A project manager’s role in building teams

A research into leadership styles and team development

Graduation report

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Delft University of Technology

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Graduation report
Real Estate & Housing
Collaboration & integration in construction

First mentor: Jelle Koolwijk
Second mentor: Clarine van Oel
Company supervisor: Jurriën de Jong
“It is better to lead from behind and to put others in front, especially when you celebrate victory when nice things occur. You take the front line when there is danger. Then people will appreciate your leadership.”

Nelson Mandela
PREFACE

This report presents the graduation thesis for my research into the relation between leadership styles and team development. This graduation research is part of the master Real Estate and Housing (since September 2015 Management in the Built Environment) at the faculty of Architecture at the Delft University of Technology.

The graduation year has been exciting and challenging. I had the opportunity to observe two interesting cases to investigate whether or not leadership styles and team phases can be distinguished. During these observations I got to see how different teams operate and what the role of a project manager can be.

In this preface I would like to thank a view people in particular. First of all Jelle Koolwijk and Clarine van Oel from Delft University of Technology, for all the feedback and input that helped me to finish this research and to stay optimistic about it.

Furthermore I would like to thank ABC Nova for the internship they offered me. It gave me the opportunity to include an interesting project into my research and at the same see how project management works in practice.

I also would like to thank Karin op ‘t Hoog from WonenBreburg to let me observe the team from a renovation project in Breda. This project works with supply chain management and showed me a different way of working in a team.

Finally I would like to thank my parents, brother and boyfriend Laurens for being really supportive during this research and graduation year. They motivated me to continue in times I did not feel like completing this research.

I hope you enjoy reading this report.

Roos Wijnstra
Rotterdam, 2016
EXECUTIVE SUMMARY

The aim of this research is to identify different leadership styles among project managers and whether there is a connection between these leadership styles and the development phases of a team.

**Keywords:** leadership style, team development, project management, case study, participatory observation

**English summary**

**Theory**

Previous studies have shown that the traditional approach of controlling the construction supply chain is not up-to-date anymore. Due to this, a shift took place in the methods for managing the supply chain in the construction industry. From a traditional structured approach towards a more bottom up approach.

This has also resulted in a changing role for the project manager. Whereas one was first a task manager, the role shifts towards that of a project leader. Most of the previous research done, is focussed on the traditional way of management. Yet, research has also been done into the different roles of project managers. This can be linked to the different project team phases: forming, storming, norming, performing and adjourning.

This research focussed on the leadership styles a project manager may need to lead a team. The focus of this research has resulted in the following research question:

*Which leadership styles do project managers use to manage collaborative teams, and can different styles be related to different team phases?*

To gain a better understanding of the relation between the development of a team and the role of the project manager, three subjects have been characterised. First the team phases, that describe how a team develops. Secondly the project management phases and project manager’s tasks, to give insight into the role of the project manager. And lastly the leadership styles and leadership behaviours.

According to literature the development of a team proceeds through the following five defined phases, mentioned before above. Each phase has its characteristics:

- Forming: team acquaints and establishes ground rules;
- Storming: team members compete for a desired position in the team;
- Norming: team members develop commitment to the team and the team goal;
- Performing: the team works in an open and trusting atmosphere;
- Adjourning: the team breaks up.
For this research these five phases were linked to the five project management phases. These phases describe the development phases of the project manager and what is desired of the project manager in leading the team through the team phases:

- Building the team: selecting the team members for the team;
- Launching the team: provide a shared vision for the team;
- Collaborating: connect the individuals to the team and foster a shared identity;
- Performing: organise meetings to evaluate the progress of the team and project;
- Evaluating: determine if any change is needed (occurs during the entire project).

During the development of a team, the project manager can have a leading role during these phases. A distinction can be made between a vertical and horizontal leadership styles. Vertical leadership is described as a style whereby one leader leads the team, whereas horizontal leadership is all about sharing leadership. With shared leadership, a person who has the most knowledge about the situation at hand takes up the leadership role in that time.

In previous research these two leadership approaches have put in front of each other and resulted in five types of leadership:

- Aversive leadership: lead by punishment and intimidation;
- Directive leadership: lead by instruction and assigning goals;
- Transactional leadership: lead by rewards;
- Transformational leadership: lead by providing a vision;
- Empowering leadership: lead by encouragement and self-reliance.

**Research Methods**

To investigate whether or not leadership styles are related to the development of a team and its phases, a multiple case study design was conducted.

For this research participatory observations in two cases were done. The first case is the Heidelberglaan in Utrecht. The project is part of the large renovation project of the Hogeschool Utrecht, called *Huisvesting de Uithof*. The current part, the construction of a new building will be one of the last phases of this large project.

The second case, Lindeplein, includes the renovation of 81 apartment in Breda. What makes this case interesting is that this project involves supply chain. This means that almost all of the involved stakeholders work together in a chain, this results in an open exchange of information. This chain also includes that all the stakeholders have been brought forward in the project.

Each case study starts with a context analysis. With this context analysis a first insight is gained into the case as a whole.
Each context analyses contains the same subjects: a project description including a time line and the political and/or social context; the project organisation including the stakeholders and organogram; the meeting structure and which of these meetings will be attended during observation.

Since the research is among others focussed on the project managers of the cases, each project manager was interviewed and asked about their experiences and role within the two cases. With semi-structured interviews several open questions will be asked to gather the desired data but also to have an open discussion with the project manager. In these interviews the same themes were asked to each of the project manager, but the order of questions and the follow-up questions may differ.

The last method will be a participatory observation. With this method as a researcher I gained access to a group and observed them by watching and listening to what people say and do. To keep track of what is being observed a checklist was prepared, showed in Figure 1 and Figure 2. This checklist includes a sheet that was used the summarize the specifications of the meeting, such as attendees, table setting, location etc. The sheets that follow will be used for the actual observation. On these sheets the researchers notes what is being observed, in what phase a team is, the mood of the team members and who is talking to who: the leader to the team, the team to the leader or is there a conversation/discussion going on between team members.

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Figure 1 Observation checklist meeting summary (Illustration of author)
Processing data

The collected data, from the interviews and observations, were analysed using the program ATLAS.ti. This program provided tools that let the user locate, code and annotate findings in primary data material.

To be able to analyse the data, a list of codes was derived from the conceptual model. The deductive codes were based on literature and are divided into six themes, that will be divided into sub-codes to specify the analysis:

- Team phase
- Leadership style
- Role
- Context
- Emotion
- Communication

Another part of analysing the data is to look at each case separately. This includes looking at the development of the team and if certain leadership styles can be linked to the phases of that team development.

By doing these analysis for both cases, it will be possible to compare the cases to see if certain data corresponds with each other and if certain data may not.

Conclusion

The conceptual model drawn for this research resulted in the phrasing of the main research question. The main finding of this research is that observational data has shown that there is no such thing as that a team can be considered to gradually follow the phases of team development. The data collected in the observations also suggested that leaders should use different leadership styles during different phases and that there is no clear preference for one single leadership style.
Though team development does not gradually progress, there is suggestive evidence that at earlier phases characteristics of directional leadership styles were more prevalent, than the more supportive leadership styles. That is not to say that there is a relationship between leadership styles and team development.

It just seems that project managers at the onset of a project are the ones to define the aims of the project and at later stages allow collaborative team processes to give way to goal setting behaviour. The results of this research are summarized in the following figure.

Figure 3 Research findings summarised (Illustration of author)

This figure shows which leadership styles dominated in which team development phase based on the analyse of the data collected in this research. The leadership styles range from vertical leadership to horizontal leadership, dominated by three leadership styles: directive leadership, transformational leadership and empowering leadership.

In addition to these dominant leadership styles, other styles were also observed during different team development phases. These leadership styles are in the bottom line and are coloured grey.

The development of a team does not follow the schedule of five development phases gradually, so a project manager must anticipate in what the team wants at different points in time. The difficult part of the team phases, is that it can be difficult to define the phase of an entire team, which makes it also difficult to link leadership styles to these phases.

This research showed that multiple leadership styles were used during each of the team phases, but further research needs to be conducted to strengthen the evidence-base.
Nederlandse samenvatting

Theorie

Eerdere studies hebben aangetoond dat de traditionele aanpak om een bouwketen te controleren niet meer up-to-date is. Hierdoor vond er een verschuiving plaats in de methodes voor het managen van deze bouwketen. Van een traditionele aanpak naar een meer bottom-up aanpak.

Dit heeft ook geleid tot een veranderende rol voor de project manager. Waar een project manager eerst de taken manegade, verschuift de rol naar die van een projectleider. Het grootste deel van voorgaand onderzoek is gericht op de traditionele manier van projectmanagement. Toch is er ook onderzoek gedaan naar de verschillende rollen van project managers, wat gekoppeld kan worden aan de verschillende ontwikkelingsfasen van een team: vormen, stormen, normen, uitvoeren en uit elkaar gaan.

Dit onderzoek richt zich op de leiderschapsstijlen die een project manager nodig kan hebben om een team te leiden. De focus van dit onderzoek heeft geleid tot de volgende onderzoeksvraag:

**Welke leiderschapsstijlen gebruiken project managers om collaboratieve teams te managen, en kunnen verschillende stijlen gerelateerd worden aan verschillende teamfasen?**

Om een beter inzicht te krijgen in de relatie tussen de ontwikkeling van een team en de rol van de project manager, is er onderscheid gemaakt tussen drie onderwerpen. Allereerst de fasen van een team waarin wordt beschreven hoe een team zich ontwikkeld. Ten tweede de fasen van project management en de taken van de project manager, om inzicht te krijgen in de rol van de project manager. En tot slot de leiderschapsstijlen en leiderschap gedragingen.

