waarderen en maken gebruik van mijn specifieke vaardigheden en kennis.	1	2	3	4	5	6	7
PS_7	7	Niemand in dit team zou opzettelijk op een bepaalde manier handelen om mijn inspanningen te ondermijnen.	1	2	3	4	5	6	7

Hieronder volgen een aantal vragen over de mate waarin u zich identificeert met het team. Hoe voelt u zich verbonden met het team en wat voor gevoel geeft het team u.

		Teamgenoten…	Volledig mee oneens	Zeer mee oneens	Enigzins mee oneens	Niet oneens, niet eens	Enigzins mee eens	Zeer mee eens	Volledig mee eens
TID_1	8	…voelen zich emotioneel verbonden met het team.	1	2	3	4	5	6	7
TID_2	9	… hebben een sterk gevoel van verbondenheid met hun team.	1	2	3	4	5	6	7
TID_3	10	…maken zich druk over problemen waarmee het team geconfronteerd wordt.	1	2	3	4	5	6	7
TID_4	11	…hebben het gevoel dat ze bij het team horen.	1	2	3	4	5	6	7

Hieronder volgen een aantal vragen over de mate waarin u team cohesie ervaart. Team cohesie is het teamgevoel dat u heeft met uw team genoten.

			Geheel mee oneens	Mee oneens	Neutraal	mee eens	Geheel mee eens
TCH_1	12	Er heerst een goede verstandhouding in het team.	1	2	3	4	5
TCH_2	13	In het team behandelen we elkaar met respect.	1	2	3	4	5
TCH_3	14	We werken goed samen als een team.	1	2	3	4	5
TCH_4	15	Teamleden zijn trots dat ze onderdeel zijn van het team.	1	2	3	4	5

Deel 2: Conflicten

Hieronder volgen een aantal vragen over de mate waarin u conflicten ervaart en hoe u met deze situaties omgaat. Wilt u aangegeven hoe vaak iedere uitspraak op uw team van toepassing is door steeds de beste optie te selecteren.

REL = Relational conflicts (4) (Rispens & Jehn, De veelzijdigheid van een intrateam-conflict: Constructie en test van een Nederlandstalig instrument voor hetmeten van conflicttypen en conflictdimensies, 2012)

TAS = Task conflicts (4) (Rispens & Jehn, De veelzijdigheid van een intrateam-conflict: Constructie en test van een Nederlandstalig instrument voor hetmeten van conflicttypen en conflictdimensies, 2012)

PRO = Process conflict (6) (Rispens & Jehn, De veelzijdigheid van een intrateam-conflict: Constructie en test van een Nederlandstalig instrument voor hetmeten van conflicttypen en conflictdimensies, 2012)

Het eerste soort conflict dat besproken wordt zijn de relationele conflicten, relationele conflicten zijn persoonlijke meningsverschillen tussen teamleden of botsingen tussen karakters. Dit soort conflicten gaan niet over werk gerelateerde dingen maar, gaan over verschillen in normen en waarde die niks. Voorbeelden hiervan zijn kwesties die gaan over politiek, geloof of conflicten met betrekking tot onderlinge problemen. Relationele conflicten gaan dus **niet** over werk.

			Helemaal niet	Soms	regelmatig	Vaak	Heel veel
REL_1	1	We hebben ruzie over niet-werkgerelateerde zaken.	1	2	3	4	5
REL_2	2	Hoeveel ruzie over persoonlijke zaken is er binnen dit team?	1	2	3	4	5
REL_3	3	Soms hebben groepsleden ruzie over persoonlijke zaken.	1	2	3	4	5
REL_4	4	We zijn het oneens over niet-werkgerelateerde dingen.	1	2	3	4	5

De tweede soort conflicten dat besproken wordt zijn de proces conflicten. Dit zijn conflicten die gaan over het werk proces, meningsverschillen over wie doet wat, wie is verantwoordelijk voor wat, hoe kan werk zo efficiënt gedaan worden en problemen in deze categorie.

			Helemaal niet	Soms	regelmatig	Vaak	Heel veel
PRO_1	5	In welke mate heeft dit team onenigheid over hoe de dingen gedaan moeten worden in dit team?	1	2	3	4	5
PRO_2	6	Hoeveel onenigheid is er in het team over het delegeren van zaken?	1	2	3	4	5
PRO_3	7	We hebben onenigheid over het proces (of de wijze) waarop het werk gedaan moet worden.	1	2	3	4	5
PRO_4	8	Hoeveel onenigheid is er over taakverantwoordelijkheden in uw team?	1	2	3	4	5

De derde soort conflict dat besproken wordt zijn de taak gerelateerde conflicten. Beantwoordt u alstublieft de volgende vragen over **de mate van discussie over de taak (verschillende opinies over de taak)** binnen uw werkgroep. Het gaat hierbij dus <u>niet</u> om persoonlijke conflicten (zoals verschillen van mening over politieke kwesties of muziekvoorkeur).Een voorbeelden hiervan is
''Hoe verschillend zijn de standpunten van teamleden over besluiten? ''. **<u>Belangrijk</u>**, taak conflicten en relationele conflicten zijn verschillend!