Literatuur omschrijft dat de ontwikkeling van een team verloopt via de eerder genoemde fasen. Elke fase heeft zijn eigen kenmerken:

- Vormen: het team maakt kennis en stelt de basisregels op;
- Stormen: de teamleden gaan opzoek naar een gewenste positie binnen het team;
- Normen: de teamleden voelen zich betrokken bij het team en het doel van het team;
- Uitvoeren: het team werkt in een open en vertrouwde sfeer;
- Uit elkaar gaan: het team wordt opgedeeld.

Voor dit onderzoek werden deze vijf fasen gekoppeld aan de vijf projectmanagement fasen. Deze fasen beschrijven de ontwikkelingsfasen van een project manager en wat er verwacht wordt van een project manager als het gaat om het leiden van een team door de teamfasen:
A project manager’s role in building teams

- De bouw van het team: de selectie van de teamleden voor het team;
- De lancering van het team: zorgen voor een gedeelde visie voor het team;
- Samenwerken: betrekken van individuen in het team en het bevorderen van een gedeelde identiteit;
- Uitvoeren: het organiseren van bijeenkomsten om de voortgang van het team en het project te evalueren
- Evaluatie: bepalen of er verandering nodig is (treedt op tijden het gehele project)

Tijdens de ontwikkeling van een team kan de project manager een leidende rol hebben. Er kan een onderscheid gemaakt worden tussen verticale en horizontale leiderschapsstijlen. Verticaal leiderschap wordt omschreven als een stijl waarbij één leider het team leidt, terwijl horizontaal leiderschap gaat over het delen van leiderschap. Met gedeeld leiderschap neemt de persoon met de meeste kennis over een situatie op dat moment de leidende rol op zich. Eerder onderzoek heeft deze twee stijlen tegen over elkaar gezet wat resulteerde in vijf soorten leiderschap:

- Aversief leiderschap: leiding geven door middel van straf en intimidatie;
- Directief leiderschap: leiding geven door middel van instructies en toewijzen van doelen;
- Transactioneel leiderschap: leiding geven door middel van beloningen;
- Transformationeel leiderschap: leiding geven door middel van een visie;
- Stimuleren leiderschap: leiding geven door middel van aanmoediging en zelfredzaamheid.

Onderzoeksmethoden

Om te onderzoeken of leiderschapsstijlen gerelateerd zijn aan de ontwikkeling van een team en de fasen, werd een meervoudige case studie uitgevoerd.

Voor dit onderzoek werden participerende observaties uitgevoerd bij twee casussen. De eerste casus is de Heidelberglaan in Utrecht. Het project is onderdeel van een groot renovatieproject van de Hogeschool Utrecht, genaamd Huisvesting de Uithof. Deze casus, de nieuwbouw Heidelberglaan, is een van de laatste fasen van dit grote project.

De tweede casus, Lindeplein, omvat de renovatie van 81 appartementen in Breda. Het interessante aan deze casus is het gebruik van ketensamenwerking.

Dit betekent dat bijna alle betrokken partijen samen werken in een keten, wat resulteert in een open uitwisseling van informatie. Deze keten betekent ook dat alle betrokken partijen naar voren zijn gebracht in het proces van het project.

Iedere case studie begint met een context analyse. Met deze context analyse wordt een eerste inzicht gegeven in de casus als geheel.
Iedere context analyse omvat dezelfde onderwerpen: een beschrijving van het project inclusief een tijdlijn en de politieke en/of maatschappelijke context, de projectorganisatie inclusief een organogram, de overlegstructuur en welke van deze vergaderingen worden bijgewoond voor de observaties.

Omdat het onderzoek onder anderen is gericht op de project managers van de twee casussen, werd iedere project manager geïnterviewd en gevraagd naar hun ervaringen en rol binnen de casus. Met deze semigestructureerde interviews worden een aantal open vragen gesteld om gegevens te verzamelen, maar ook om een open discussie met de project manager te hebben. In de interviews worden dezelfde thema’s gevraagd aan elk van de project managers, maar de volgorde van de vragen en de vervolgvragen kunnen verschillen.

De laatste methode is het doen van participantende observaties. Met deze methode kreeg ik toegang tot de teams van de projecten en observeerde hen door te kijken en te luisteren naar wat de team members zeiden en deden. Om bij te houden wat er wordt waargenomen werd er een checklist voorbereid, te zien in Figuur 1 en Figuur 2. Het eerste blad van deze checklist vat de specificaties van de vergadering samen, zoals de deelnemers, de tafelschikking, de locatie etc. De volgende bladen worden gebruikt voor de daadwerkelijke observatie. Op deze bladen noteert de onderzoeker wat er wordt geobserveerd, in welke fase een team is, de emotie en wie er met wie in gesprek is: de leider met het team, het team met de leider of is het een gesprek tussen de verschillende team leden.

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Figuur 1 Observatie checklist samenvatting overleg (illustratie van auteur)
De verzamelde data van de interviews en observaties werden geanalyseerd met behulp van het programma ATLAS.ti. Dit programma helpt de onderzoeker bij het lokaliseren, coderen en annoteren van bevindingen in de primaire data.

Om de data te kunnen analyseren, is er een lijst met codes opgesteld aan de hand van het conceptuele model. Deze deductieve codes zijn gebaseerd op de literatuur en zijn onderven in zes hoofdthemata’s, die worden onderverdeeld in sub-codes om de analyse te kunnen specificeren:

- Team fasen
- Leiderschapsstijlen
- Rol
- Context
- Emotie
- Communicatie

Naast het analyseren van de data wordt er ook naar iedere casus apart gekeken. Wat inhoudt dat de ontwikkeling van ieder team wordt bekeken en of daar leiderschapsstijlen aan gelinkt kunnen worden.

Door deze twee casussen te analyseren, is het mogelijk om deze met elkaar te vergelijken om te zien of sommige data wellicht overeenkomt of juist niet.

**Conclusie**

De formulering van de hoofdonderzoeksvraag komt voort uit het conceptuele model. De belangrijkste bevinding van dit onderzoek is dat uit de observationele gegevens is gebleken dat er niet verwacht kan worden dat een team de fasen van teamontwikkeling geleidelijk volgt. De data die verzameld is in de observaties suggereert ook dat leiders verschillende leiderschapsstijlen moeten gebruiken tijdens de verschillende fasen en ook dat er geen duidelijke voorkeur is voor één enkele leiderschapsstijl.
Hoewel een team zich niet geleidelijk ontwikkelt, is er wel suggestief bewijs dat bij eerdere fasen de directieve leiderschapsstijl vaker voorkomt, dan de meer ondersteunende leiderschapsstijlen. Dat wil niet zeggen dat er een relatie bestaat tussen leiderschapsstijlen en teamontwikkeling.

Het lijkt erop dat de project managers bij het begin van een project diegenen zijn die de doelstellingen van het project definiëren en dat in latere fasen meer ruimte is voor de collaboratieve team processen. De resultaten van dit onderzoek zijn samengevat in de volgende figuur.

**Figuur 3 Samengevatte bevindingen onderzoek (Illustratie van auteur)**

Dit figuur laat zien welke leiderschapsstijlen domineerden in de verschillende fasen op basis van de geanalyseerde data in dit onderzoek. De leiderschapsstijlen lopen uiteen van verticaal leiderschap tot horizontaal leiderschap, gedomineerd door drie leiderschapsstijlen: directief leiderschap, transformationeel leiderschap en stimulerend leiderschap. Naast deze dominante leiderschapsstijlen, werden andere stijlen ook waargenomen tijdens verschillende team fasen. Deze leiderschapsstijlen zijn grijs gekleurd.

De ontwikkeling van een team gaat niet geleidelijk volgens de vijf ontwikkelingsfasen, wat betekent dat een project manager moet anticiperen op wat het team wil. Het moeilijke van de team fasen is dat het moeilijk is deze te onderscheiden, waardoor het ook moeilijk is om de leiderschapsstijlen aan deze fasen te koppelen.

Dit onderzoek toonde aan dat meerdere leiderschapsstijlen werden gebruikt tijdens elk van de ploeg fasen, maar verder onderzoek moet worden uitgevoerd om de kennisbasis te versterken.
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English – Dutch terms

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1. INTRODUCTION

We all need guidance sometimes, a building project is no exception. For this graduation research project a subject has been chosen which is first of all based on personal interests. These personal interests have been further substantiated with previous research and other scientific relevance.

Personal motivation

After receiving my bachelor’s degree I found it hard to realize what this diploma meant for me: what could be my role as a freshly graduate and was there a master that would fit my interests.
To get a better understanding of my own abilities, I did an internship at a consulting and management company for the building site. During this internship I realised that the most important part of managing building projects is working together with all of the involved stakeholders.
Although having a good planning and clear agreements are important for managing a project and its team, I learned that creating a pleasant work environment is just as important.
Inspired and motivated by this internship I subscribed myself for the Master Real Estate & Housing at the University of Technology in Delft.

When the time was there to start with my graduation research project, I realized parts of what I expected to learn during this master had not been discussed. During the master I learned a lot about the field of project management. From setting up a project, understanding different contracts, to writing down the brief for a fictitious project. Yet, in many of these parts I missed the relationship with the people. Working in de building site, is all about working with people. How can you manage people who all have their own character and goals? And how can you manage these people when they have to work together towards a common goal?
With this graduation research project I wanted to do research into this missing piece.

I believe that besides my personal interests, this subject also has an important scientific and social relevance. I hope that with this research I will enlarge my own theoretical knowledge and open doors for further research.
2. BACKGROUND

The aim of this research is to identify different leadership styles among project managers and to find out if there is a connection between these leadership styles and the development phases of a team. In other words: can a project manager influence the development of a team by his leadership style?

In addition to the main research question, the research also tries to find out if the described leadership styles and team phases can actually be identified with the methods used. If so, the methods used in this research can be useful in future, and similar research can further expand this research field.

Not only future researchers but also project managers could benefit from this research. If this research proves that chosen methods work, project managers could use these methods to analyse their teams. By analysing his team, a project manager will get more insight in team development, team members and his own role within the team.

2.1 Introduction

Previous studies show that the traditional approach to control the construction supply chain has become inadequate. This has resulted in a shift of methods for managing the supply chain in the construction industry (Vrijhoef & Koskela, 2000).

The traditional structured approach, in which managers plan each aspect of a development project, allowing different tasks to be separately accomplished by specialists, had to make way for a more bottom up approach. In this approach simultaneous work on related tasks are coordinated and negotiated as part of a dynamic collaborative journey (Edmondson & Nembhard, 2009). This journey can be defined as

“A process in which entities share information, resources and responsibilities to jointly plan, implement and evaluate a programme of activities to achieve a common goal.” (Camarinha-Matos & Afsarmanesh, 2008).

This does not mean that the discipline of project management will disappear entirely in collaborative teams. Project management is about planning, organising and administrating resources to achieve a successful completion of specific project goals and objectives (Ollus, Jansson, Karvonen, Uoti, & Riikonen, 2011). It results in a changing role of a project manager from a task manager into a project leader (Filev, 2008). A manager will need aspects of both top-down and bottom-up approaches to facilitate and guide the team during its collaborative journey, as shown in Figure 4.
As previously addressed, the use of collaborative teams has increased. According to Ollus et al. (2011) most of the research done into project management is focussed on the management of projects within a single enterprise and not on the management of collaborative teams. This shortage of research has also been mentioned by Webber and Webber (2015), who conducted a research into the different leadership roles of a project manager within collaborative teams. Based on their findings, Webber and Webber (2015) related selected leadership roles to sequential phases of a project team defined by Tuckman (1965), being:

- Forming
- Storming
- Norming
- Performing
- Adjourning

Since the increase of collaborative teams project managers have been needing a model that can help launching and leading collaborative teams (Webber & Webber, 2015). Within these teams, the project manager stays to have the leading role and is the person responsible for the outcomes and effectiveness of his team.

Based on the research of Webber and Webber (2015) the conceptual model in Figure 5 shows the focus of this research on the relationship between the role of the project manager and the development of a collaborative team.

It outlines the team development phases next to the phases of project management. The red numbers indicate the possible relation between leadership styles and the phases.
This research focuses on the role of the project manager, specified in leadership styles and how a project manager can practice these styles to manage collaborative teams. This results in the following research question:

**Which leadership styles do project managers use to manage collaborative teams, and can different styles be related to different team phases?**

Next paragraphs are written to clarify the relation between the development of a team and the role of the project manager. They describe the team phases and their characteristics, the project management phases, the tasks of the project manager, and finally the leadership styles and leadership behaviours.

### 2.2 Team phases

<table>
<thead>
<tr>
<th>Team phase</th>
<th>Team phase characteristics</th>
<th>Project management phase</th>
<th>Project manager’s task</th>
<th>Leadership style</th>
<th>Leadership behaviour</th>
</tr>
</thead>
</table>

As stated by Tuckman (1965) the development of a team usually involves the following five phases: forming, storming, norming, performing and adjourning. During each of these phases a group can fail in becoming a team. Each of these five phases has its own characteristic, described by Tuckman (1965) and Tuckman and Jensen (1977).

To be able to recognize in which phase a team is, Miller (2003) specified several identifiable items for each team phase. These items will be included in the team phase descriptions in order to make it more clear how the different phases can be recognized.
Forming

During forming, the first phase, team members are positive and polite. Individual roles and responsibilities are still unclear, so team members can become a bit anxious. Because of this uncertainty, team members highly depend on the leader for guidance and direction. During forming team members also have to get to know each other, the system and their leader.

Identifiable items

Team:
- The team attempts to discover what must be accomplished;
- The team tries to determine the parameter of the task;

Team members:
- Team members rely on the roles that have been established prior to entering the group to define their position in the group;
- Team members try to determine what must be accomplished.

Storming

In the storming phase boundaries, established in the forming phase, are being pushed. Team members compete for a desired position in the team. Cliques and groupings form, which can result in power struggles. It is a critical phase, in which most of the teams fail to become a team. It is therefore important that the team needs to be focussed on its goal. Compromises may be needed.

Identifiable items

Team:
- The team experiences more or less friction;

Team members:
- There is a conflict between team members;
- Team member demonstrate resistance towards the demands of the task;
- Team members can even become hostile towards one another;
- Team members experience conflicts between personal and task demands;
- Team members express personal opinions.
Norming

If a team succeeds to develop, they will gradually move into the norming phase. In this phase most of the differences between team members are being resolved and roles and responsibilities become more clear and accepted. As a result, members develop a strong commitment to the team goal. When new tasks come up it can happen the team might fall back in the storming phase.

Identifiable items

Teams:
- Team norms develop;
- An open exchange of information;

Team members:
- Team members identify with the group;
- Team members feel they are part of a functioning unit;
- Team members are comfortable with each other.

Performing

When the team achieves its goals, the performing phase has been reached. The team has a shared vision and is able to stand on its own feet with no interference or participation from the leader. The team does not need to be instructed or assisted. If disagreements occur or necessary changes are needed, they are resolved within the team.

Identifiable items

Team:
- A unified team approach is applied to a task;
- A solution is chosen;
- Constructive attempts are made to resolve project issues
- The team develops insights into task solutions
- Solutions are developed

Team members:
- Team members recognize their responsibility within the group;

Adjourning

The adjourning phase will eventually be reached. This fifth phase means the break-up of the team. Most of the time projects teams exist for only a fixed period. Team member may find it difficult to let loose, since they have been closely bonded and have a sense of insecurity from this change.
2.3 Project management phases

<table>
<thead>
<tr>
<th>Team phase</th>
<th>Project management phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forming</td>
<td>Building the team</td>
</tr>
<tr>
<td>Storming</td>
<td>Launching the team</td>
</tr>
<tr>
<td>Norming</td>
<td>Collaborating</td>
</tr>
<tr>
<td>Performing</td>
<td>Performing</td>
</tr>
<tr>
<td>Adjourning</td>
<td>Evaluating</td>
</tr>
</tbody>
</table>

Table 1 Comparison team phases and project management phases

It is important that a project manager creates those conditions that help canalhelp a group of stakeholders to develop into a collaborative team (Webber & Webber, 2015). Equivalent phases, as the team development phases, can be identified in project management and the project manager’s tasks. Table 1 shows these project management phases next to the team phases.

By understanding the phases of team development and the dynamics occurring within a team setting, team leaders can focus on initiatives that are directed at certain critical moments for the team in order to build positive team dynamics (Webber & Webber, 2015).

Each of these phases include specific tasks that are reserved for the project manager. Webber and Webber (2015) elaborate on these five phases a project manager faces during projects, as discussed below.

**Building the team**

During the first phase, the leader has to build the team. The leader focusses on those elements that have a positive impact on the development of trust and the long-term success of the team, such as the skills of the team members, their personalities and backgrounds.

According to Webber and Webber (2015) selecting team members means that all necessary skills must be represented, i.e. personalities should match and the backgrounds of member should vary.

In addition, the leader should also start planning the project. During planning, the tasks and goals of the project become more clear to the team.

**Launching the team**

As the team has been selected, the leader should provide the team members with a shared vision during the launch of the team. This can be achieved by having a launching meeting.
Formalizing the launch process demonstrates organizational goals and sets the stages for teaming expectations for the duration of the project. Having a good launch of the team builds up the trust between the team members (Webber & Webber, 2015).

Collaborating

In the third phase, the collaborating phase, it is important that the leader connects the individual team members to the team and fosters a shared identity within the team. In this connection it is important that the leader creates a safe environment for exploration, creativity and honesty, facilitating team conversations and advance relationships between team members (Webber & Webber, 2015).

Performing

When the team has started performing, the leader must analyse the progress towards the goal. Webber and Webber (2015) describe that the leader organizes team meetings in which the progress of the project and the team will be evaluated. If necessary the leader can make changes so the team will successfully meet the common goals and tasks.

Evaluating

The last phase is about evaluating. Evaluating takes place during the entire project. It gives the leader the opportunity to determine if any changes are needed for the long-term success of the team. During the last phase will include the evaluation of the entire project, the leader evaluates how team members worked together, whether every member stuck to his or her tasks and whether the team achieved its goals (Webber & Webber, 2015).

2.4 Leadership styles

<table>
<thead>
<tr>
<th>Team phase</th>
<th>Team phase characteristics</th>
<th>Project management phase</th>
<th>Project manager’s task</th>
<th>Leadership style</th>
<th>Leadership behaviour</th>
</tr>
</thead>
</table>

As mentioned above, a project manager will have a leading role in each of the phases as described. Most of the research done into leader behaviour has mostly focussed on the behaviour of designated leaders, the so called vertical leadership. This contrasts with the so called shared leadership, a more horizontal approach to leading a team.

“one should not simply rely on the designated leader but should look for leadership from the person who has the most knowledge about the situation at hand.” (Riggio & Orr, 2004, p. 184)

Recently, more research has been done into the advantages of this shared leadership. One of these researches is that of Pearce and Sims Jr (2002). They address the issue of the kind of leadership that is more appropriate for this new team-based environment.
In the research of Pearce and Conger (2002) the difference between shared leadership and vertical leadership has been defined as follows:

“**The key distinction between shared leadership and traditional models of leadership is that the influence process involves more than just downward influence on subordinates by an appointed or elected leader [...]. Rather leadership is broadly distributed among a set of individuals instead of centralized in hands of a single individual who acts in the role of a superior.**”

So this does not exclude the role of the project manager, but does suggest that not all responsibilities and decision making lies with the project manager.

Pearce and Sims Jr (2002) distinguished five major leadership styles, all with their own characteristics, summarised in Table 2. The characteristics of the leadership styles describe how a leader acts in a team, delegates and motivates the team to work together. In addition to the table, each of these leadership styles and style characteristics will be further explained.