			Helemaal niet	Soms	regelmatig	Vaak	Heel veel
TAS_1	9	We hebben regelmatig een verschil van mening over taak gerelateerde dingen.	1	2	3	4	5
TAS_2	10	We hebben ruzie over werk gerelateerde zaken.	1	2	3	4	5
TAS_3	11	Hoeveel conflict over ideeën is er in dit team?	1	2	3	4	5
TAS_4	12	Hoeveel moet uw team aan meningsverschillen werken?	1	2	3	4	5
TAS_5	13	Hoe verschillend zijn de standpunten van teamleden over besluiten?	1	2	3	4	5
TAS_6	14	We hebben taakgerelateerde meningsverschillen.	1	2	3	4	5

Deel 3 Samenwerking

Hieronder volgen een aantal vragen over de mate waarin uw werk afhankelijk is van uw teamleden. Wilt u aangegeven hoe vaak iedere uitspraak op uw team van toepassing is door steeds de beste optie te selecteren.

			Volledig mee oneens	Zeer mee oneens	Enigzins mee oneens	Niet oneens, niet eens	Enigzins mee eens	Zeer mee eens	Volledig mee eens
TI_1	1	Ik kan mijn taak uitvoeren onafhankelijk van mijn collega's.	1	2	3	4	5	6	7
TI_2	2	Ik heb advies en informatie van mijn collega's nodig om hun werk goed te kunnen doen.	1	2	3	4	5	6	7
TI_3	3	Mijn collega's hebben mijn advies en informatie nodig om hun werk goed te kunnen doen.	1	2	3	4	5	6	7
TI_4	4	Voor mijn werk moet ik regelmatig overleggen met collega's over werk gerelateerde kwesties.	1	2	3	4	5	6	7
TI_5	5	Om mijn werk goed uit te kunnen voeren moet ik samenwerken met mijn collega's.	1	2	3	4	5	6	7

Hieronder volgen een aantal vragen over de mate waarin u de samenwerking ervaart binnen uw team. Wilt u aangegeven hoe vaak iedere uitspraak op uw team van toepassing is door steeds de beste optie te selecteren.

			Waar	Meer niet waar, dan waar	Meer waar, dan niet waar	Niet waar
COL_1	6	Mijn team is meer geïnteresseerd in het genereren van een goede groepsbeslissing, dan het verbeteren van de positie van het bedrijf.	1	2	3	4
COL_2	7	Mijn teamleden zijn bereid om te switchen van werkwijze als blijkt dat dit betere uitkomsten geeft.	1	2	3	4
COL_3	8	Mijn teamleden hebben de communicatieve vaardigheden die nodig zijn om de groep vooruit te helpen.	1	2	3	4
COL_4	9	Mijn teamleden maken goed onderscheid tussen taak en sociaal gerelateerde behoefte, zodat het team gefocust en productief kan werken.	1	2	3	4
COL_5	10	Mijn team staat in goede relatie tot de overkoepelende organisatie.	1	2	3	4
COL_6	11	Mijn team zal er alles aan doen wat nodig is om het gestelde doel te bereiken.	1	2	3	4
COL_7	12	Mijn team ziet er op toe dat er doelmatig gewerkt wordt.	1	2	3	4
COL_8	13	Mijn team vertrouwt elkaar voldoende om informatie te delen, feedback te geven en het te accepteren dat mensen verschillende percepties te hebben binnen het team.	1	2	3	4

Deel 4 Communicatie in het team

Hieronder volgen een aantal vragen over de mate waarin u communiceert binnen uw team. Hoe u gebruikt maakt van communicatie om doelen te bereiken of een boodschap door te geven aan een team genoot. Wilt u aangegeven hoe vaak iedere uitspraak op uw team van toepassing is door steeds de beste optie te selecteren.