<table>
<thead>
<tr>
<th>Leader type</th>
<th>Representative behaviours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aversive leadership</td>
<td>Exercising intimidation</td>
</tr>
<tr>
<td></td>
<td>Giving reprimands</td>
</tr>
<tr>
<td>Directive leadership</td>
<td>Issuing instructions and commands</td>
</tr>
<tr>
<td></td>
<td>Assigning goals</td>
</tr>
<tr>
<td>Transactional leadership</td>
<td>Providing personal rewards</td>
</tr>
<tr>
<td></td>
<td>Providing material rewards</td>
</tr>
<tr>
<td></td>
<td>Managing exceptions (active)</td>
</tr>
<tr>
<td></td>
<td>Managing exceptions (passive)</td>
</tr>
<tr>
<td>Transformational leadership</td>
<td>Providing vision</td>
</tr>
<tr>
<td></td>
<td>Expressing idealism</td>
</tr>
<tr>
<td></td>
<td>Using inspirational communication</td>
</tr>
<tr>
<td></td>
<td>Having high performance expectations</td>
</tr>
<tr>
<td>Empowering leadership</td>
<td>Encouraging independent action</td>
</tr>
<tr>
<td></td>
<td>Encouraging opportunity thinking</td>
</tr>
<tr>
<td></td>
<td>Encouraging teamwork</td>
</tr>
<tr>
<td></td>
<td>Encouraging self-development</td>
</tr>
<tr>
<td></td>
<td>Participative goal setting</td>
</tr>
<tr>
<td></td>
<td>Encouraging self-reward</td>
</tr>
</tbody>
</table>

Table 2 Theoretical bases and representative behaviours of five types of leader behaviour (Pearce & Sims Jr, 2002)
Aversive leadership

With this top-down approach, a leader uses aversive methods to force others to comply. These methods include threats, intimidation, reprimand and punishment. Applying this leadership style, the leader mainly focusses on the poor work and wrong behaviours of the team members.

Arvey and Ivancevich (1980) state that the use of punishment is a relatively common phenomenon in organizational and industrial settings, but most of the research has been focussed on positive reward systems for modifying and changing employee behaviour.

Punishment is the presentation of an aversive event or the removal of a positive event following a response which decreases the frequency of that response (Kazdin, 2012, pp. 33-34). In other words, if an event or situation happens that is not desired, punishment could help in preventing this to occur again. The first way of punishment, the presentation of an aversive event, warns those involved for the consequences if a certain response is given. The removal of a positive event is another way of punishment, where someone is punished for example by the withdrawal of privileges.

Research has shown that using aversive leadership can have some disadvantages, such as low flexibility, strong dissatisfaction, high turnover, rebellion and low innovation among individual team members (Ball, Trevino, & Sims, 1994).

Yet, situations could occur, in which a leader has no other option than to act as an aversive leader. A leader could feel that it is important to attract the team member’s attention quickly and to emphasize goals that the problem team member must achieve (Sims, Faraj, & Yun, 2009, p. 156).

Directive leadership

Directive leadership also has a top-down approach, but is much more friendly than an aversive leader. A directive leader leads by giving direction, instructions and commands.

Sims et al. (2009, p. 156) appoint that this leadership style mainly emerges when the goals of the team are clear and the leader has considerable more experience than the other team members. In this situation short-term goals, learning and compliance are more important than the team members’ development. The following three studies describe directive leadership.

The first study called Theory X (McGregor, 1960) is based on three propositions:

- Management is responsible for organizing the elements of a productive enterprise in the interest of economic ends.
- With respect to the people involved, this is a process of directing their efforts, motivating them, controlling their actions, modifying their behaviour to fit the needs for the organization.
Without this active intervention by management, people would be passive—even resistant—to organizational needs. They must therefore be persuaded, rewarded, punished, controlled—their activities must be directed. This is the task of the management: managing subordinate managers or workers, or summarized: management is to get things done through other people.

To summarize, Theory X assumes that team members are unmotivated and need an authoritarian style of leadership. This means team members have to be controlled, forced and threatened to deliver that what is needed. A leader needs to supervise how individual team members work and division the tasks of the team.

The other two studies, the Ohio state and Michigan studies both define a leadership that involves planning and organizing subordinates’ roles and responsibilities. The findings of the Ohio state leadership studies presents that a leader shows concern for the welfare of the team members on the one hand and structures the development of the team on the other hand. The leader must specify team members’ roles, initiate actions and define how tasks should be done within the team (Halpin & Winer, 1957).

The Michigan University studies shows two similar kinds of leadership behaviour that are more task-oriented. The first leadership behaviour focusses on the human-relations aspect, team members are human beings with personal needs. And secondly, the team members are seen as the means of getting the work done (Katz, Maccoby, & Morse, 1950).

A directive leadership style thus shows similarities with traditional leaders. These leaders are in charge of actively generating the structures, activities, conditions etc., for the team. However, these leaders do not loose sight of the human aspect. A directive leader takes care of issuing instruction, commands and assigning goals for single team members of the entire team.

**Transactional leadership**

This type of leadership finds its base in three theories. Pearce and Sims Jr (2002) name the characteristics of these theories briefly, first of all the expectancy theory. This theory describes individuals assessing situations according to three variables: the attractiveness of potential outcomes when certain behaviour is shown, the link between the behaviour and its outcome and the possibility that the desired outcome occurs when one shows certain behaviour. A leader should therefor clarify the effort-reward relationship within a team.

Related to this theory is the exchange theory. This theory is based on the knowledge that individuals aim for equality between what they give and what they will get in return. A leader should thus reward actions of team members on an equal level, meaning that higher levels of input should be rewarded with higher levels of reward.

The third theory, the so called reinforcement theory, appoints that the result of behaviour determines whether that behaviour will be repeated in the future.
Transactional leadership therefore tries to influence undesired behaviour of team members by reinforcing desired behaviour.

**Transformational leadership**

Transformational leadership, also named as charismatic leadership, is characterized by a leader who is able to create a motivating and absorbing vision of the future. With this vision the leader enthuses the team to work together towards a common goal. This leadership style has a top-down approach, as the leader generates commitment from the team members. Podsakoff, MacKenzie, Moorman, and Fetter (1990) discuss transformational leadership and the effect it has on the team members. A transformational leader shows the following six aspects of behaviour when it comes to leading a team:

- **Vision** – the leader identifies new opportunities, based on these opportunities the leader develops a vision for the future.
- **Model** – the leader sets an example that the team members should follow, this is based on the values the leader embraces.
- **Goals** – the leader promotes cooperation among team members and stimulates them to work together towards a common goal.
- **Expectations** – the leader has high expectations. He expects high quality and high performances on part of the team members.
- **Support** – the leader respects each individual team member and is concerned about their personal feelings and needs.
- **Stimulation** – the leader challenges the team members to re-examine their positions about their work and rethink about how it could be improved.

A leader will use this transformational leadership style to enthuse every team member about a project and have them committed for the long-term. For this process it is important that team members trust and respect the leader (Yukl, 1989).

**Empowering leadership**

Characteristic for empowering leadership is that the leader does not give out orders, but encourages initiative, self-responsibility, self-confidence, goal orientation, positive opportunity thinking and self-problem solving (Sims et al., 2009). This style could be summarized as “the leader leads others to lead themselves”. It is the leader’s challenge to let team members discover their own potential.

Several theories form the base of empowering leadership. One of these is the social cognitive theory. This theory states that an individual can influence his environment through his behaviour. It is thus important that an empowering leader should model appropriate self-leadership behaviour, through which team members can adopt similar behaviour. For example by not seeing obstacles as a problem, but as learning opportunities (Bandura, 1986).
So the leader of this team has an encouraging role. This includes the encouragement of independent action, opportunity thinking, teamwork, self-development, participative goal setting and self-reward (Pearce & Sims Jr, 2002).

Although self-leadership is the key aspect within this leadership style, the leader of the team is always to have a monitoring role (Zaccaro, Rittman, & Marks, 2002).

2.5 Summary

All theories discussed in this chapter are summarized in Table 3 on page 15. They can also be linked to the conceptual model on page 5.

The team phases and project management phase have been put alongside each other and can be linked to the conceptual model discussed earlier. This table shows that the tasks of the project manager during its own phases complement the characteristics of the team phase characteristics. For example, during the storming phase members start communicating, but still view themselves as individuals. Parallel to this phase, the project manager goes through the launching phase. As a leader the project manager must provide a shared vision. This shared vision will bring the team members closer together and will build up the trust between the team members.

It should be noted that this table makes no statement about the relation between the team development phases and the five leadership styles. The order of leadership styles in the table, does not follow the order of team phases in the table.
<table>
<thead>
<tr>
<th>Phase</th>
<th>Team phase</th>
<th>Team phase characteristics</th>
<th>Project management phase</th>
<th>Project manager’s tasks</th>
<th>Leadership style</th>
<th>Leadership behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Forming</td>
<td>Team acquaints and establishes ground rules. Formalities are preserved and members are treated as strangers</td>
<td>Building the team</td>
<td>Preparing for the team launch</td>
<td>Aversive leadership</td>
<td>Engaging in intimidation, Dispensing reprimands</td>
</tr>
<tr>
<td>2</td>
<td>Storming</td>
<td>Members start to communicate their feelings but still view themselves as individuals rather than part of the team</td>
<td>Launching the team</td>
<td>Sharing the vision</td>
<td>Directive leadership</td>
<td>Issuing instructions and commands, Assigning goals</td>
</tr>
<tr>
<td>3</td>
<td>Norming</td>
<td>People feel part of the team and realize that they can achieve work if they accept other viewpoints</td>
<td>Collaborating</td>
<td>Fostering identity</td>
<td>Transactional leadership</td>
<td>Providing personal rewards, Providing material rewards, Managing by exception (active), Managing by exception (passive)</td>
</tr>
<tr>
<td>4</td>
<td>Performing</td>
<td>The team works in an open and trusting atmosphere where flexibility is the key and hierarchy is of little viewpoints</td>
<td>Performing</td>
<td>Tracking progress</td>
<td>Transformational leadership</td>
<td>Providing vision, Expressing idealism, Using inspirational communication, Having high performance expectations</td>
</tr>
<tr>
<td>5</td>
<td>Adjourning</td>
<td>The team breaks up. Team members may find this stage difficult, particularly if their future now looks uncertain.</td>
<td>Evaluating</td>
<td>Intervening to improve the team</td>
<td>Empowering leadership</td>
<td>Encouraging independent action, Encouraging teamwork, Encouraging self-development, Participative goal setting, Encouraging self-reward</td>
</tr>
</tbody>
</table>

Table 3: Summary of theoretical research field (illustration of author)
3. RESEARCH DESIGN AND METHODOLOGY

This chapter describes the design of this qualitative research. Part of this chapter are the research strategy, research design and the different research methods. First of all the research strategy is explained, which tells something about the way one looks at the research, the theory and the data. Then the research design defines the framework within which the research has been done and the data was collected. This will be followed by the different research methods. These methods made it possible to collect data. To conclude this chapter, a short description will be given on how the data were processed, how the research was processed and what can be said about the validity and generalizability.

3.1 Qualitative research strategy

When research emphasizes words rather than quantification in the collection and analysis of data it is defined as a qualitative research strategy. In this research the focus will be on the influence of leadership styles on the behaviour of project managers and collaborative teams. A qualitative research strategy is (partly) inductive, constructionist and interpretivist (Bryman, 2012, p. 714).

In this research, the relation between the theory and research can be classified as both inductive and deductive. This means that the theory of Webber and Webber (2015) furthered into a new extended model encompassing both leadership styles, project management phases and phases in team development. When this research is finished, the possible links between the leadership styles and the development of teams has been investigated and can among other things be added to the model of Webber and Webber (2015) which was used to develop the conceptual model of this research.

This strategy also entails that the research is interpretivist. With different methods, discussed further on in this chapter, this research emphasis on the ways in which the project manager and the team members interpret their collaboration and progress.

The last element of a qualitative research strategy is constructionism. The research attempts to understand the perspectives that the team members form about their collaboration, the project and the issues that occur during the project. Special attention in this research is paid to the project managers, their perspectives and collaboration with the other team members. To gain insight in these developments during the case studies, it is important that the researcher witnesses the interactions between the participants of the research, and to some extent take part in the meetings.
3.2 Multiple case study research design

A research design provides the framework for the collection and analysis of data. The research design that was chosen for this research was a multiple case study. A multiple case study will improve the theory building: by comparing two or more cases, the researcher is in a better position to establish the circumstances in which a theory will not hold (Bryman, 2012, p. 710).

Using multiple cases resulted in multiple data. Comparing this data will show if findings replicate across the selected cases. For this research at least two different projects needed to be selected as relevant case studies.

To have access to multiple cases, two different companies were approached. The first company, ABC Nova Nieuwegein, offered more traditional projects, while the other company WonenBreburg, used Supply Chain Management (SCM) to execute the project.

Vrijhoef and Koskela (2000) described that SCM manages the flows of material, information and cash, by encouraging close project-based collaboration and engagement of future collaborations within strategic partnership. This close relation among different professionals implies sharing both rewards and risks.

The fact that the cases are not offered from the same company has no effect on the objectives of this research. However, there are other conditions to which the cases have to comply. Below each of these cases will be briefly explained and tested on the selection criteria shown in Table 4.

<table>
<thead>
<tr>
<th>No</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The team has to exist of various parties/stakeholders with different backgrounds.</td>
</tr>
<tr>
<td>2</td>
<td>The team has to have a project manager.</td>
</tr>
<tr>
<td>3</td>
<td>The team should meet at least once every two weeks.</td>
</tr>
<tr>
<td>4</td>
<td>The project manager has to attend to the meeting(s) that will be observed</td>
</tr>
<tr>
<td>5</td>
<td>Everyone has to accept the terms of data collection (observation, recording etc.).</td>
</tr>
</tbody>
</table>

Table 4 Case selection criteria

When this research started, three cases were selected to be included and observed. The second case, Park Boswijk, was not included in the research in the end. This project had a difficult process. In consultation with the supervisors of the TU Delft and ABC Nova, it served as a sort of back-up. This means that if it was possible to carry out observations and/or interviews, these would have been included in the research report. Luckily, the two other cases offered sufficient opportunities to collect data.

**Case Heidelberglaan, Utrecht**

This case has been offered by ABC Nova to be analysed and observed for this graduation research.
The project is part of the large renovation project of the Hogeschool Utrecht, *Huisvesting de Uithof*. The construction of this new building will be one of the last phases of this large project.

<table>
<thead>
<tr>
<th>No</th>
<th>Condition</th>
<th>Check</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The team has to exist of various parties/stakeholders with different backgrounds.</td>
<td>√</td>
</tr>
<tr>
<td>2</td>
<td>The team has to have a project manager.</td>
<td>√</td>
</tr>
<tr>
<td>3</td>
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</tr>
<tr>
<td>5</td>
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<td>√</td>
</tr>
</tbody>
</table>

Table 5 Case selection criteria check Heidelberglaan

To guide the team in team building, this project makes use of so called RealDrives. Using a method like this makes the project extra interesting to incorporate in this research.

In a manual handed over during one of these meetings, the RealDrives Methods is described as following:

“*RealDrives is a method that uses values to provide insight into cultural patterns and make them debatable; to help understand why people do what they do; to improve the mutual collaboration in and between teams; to explain how to motivate people and groups; to increase reciprocal understanding; to make communication more effective and to manage organizations.*”

Case Park Boswijk, Doorn

This case was also offered by ABC Nova to be analysed and observed for this graduation research. The project involves the renovation of a residential apartment block with an adjacent care facilities from the 1970s.

<table>
<thead>
<tr>
<th>No</th>
<th>Condition</th>
<th>Check</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The team has to exist of various parties/stakeholders with different backgrounds.</td>
<td>√</td>
</tr>
<tr>
<td>2</td>
<td>The team has to have a project manager.</td>
<td>√</td>
</tr>
<tr>
<td>3</td>
<td>The team should meet at least once every two weeks.</td>
<td>√</td>
</tr>
<tr>
<td>4</td>
<td>The project manager has to attend to the meeting(s) that will be observed</td>
<td>√</td>
</tr>
<tr>
<td>5</td>
<td>Everyone has to accept the terms of data collection (observation, recording etc.).</td>
<td>√</td>
</tr>
</tbody>
</table>

Table 6 Case selection criteria check Park Boswijk

This project already has a long and turbulent history. For example in the case of the final proposal in 2014 it was not received well by many of the residents and owners. This resulted in a re-start of the project, which even meant going back to the drawing board.

In addition to this history, the project also has a complex organisational structure. The project has been divided into two separate projects, the apartments and the surrounding area. Each of these sub-projects demands its own organisational structure, while the overall decision making on the entire project lies with the same stakeholders.
Case Lindeplein, Breda

This case has been offered by WonenBreburg to be analysed and observed for this graduation research. This project includes the renovation of 81 apartments in Breda.

<table>
<thead>
<tr>
<th>No</th>
<th>Condition</th>
<th>Check</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The team has to exist of various parties/stakeholders with different backgrounds.</td>
<td>✓</td>
</tr>
<tr>
<td>2</td>
<td>The team has to have a project manager.</td>
<td>✓</td>
</tr>
<tr>
<td>3</td>
<td>The team should meet at least once every two weeks.</td>
<td>✓</td>
</tr>
<tr>
<td>4</td>
<td>The project manager has to attend to the meeting(s) that will be observed</td>
<td>✓</td>
</tr>
<tr>
<td>5</td>
<td>Everyone has to accept the terms of data collection (observation, recording etc.).</td>
<td>✓</td>
</tr>
</tbody>
</table>

Table 7 Case selection criteria check Lindeplein

As stated before, this project works with SCM. The companies in the team that work on this project have worked together before in a chain. Although some of the team members have been replaced, the knowledge gained from these projects will be used in this project. As also stated by the contractor:

"Besides work, it provides us with knowledge of the work method and mind-set of the chain partners cooperative. It is a testing ground where we can apply ideas which, when proven to be successful, can later be used in the involved organizations." (Huybregts-Relou, 2016)

Comparing cases

Using this multiple case study design makes it possible to compare the two cases in two areas. On one hand there are the project managers and on the other hand the teams.

![Multiple case study design](illustration of author)

By collecting data from the two selected cases Heidelberglaan and Lindeplein, on both areas, it should be possible to eventually see if there is a link between these two. Whatever the results of this comparison will be, it will help answering the research question.
3.3 Research methods

The research methods are those techniques that were used to collect data. For this research the following methods were chosen: making a context analysis, taking semi-structured interviews and making participatory observations. Each of these methods will be used for each of the cases.

Context analysis

The first step of each case studies was to write down a context analysis. This analysis was meant to get a first insight into the case as a whole, including its team and the project manager. This can also be defined as a thick description. A thick description builds up a clear picture of the individuals and groups in the context of their culture and the setting in which they live or work (Ponterotto, 2006).

In this research data were collected using three different research methods. For this research a thick description is an extra support in explaining the behaviour of the team and the individual team members. After all, projects are not one-sided. The processes of projects are influenced by their historical and organizational context (Engwall, 2003).

To have a similar structure for every context analysis, different subtopics are distinguished. Every context analysis starts with a project description, beginning with a brief history, using text and a timeline. This includes important decisions that already have been made and a description of events which had had a profound impact on the process of the project. The timeline and explanatory text will also elaborate on the planning of the project, describing important events that lay ahead.

Besides the direct context of the project, the political and/or social context are also included. These two contexts have an influence on the project on a different level. When looking at the political or social context, the description will show what the impact of these two contexts can be on a project nationally and vice versa.