COM   =   Communication(4) (Veldhoven, 1994)

			Altijd	Vaak	Soms	Nooit
COM_1	1	Hoort u voldoende over de gang van zaken binnen het bedrijf?	1	2	3	4
COM_2	2	Wordt u van de belangrijke dingen binnen het bedrijf goed op de hoogte gehouden?	1	2	3	4
COM_3	3	Is de manier waarop de besluitvorming loopt in uw bedrijf duidelijk?	1	2	3	4
COM_4	4	Is duidelijk bij wie u binnen de organisatie moet zijn voor welke problemen?	1	2	3	4

Deel 5 Team size

De volgende uitspraken hebben betrekking op hoe u de grote van uw team beleeft en hoe dit uw dagelijkse werk beleving beïnvloed. Wilt u aangegeven hoe vaak iedere uitspraak op uw team van toepassing is door steeds de beste optie te selecteren.

SIZ   =   Team size (3) (Wageman, Richard, & Lehman, 2005)

			Veel te klein	Te klein	Enigzins te klein	Net iets te klein	Niet te klein, niet te groot	Net iets te groot	Enigzins te groot	Te groot	Veel te groot
SIZ_1	1	Dit team is groter dan dat het nodig is.	4	3	2	1	0	-1	-2	-3	-4
SIZ_2	2	Dit team heeft te weinig leden voor de taak die het moet uitvoeren.	4	3	2	1	0	-1	-2	-3	-4
SIZ_3	3	Dit team is precies groot genoeg om de taken uit te voeren.	-4	-3	-2	-1	0	1	2	3	4

Deel 6 Persoonlijke redenen om bij het team te willen horen

Hieronder volgen een aantal vragen over redenen waarom u in een team zou willen werken en waarom deze belangrijk zijn voor u. Wilt u aangegeven hoe vaak iedere uitspraak op uw team van toepassing is door steeds de beste optie te selecteren.

NFC = Need for cognition (18) (Cacioppo, Petty, & Kao, 1984)
DED = Dedication (3) (Schaufeli, 2004)
VIG = Vigor (3) (Schaufeli, 2004)
ABS = Absorption (3) (Schaufeli, 2004)

		Mijn team…	Geheel mee eens	Erg mee eens	Mee eens	Enigszins mee eens	Niet mee eens, niet mee oneens	Enigszins mee oneens	Mee oneens	Erg mee oneens	Geheel mee oneens
NFC_1	1	…vindt ingewikkelde vraagstukken leuker dan simpele vraagstukken.	4	3	2	1	0	-1	-2	-3	-4
NFC_2	2	…is graag verantwoordelijk voor een situatie waarin veel nagedacht moet worden.	4	3	2	1	0	-1	-2	-3	-4
NFC_3	3	…doet nadenken niet voor het plezier.	-4	-3	-2	-1	0	1	2	3	4
NFC_4	4	…doet liever iets waarbij weinig nagedacht hoeft te worden, dan iets waarbij hun denk vermogen zeker op de proef gesteld wordt.	-4	-3	-2	-1	0	1	2	3	4
NFC_5	5	…probeert situaties te vermijden waarin de kans groot is dat er diep over iets moet nadenken.	-4	-3	-2	-1	0	1	2	3	4
NFC_6	6	…voelt voldoening wanneer er een kwestie langdurig en nauwgezet afgewogen moet worden.	4	3	2	1	0	-1	-2	-3	-4
NFC_7	7	…denkt alleen zoveel na als nodig is.	-4	-3	-2	-1	0	1	2	3	4
NFC_8	8	…denkt liever na over kleine dagelijkse dingen, dan over lange-termijn zaken.	-4	-3	-2	-1	0	1	2	3	4
NFC_9	9	…houdt van taken waarbij weinig nagedacht hoeft te worden als ze het eenmaal geleerd hebben.	-4	-3	-2	-1	0	1	2	3	4
NFC_10	10	…heeft het idee dat je op je verstand moet vertrouwen om de top te bereiken, dit spreek hun aan.	4	3	2	1	0	-1	-2	-3	-4
NFC_11	11	…geniet echt van een taak waarbij ze met nieuwe oplossingen voor problemen moet komen.	4	3	2	1	0	-1	-2	-3	-4
NFC_12	12	…vindt het leren van nieuwe manieren om te denken niet erg boeiend.	-4	-3	-2	-1	0	1	2	3	4
NFC_13	13	…vindt het prettig als hun leven gevuld is met puzzels die ze moeten oplossen.	4	3	2	1	0	-1	-2	-3	-4
NFC_14	14	…vindt abstract denken een bezigheid die hun aanspreekt.	4	3	2	1	0	-1	-2	-3	-4
NFC_15	15	…heeft liever een taak die intellectueel, moeilijk en belangrijk is, dan een taak die enigszins belangrijk is, maar waarbij je niet veel hoeft na te denken.	4	3	2	1	0	-1	-2	-3	-4
NFC_16	16	…voelt zich eerder voldaan, dan opgelucht als ze als een taak hebben voltooid die veel mentale inspanning heeft gevergd.	-4	-3	-2	-1	0	1	2	3	4
NFC_17	17	… vindt het voldoende wanneer iets blijkt te werken: hoe of waarom het precies werkt interesseert ze niet.	-4	-3	-2	-1	0	1	2	3	4
NFC_18	18	… denkt gewoonlijk uitgebreid na over zaken, zelfs wanneer het ze niet persoonlijk aangaan.	4	3	2	1	0	-1	-2	-3	-4