Another subtopic of the context analysis is the project organisation. This will start with a list of all the involved stakeholders. To ensure the privacy of all stakeholders, full names of stakeholders or company names are not mentioned. The lists only includes the roles of the different stakeholders.

Next an organogram shows how the stakeholders work together in the project. The organogram shows the relationship between the different teams. Each team will have its own meeting structure, which will be summarized in tables. The structures of the different teams indicate how frequently the teams meet and what their responsibilities are within the cases.
The description of the project organisation concludes with a short explanation about the meeting that will be attended and why.

Most of the information needed for this analysis will be provided by the companies offering the cases for this research. Missing information will be gathered by observing and by asking questions to the involved stakeholders.

**Semi-structured interview**

The second method comprises the execution of semi-structured interviews. These interviews were held with the project managers of the selected cases and dealt with their experiences and role within the case.

With the questions in these semi-structured interviews, the project managers were asked about their vision on their role, their knowledge on leadership styles and team development and if they made use of management tools in their project.

The questions were the same for every interview, except for one. This single question is case specific and inquires the case specific approach in team building and/or team collaboration.

Initially, all the questions were meant to be asked in the same order in every interview. However, semi-structured interviews allow an interviewer to change the order of questions during each interview. The interviews were not only intended to just gather data, but also to have an open discussion with the project managers and to have them thinking about their own role and the team they are working with.

Since both the project managers are Dutch native speakers, both interviews were held in Dutch and also transcribed in Dutch.

The interview questions for the project managers can be found in Appendix I Interview protocol on page 82. Each interview will be recorded and transcribed. A template for transcribing the interviews is given in Appendix II Transcription form on page 87.

**Participatory observation**

During the case studies, data were also collected by participatory observations. With this research method a researcher gains access to a group and spends a considerable amount of time with that group, with the aim of uncovering its culture. This is done by watching and listening to what people say and do (Bryman, 2012, p. 431).

**Observation checklist**

In order to assess the situation during each observation, an observation checklist was chosen as a tool to do so.
Before the actual observations started, a test run was done with the checklist. This was done to check whether or not the checklist had a logical design and was easy to keep track of. During this test run, it became clear that some small alterations needed to be made.

Figure 7 Adjustments concept checklist

As shown in Figure 7 three adjustments had to be made to the checklist;

- An additional column was added to the checklist. Alongside the columns for communication from the leader to the team or vice versa, the third column covers communication between team members.
- The initial emotions were based on common knowledge on what type of emotions could possibly be observed. The test run showed that these emotions fell short. So two additional emotions were added and other emotions were combined into one.

Figure 8 Adjustment observation mood symbol (Illustration of author)

- The last point of adjustment was made in the actual observation time. In the concept checklist the researcher would observe for five minutes and then wait 15 minutes for the next observation. During the test run it instantly became clear that five minutes of observation were not enough. So the time was changed to ten minutes observation and then an interval of ten minutes.
The final checklist has been included in Appendix III Observation checklist on page 89. In addition to the general information, such as date and location, the checklist exists of three main categories. To start with, the attendees. Who attends the meeting and what is the table setting. This table setting includes which team members make use of a laptop or tablet.

The second category summarizes briefly the different team phases and the moods team members can have during the meeting. This information has been written down to serve as a reminder during the observation.

With the last category the actual observation is imaged. Each of these observations will be numbered at the top of the page. During observations the observant should note in which phase the team is, what comment has been given and the mood in which that comment is given. In the last three columns, the observant notes if the leader aims the comment at the team or vice versa. Another option is that the comment is part of a conversation between the team members.

All the pages of the observation will be digitally processed. Working out the front page will include converting team members names into codes. This is not to violate the privacy of the team members. Each team member will be linked to a code and this code will be used during the entire research. With this information all team members agreed to be observed for a period of time. The original observation notes will be scanned and then combined with the digital version of the observation.

3.4 Processing data

All the digitalised documents, the interviews and the observations, will be collected in one digital library in ATLAS.ti, called a Hermeneutic Unit. This program can be used as a tool to analyse qualitative data. It helps the research to uncover and systematically analyse unstructured data. This includes all sorts of data, such as texts and audio clips.

The program provides tools that let the user locate, code and annotate findings in primary data material, to weigh and evaluate their importance and to visualize the often complex relations between them (Lewins & Silver, 2007, p. 62).

Coding data

To be able to analyse the data, a list of codes was made. This list of codes was based on sensitizing concepts. Sensitizing concepts are part of qualitative research and draw attention to important features of social interaction and provide guidelines for research in specific settings (Bowen, 2008).
The codes have been divided into six main codes and the additional code *Other*. The following table summarizes the main codes and shows where the sensitizing concepts can be found in this report.

Based on these sensitizing concepts these codes can be further broken down into different specific codes.

The table that includes all these specific codes can be found in Appendix IV ATLAS.ti codes on page 91.

<table>
<thead>
<tr>
<th>Nr.</th>
<th>Code</th>
<th>Sensitizing concept</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Team phase</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Leadership style</td>
<td></td>
</tr>
<tr>
<td>B1, B2..</td>
<td>Aversive leadership, directive leadership, transactional leadership, transformational leadership, empowering leadership</td>
<td>(Pearce &amp; Conger, 2002)</td>
</tr>
<tr>
<td>C</td>
<td>Role</td>
<td></td>
</tr>
<tr>
<td>C1, C2..</td>
<td>Advisor, architect, project manager etc.</td>
<td>Page 31 and 47</td>
</tr>
<tr>
<td>D</td>
<td>Context</td>
<td></td>
</tr>
<tr>
<td>D1, D2..</td>
<td>Prehistory, politics etc.</td>
<td>Page 29 and 45</td>
</tr>
<tr>
<td>E</td>
<td>Emotion</td>
<td></td>
</tr>
<tr>
<td>E1, E2</td>
<td>Positive, negative</td>
<td>-</td>
</tr>
<tr>
<td>F</td>
<td>Communication</td>
<td></td>
</tr>
<tr>
<td>F1,F2..</td>
<td>Verbal communication, non-verbal communication</td>
<td>-</td>
</tr>
<tr>
<td>G</td>
<td>Other</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 8 Main codes analysing data

**Analysing the observation checklist**

To analyse the different observations, the scheme in Figure 9 was used. With this scheme a variety of fragments from the observations are analysed. These fragments are chosen because they show different phases and leadership styles within the ten minutes of observation.

Each fragment starts with the input from one of the team members or the team, this input means that the team has to act, resulting in the observation of team phases and leadership styles. The output of a fragment is chosen at a point that the original input seems solved or answered.
Linked to this scheme is a graph, that shows the progress of the team during each observation.

The horizontal axis shows the progress of the observation, linked to the comments noted on the observation checklist starting with the input of that observation. The division of the vertical axis is based on the five team phases, ranked from one, the forming phase, till five, the adjourning phase.

![Graph showing team phases](image)

**Figure 10 Example observation graphic**

By placing these two analyses on top of each other something can be said about the development phases of a team and the leadership styles that were used during these phases.

### 3.5 Research process

Figure 11 presents the flow chart for this research. It summarizes the different subjects that are part of the whole research process. The first part of the framework is entirely about the initiative and the preparation for this research. When the main research focus has been determined and the literature review is finished, the second part of the research starts.

This part includes the actual research. During the case studies the three research methods as described, will be applied. With these methods data will be collected, which must be analysed using the described program ATLAS.ti. Before this can be done, the interviews need to be transcribed and the observations need to be digitalised. After this has been done, one can start with coding the data.

With these processed data a conclusion can be drawn and the main research question can be answered. This should also include a reflection on the research process and recommendations for future research connected to this subject.
A project manager’s role in building teams

Figure 11 Flow chart (illustration of author)
3.6 Validity and generalizability

When collecting data for a research, one should also take in mind that biases may occur that can influence the validity and generalizability of the research. During the collection and analysis of case data two types of bias may be recognized (Darke, Shanks, & Broadbent, 1998).

The first bias is the effect of the researcher on events and the behaviour of participants during the case study. It should be noticed that the influence of the researcher in one sense is unavoidable. It is therefore important to acknowledge that the team members and project managers know that they are being studied.

Some measures can be taken to secure the role of a neutral observer even more. A researcher should not only have her role as observer, but should also spend time hanging around with the team members outside the research. Another important point is to inform people involved about the purpose of the research and what will be done with the collected data.

The fact that multiple research methods will be used to collect data is another way of counteracting this bias. Case study findings will be strengthened by the convergence of information from a variety of sources.

The second bias is the researcher’s own beliefs, values and prior assumptions. These could prevent the researcher from doing adequate investigations and could influence the analysis of the case study evidence. It could therefore be useful to follow a recognized case study reporting structure that has been used in published case study research within the field. This structure can assist the understanding of the research and its results.

The aim of this research is to find the relationship between the leadership styles and the development of teams. Yet, the validity of this relationship may not be reliable. This validity is called the internal validity and is related to the question whether a finding, that incorporates a causal relationship between two or more variables, is reliable (Bryman, 2012, p. 711).

It could be that there are more variables involved that could influence the outcome of this research, but these variables have not been taken into account during this research.

Besides internal validity, there is also external validity. This concerns the question of whether the results of this research can be generalized beyond the specific research context in which it was conducted (Bryman, 2012, p. 711).

Part of this research is to extend an existing model with the knowledge gained from the case studies. Generalizing the outcomes of this research could be a problem, if the results are specifically linked to the cases. In that instance the extended model cannot be used in future projects.
4. CASE 1 – HEIDELBERGLAAN, UTRECHT

The building project for the Hogeschool Utrecht (HU) is part of the relocation program Huisvesting de Uithof. Through this relocation program the HU wants to bring back its housing portfolio from 158,000 m² to approximately 95,800 m². Within the portfolio some existing buildings were renovated and others were disposed.

4.1 Context

![Figure 12 Artist impression Heidelberglaan (Picture: HU)](image)

**Project description**

The first plans for this large project can be found in Huisvesting verbindt – herrijking huisvestingsbeleid HU 2010-2015. After a business case in 2011, the executive board of the HU approved the plans for the renovation of some of the existing buildings, divesting itself from other buildings, and the construction of a new building.

With this large project the HU wants to provide its students, researchers, teachers and other staff with accommodation with the following two qualities:

- Intensified cooperation between education and institutions through joint accommodations;
- Sustainable ambitions expressed in buildings that generate energy (newly built) and energy neutral buildings (in the case of the renovated buildings).
The entire relocation program thus consists of a variety of projects. Most of these projects finished when the first project phase of the new building started. Apart from the structural alterations of existing buildings and the construction of the new building, relocating the users of different buildings is a project in itself. For this large operation, the project organisation came up with a relocation plan. This plan accurately describes the movement of the different users of the buildings. Most of these movements will be temporary, which means the users will move back to their building after the renovation has been completed.

RealDrives

During this project the so called RealDrives are used to form and develop the team of this project. This method was designed to provide insight into the question why people do what they do. It measures both on individual level and team level.

The method uses six different colours to describe the team and its team members. On the basis of these six colours insight in leadership and ‘drives’ of individual team members is given. Individual team members learn how to function within the team through the awareness of their drives and the drives of others.

During this research a two-day kick-off was organised, when the team got to know each other’s drives. Using the different colours of individual team members, the team was prepared for the project: on what would be the challenges for the team and how they would deal with conflicts and setbacks?

Although RealDrives is not really a management tool, it could probably have a certain effect on certain decisions and/or actions during the project.

Keywords:
- service, unity, caring
- quick, alert, fearless
- clarity, discipline, reliability
- honesty, openness, sharing
- ambition, purposefulness, flexibility
- knowledge, freedom, self-direction, vision

Figure 13 RealDrives colours (Hachfund.nl, 2015)
Political context

2015 was a year of unrest in higher education.
First of all, in February students occupied one of the university buildings in Amsterdam out of dissatisfaction with the way the university was run.
They demanded, among others, that students would be given more say in the decision making processes within the university. After eleven weeks, the university conducted a case to end the occupation. However, this did not end the discussions.

One year later, in February 2016, Parliament decided that the influence of teachers and students in higher education were to increase. This mainly concerned strengthening the role of education committees at universities and colleges. From then on, one half of the committees were to consist of teachers and the other half of students. This new law and amendment intended to put an end to the supremacy of Rectors and other management members of education in the Netherlands.

This discussion clearly shows that when it comes to decision-making within higher education, multiple parties are involved. Politicians can exercise influence on different decisions, but also non-political parties can use their influence in the course of a decision making process either through politics or through influencing the organisation itself. In the case of the Heidelberglaan, this context should not be underestimated.

During the same year, in addition to the political moves of students, it was also decided that the NCA would look into the building policy of different universities.
The immediate cause of this was a report about the ROC in Leiden. This educational institution balanced on the edge of bankruptcy through megalomaniac building plans of the Board of Directors.

The spokesman of the NCA investigation described this as follows:

"The development of government policy in this area has been limited, while a lot of things have happened. That is why we keep an eye on what has been and is happening and propose improvements."

Organisation

The organisation of this project shows how complex a project can be. Apart from the regular stakeholders, the biggest part of the project organisation consists of a consortium. This brings the total amount of stakeholders within this project over 30.

Stakeholders

Each project within the relocation program Huisvesting de Uithof has its own team. Some team members of these teams were involved in several projects of the relocation program, which means they worked together before. This also applies for the Heidelberglaan case.
The following list consists of the roles involved in the Heidelberglaan case:

- Advisor (technical installation, construction, building physics and acoustics);
- Architect;
- Client;
- Contract manager;
- Legal advisor;
- Process manager;
- Project manager;
- Representatives users;
- Users (students, teachers, other staff).

Organogram

Figure 14 shows the organisation of the case Heidelberglaan. It becomes immediately clear that it is a comprehensive and somewhat complex organisation because of the total amount of stakeholders.

This is mainly caused by the different subteams and the consortium. The three subteams, the contract team and both test teams, all provide the project team with feedback. The project team finalises what needs to be done within the project and provides feedback to the steering committee.

The consortium takes care of the design and execution of the project. This consortium has its own stakeholders and organisation, which is also briefly displayed in Figure 14.

Meeting structure

The following table shows which meetings take place and how frequently they are held.

<table>
<thead>
<tr>
<th>Meeting</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test team (small)</td>
<td>Once every four weeks</td>
</tr>
<tr>
<td>Test team (big)</td>
<td>Once every four weeks</td>
</tr>
<tr>
<td>Project meeting</td>
<td>Once every two weeks</td>
</tr>
<tr>
<td>Contract meeting</td>
<td>Once every two weeks</td>
</tr>
<tr>
<td>Steering committee</td>
<td>Once every two weeks</td>
</tr>
</tbody>
</table>

Table 9 Meeting structure Heidelberglaan
N.B. The consortium SPARK will have similar meetings within the consortium. Since this research focusses on the project manager and the entire team, only their meetings have been taken in consideration. Representatives of the consortium will also attend to these meetings if necessary.

**Attended meetings**

During this research two meetings were attended, the test team big and the project team. A large amount of stakeholders take part in both meetings, which is why both meetings are interesting for this research.

The test team’s task is mainly designed to see if the design and progress of the project fits the predetermined frames of the client. Within this test team no decisions are made, but all important issues are reported back to the project team.

Because most aspects of the project come along during the meeting of the test team, it is interesting for this research. One can observe how the project manager works together with the team while at the same time he ensures that the project continues to run smoothly.

The project team exists of the project managers and legal advisors on the side of the HU and delegates from the consortium SPARK. Within this meeting all actions concerning the project are discussed while input from other meetings are taken into consideration as well.

Since this meeting includes both the HU team and the delegate from the consortium, it is interesting to observe how the project manager manages this large team and how the team members work together.

**Researcher’s vision**

It was immediately clear how big the organisation was. The immediate question that comes to mind is how such an organisation is structured and managed.

The consortium has its own organisation, which means that is has its own project manager and its own team development. However, this team will have to work with the team that consists of the clients, the projects manager and the other ‘standard’ parties. These two teams will jointly go through the process of the project.

This meant that both teams were invited to the kick-off day of the RealDrives. During these two days, it was clear to see that individual team members were a hesitant. During the first day, individual team members were discussed on basis of their personal colours.

In the course of the day the atmosphere between the team members slowly changed into confidential and friendly. This positive atmosphere fostered the cooperation during the second day of the kick-off. The second day was intended to team up for a joint strategy that should include the values of the team. It was clear that each team member had become motivated to make a start with the project after the kick-off.

Joining this kick-off day was a good way to get to know the team, the project and the overall atmosphere of the team.
I wondered if the results of this kick-of day would have an influence on the development of the team during the observations. If this would be the case, it should be noted on the checklist. Then, when analysing the data, this influence of the RealDrives could be taken into account.

Joining the kick-of day also has an advantage for me as a researcher. Besides that I got to know the team, the team members also got to know me. A team that is familiar with the observer, may be more at ease and less reluctant.

4.2 Interview project manager

In the interview, the project manager defines her own role as the one who monitors the project process and who at the same time makes sure that each team member performs well. It is particularly important that the project manager notices in time when team members do not carry out their tasks as intended, so she can immediately intervene.

When the project manager is asked about her own leadership style, she makes the following statements:

“*I observe fast and also anticipate to the situation.*” Transformational leadership

And

“*It is important that you are transparent, because everybody knows what colour you are and how you act.*” Directive leadership

And

“*I know exactly how to act and react.*” Directive leadership

Based on these statements, the project manager expresses a preference for a directive and transformational leadership style. This shows that the project manager is capable of having both an vertical and horizontal approach, when it comes to leading a team.

By asking other questions about the team and the project itself, the project manager made a number of statements that can also be labelled with different leadership styles:

“*As a team you have to be one and therefore I just want to know what other team members are doing while they want to know what I am doing.*” Transformational leadership

And

“*When everything is still negotiable and runs well, you do not have to act so hard.*” Directive leadership

And
“I am a real team person, but I think that everyone should take their responsibility. I am not fit to take people by the hand.” Empowering leadership

The answers to these other questions show that apart from the preference for a directive and transformational leadership style, this project manager can also act as an empowering leader.

Table 10 shows how many times each leadership style was coded after the interview was transcribed. It shows the clear preference of this project manager for the directive and transformational leadership style.

<table>
<thead>
<tr>
<th>Leadership style</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aversive leadership</td>
<td>0</td>
</tr>
<tr>
<td>Directive leadership</td>
<td>11</td>
</tr>
<tr>
<td>Transactional leadership</td>
<td>2</td>
</tr>
<tr>
<td>Transformational leadership</td>
<td>10</td>
</tr>
<tr>
<td>Empowering leadership</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 10 Leadership style count interview project manager Heidelberglaan

4.3 Observations

The following fragments of the observations of the Heidelberglaan show how the team developed during the meetings and how the project manager responded to these developments using different leadership styles. After these fragments, all observations are summarized and explained.
In this fragment, the team goes through two similar cycles, from forming to storming to norming. The first course is introduced by a question asked by an advisor (A, forming). A short answer is given, which leads to another advisor not understanding how this answer fulfills what has been asked. The answer does not fit the personal knowledge and what is demanded (B, storming).

The contract manager then joins the conversation and explains what has been discussed within the consortium (C, norming). This answer does not seem to satisfy, because the advisors want to have more information on this subject. This brings the team back to the forming phase. The project manager then gives a more extensive explanation about the wishes of the client (D, forming). With this explanation the project manager structures the team’s task (directive leadership). Next the project manager questions around the meeting to find out whether everything is clear for everyone (E, storming). After a short consultation among different team members, the project manager concludes that the team is going to work as a functioning unit (F, norming). With this statement the project manager intends to monitor the progress of the team (empowering leadership).
This fragment starts with a question from the chairman of this meeting. The chairman asks if the team has any question on the next point on the action list. As this cannot really be linked to a specific team phase or leadership style, the input has not been labelled.