De volgende uitspraken hebben betrekking op hoe u uw team beleeft en hoe u zich voelt tijdens het werk. Wilt u aangegeven hoe vaak iedere uitspraak op uw team van toepassing is door steeds de beste optie te selecteren.

		Mijn team…	Nooit	Sporadisch/ enkele keren per jaar of minder	Af en toe/ eens per maand of minder	Regelmatig/ een paar keer per maand	Dikwijls/ eens per week	Zeer dikwijls/ een paar keer per week	Altijd/ dagelijks
DED_1	1	… is enthousiast over haar taak in de organisatie.	0	1	2	3	4	5	6
DED_2	2	… vind inspiratie in het werk.	0	1	2	3	4	5	6
DED_3	3	… is trots op het werk wat ze doet.	0	1	2	3	4	5	6
VIG_1	4	…bruist van energie.	0	1	2	3	4	5	6
VIG_2	5	… voelt zich fit en sterk als ze aan het werk is.	0	1	2	3	4	5	6
VIG_3	6	…kan heel lang door gaan met werk, als wij aan het werk zijn.	0	1	2	3	4	5	6
		Als mijn team aan het werk is dan…	Nooit	Sporadisch/ enkele keren per jaar of minder	Af en toe/ eens per maand of minder	Regelmatig/ een paar keer per maand	Dikwijls/ eens per week	Zeer dikwijls/ een paar keer per week	Altijd/ dagelijks
ABS_1	7	…vergeten wij alles om ons heen.	0	1	2	3	4	5	6
ABS_2	8	..vliegt de tijd voorbij.	0	1	2	3	4	5	6
ABS_3	9	…gaan wij helemaal op in het werk.	0	1	2	3	4	5	6

Deel 7 Werkdruk en autonomie

Hieronder volgen een aantal vragen over de mate waarin u werkdruk ervaart binnen uw team en of u de vrijheid heeft om het werk zo uit te voeren als u het beste lijkt. Wilt u aangegeven hoe vaak iedere uitspraak op uw team van toepassing is door steeds de beste optie te selecteren.

			Nooit	Soms	regelmatig	Vaak	Altijd
AUT_1	1	Heeft u vrijheid bij het uitvoeren van uw werkzaamheden?	1	2	3	4	5
AUT_2	2	Kunt u zelf beslissen hoe u het werk uitvoert?	1	2	3	4	5
AUT_3	3	Kunt u deelnemen aan besluiten die uw werk raken?	1	2	3	4	5
DRU_1	4	Moet u erg snel werken?	1	2	3	4	5
DRU_2	5	Heeft u te veel werk te doen?	1	2	3	4	5
DRU_3	6	Moet u extra hard werken om iets af te krijgen?	1	2	3	4	5

Deel 8 Team performance

De volgende uitspraken hebben betrekking op hoe u vindt dat uw team presteert. Hoe vaak krijgt uw team het werk af of kan het werk nog efficiënter gedaan worden? Wilt u aangegeven hoe vaak iedere uitspraak op uw team van toepassing is?

		Dit team..	Volledig onnauwkeurig	Zeer onnauwkeurig	Enigzins onnauwkeurig	niet onnauwkeurig, niet nauwkeurig	Enigzins nauwkeurig	Zeer nauwkeurig	Volledig nauwkeurig
TP_1	1	… werkt effectief.	1	2	3	4	5	6	7
TP_2	2	… maakt weinig fouten.	1	2	3	4	5	6	7
TP_3	3	…levert werk af van een hoge kwaliteit.	1	2	3	4	5	6	7
TP_4	4	…presteert goed en is constant in zijn prestatie.	1	2	3	4	5	6	7
GA_1	5	…vervult haar missie.	1	2	3	4	5	6	7
GA_2	6	…bereikt haar doelstellingen.	1	2	3	4	5	6	7
GA_3	7	…voldoet aan de gestelde eisen.	1	2	3	4	5	6	7
Ga_4	8	…behaalt haar doelen.	1	2	3	4	5	6	7
GA_5	9	…dient het doel dat het hoort te dienen.	1	2	3	4	5	6	7