The project manager reacts directly, which shows the project manager is at ease within the team (A. norming). The entire team listens to the answer to develop insight into the solution provided (B. performing). With this answer the contract manager tries to encourage the self-responsibility of the team members (empowering leadership). However, the project manager expresses that the explanation is not sufficient (C. storming).

In a reaction, the contract manager shares his vision (transformational leadership) but at the same time he notices friction within the team (D. storming). The contract manager from the HU joins the conversation and proposes a solution (E. performing). Through nodding, most of the team members seem to agree with this solution (F. performing).
This fragment follows after an earlier discussion between several team members. The legal advisor summarizes this discussion in a question, which has not been labelled with a team phase or a leadership style.

In a reaction to this question the contract manager shares all the information available on this topic (A. norming). The entire team listens (B. performing), which gives the entire team more insight in this topic. The contract manager of SPARK, suggest that the team should meet to make a decision on this topic (C. performing, empowering leadership). The legal advisor, who asked the question, again summarizes what has been discussed so as to give insight into the solution (D&E. performing). The contract manager responds and causes confusion within the team by providing some new information to the discussion (F. storming). To solve this confusion, the contract manager shares his own vision (G. storming, transformational leadership). This results in developing norms within the team (H. Norming).

This output was the end of a ten-minutes’ observation. After these ten minutes the discussion went on for a view more minutes.
The contract manager starts in this fragment with sharing his experiences on a topic (transformational leadership) causing a conflict between two team members (A. storming). In the conversation that follows, team members disagree (B, C. storming), while the contract manager shares his vision on the topic at the same time (transformational leadership). The other contract manager in this meeting interferes (D. storming) in order to structure what has to be done (directive leadership).

The contract manager then asks whether it will cover all that needs to be done (E. storming, directive leadership). The project manager ensures that all required expertise is present at the meeting and they know what they have to do (F. storming, directive leadership). It results in having the team working together as a team (G. norming). The chairman then asks the team to come up with a plan to structure the task of the team (H. norming, directive leadership). A plan is proposed (I. performing). The legal advisor is not convinced (J. storming). By sharing his vision (transformational leadership) the contract manager tries to resolve this issue (K, performing). Instead of continuing the discussion, jokes start to be made among the different team members. These jokes seem to clear the air and the discussion is ended.
The project manager brings up a wish from the architect, who does not attend this meeting (A. performing, directive leadership). The contract manager thinks this could give problems in connection to the permit (B. storming, transformational leadership). The project manager continues to express the wish from the architect (C. storming, directive leadership). It is then decided that one will look into possibilities. (D. norming). This does not seem to satisfy the project manager as she wants to discuss what the possibilities could be and what the team should do (E. storming, directive leadership).

The process manager interferes and asks if any information on this topic is available (F. forming). The project manager reacts slightly irritated and emphasizes that this input should come from the team (G. storming, directive leadership). A possible solution is drawn on a piece of paper and shared with the team (H. performing). But again, the project manager does not seem to be satisfied with this input (I. storming) and expresses what expectations she did have on this topic (transformational leadership). It is then proposed to add an external stakeholder to the team when it comes to this topic (J. performing). Team members nod approvingly to this suggestion (K. performing), including the project manager (L. norming, transformational leadership).
Heidelberglaan total observations

The following table summarizes all observations from the Heidelberglaan. It shows which leadership styles were observed in which team phases. The total counts of codes is further divided into the roles that showed leadership styles, since the project manager is not the only team member that ‘leads’ the team.

The table will be further elaborated upon using the observations above and quotations from the analysed observations in ATLAS.ti

<table>
<thead>
<tr>
<th>Leadership style</th>
<th>Team phase</th>
<th>Counted</th>
<th>Project manager</th>
<th>Contract manager</th>
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<td></td>
<td>Adjourning</td>
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</tbody>
</table>

The aversive leadership style has not been observed during any of the project or test team meetings, concluding that no intimidation or punishment was needed to lead these teams.
Looking specifically at the directive leadership style, it was mostly observed when the team was acting in the storming or performing phase. A good example of a directive leader in the storming phase can be seen in observation IV. When disagreement occurred, the team would arrive in the storming phase. To solve this disagreement, both the project manager and contract manager used a directive leadership style to supervise the steps of the team.

“Then the design should be further detailed.”

And

“ There is already someone at the table that has the expertise, so we do not need any extra parties. We should work with the team that we have. ”

In the performing phase, the directive leadership style structures the task of the team or team members. This includes determining actions for the team or team members. For example, the project manager applies this leadership style several times in the project team meeting from April 14th 2016.

“ You two will contact each other to plan a meeting to discuss this topic. ”

And

“ I suggest that a smaller group will plan a meeting to come up with an advice on this topic. ”

The transactional leadership style, the style that reinforces desired behaviour, was observed only once. This observation was done during the test team meeting on March 29th 2016. During this meeting the shortage of information on a topic was discussed. Some team members did deliver parts of this information so that the project manager complimented these members while she emphasized how important this information was.

When applied in the storming phase, the transformational leadership style stands out through the leader showing her or his own vision. This causes the team to stay in the storming phase, as can also be seen in observation IV.

But when a transformational leadership style is used in the norming phase, the leader’s aim is more to try and enthuse the team members and to generate commitment from them. This is mostly done by explaining what is expected of the team in a motivating way.

“ Shows what is asked with the help of drawings. ”

It is then also observed, that with the input of this leadership style, the team moves from the norming phase into the performing phase.
The empowering leadership style is used both in the norming and performing phase to make the team members work together as a real team. This clearly is in line with both phases, where the team is a functioning unit, as is described in the theory.

“\textit{The team must stand behind it as a whole.}” Norming phase

And

“\textit{Take the team along these meetings, so that everyone understands what it is about.}” Performing phase

The observations show that both the forming phase and the adjourning phase were not observed in this project and no specific leadership styles can be linked in this case. Since the Heidelberglaan case has just started, it is logical that the adjourning phase was not observed.

More remarkable is that although the project has just started, the forming phase was counted only twice, in combination with a leadership code. In both instances the directive leadership style was used.

In these instances two different directive leadership styles are linked to two different forming phase characteristics. The first situation has already been described in observation I on page 36. The second time is when the project manager defines the role of the team members (directive leadership) to find out what their positions are within the group (forming).

“\textit{What is your role then in this case?}”

To summarize the observations from the case Heidelberglaan, the following scheme shows which leadership style dominates in which team phase, except for the forming and adjourning phase. As Table 11 showed other styles different from the dominate styles were used. These styles will be taken into account when this case will be compared to case 2, Lindeplein in chapter 0.
5. CASE 2 – LINDEPLEIN BREDA

The project Groot onderhoud Lindeplein is a cluster of 81 small dwellings in the neighbourhood Tuinzigt in Breda. This cluster is formed by a part of the Dijklaan, Esdoornstraat, Hazelaarstraat, Lindeplein and Lindestraat. All of the apartments are social rental dwellings and are owned by WonenBreburg.

5.1 Context

![Figure 27 Cluster Lindeplein (Illustration of author)](image)

Project description

The different dwellings have been built in 1925 and are in need for a renovation. The dwellings have a poor energy quality, single glazing and central heating is only available in a limited number of homes. The last maintenance took place in 1997 and was meant to extent the operating period with ten more years.

In the year 2012 the cluster was eligible for demolition. Because of this possible demolition plan, different scenarios were explored to examine what the possibilities were for this cluster; maintenance, demolition or new build. This scenario study concluded that the operating period of this cluster should again be extended, but this time with a period of 15 to 25 years.

This means a lot of maintenance is needed to bring the dwellings up to higher standards. A clear project plan has not been written yet, but is discussed during the different meetings that were observed.
Supply Chain Management

As discussed earlier Vrijhoef and Koskela (2000) describe that SCM manages the flows of material, information and cash, by encouraging close project-based collaboration and engagement of future collaborations within strategic partnership. SCM is a strategy the client has used before.

For this project a chain is used that has been used in previous projects. This means that the client works with stakeholders that are familiar with SCM and the client as well. With this strategy, the client wants to create a close cooperation and mutual commitment between himself and other chain partners. With the goal that all parties will make a joint effort in running the process as effectively and efficient as possible.

The client has stated that the following aspects play an role in the development of this close collaboration:

- Open communication;
- Mutual and verifiable performance indicators;
- Enhanced customer focus;
- Exchange of knowledge and expertise at different levels;
- A conscious choice of the two parties aimed at cooperation for a long/longer term;
- Clear roles and responsibilities.

Political context

The Housing Act was introduced in July 2015. With this law the position of the municipality was strengthened. This resulted in a strengthened internal and external supervision of the municipality on housing corporations. Municipalities were asked to think more actively about their housing ambitions and what the role of the housing corporations would be within these ambitions. That way the municipalities were given more influence on the policy of housing corporations. This also meant that prior to various acts, housing corporations would now have to ask for an opinion from the municipality before continuing the plans. These acts include:

- The sale of social housing;
- Extension of the work environment;
- Merger and demergers;
- Transferring liberalized rental housing to non-SGEI-branch;
- The assessment of the necessity of the execution of non-SGEI operations.

Besides the Housing Act, municipalities can have an influences on housing corporations through the municipal housing policy. Within this policy themes are established that have a priority or not. For example, residential areas that require extra attention.
Municipalities must align their policies with neighbouring municipalities and tenants’ organisations, including housing corporations. Housing corporations should reasonably contribute to the implementation of the municipal policy.

The contribution of housing associations are recorded in so called performance agreements. These agreements include the work plans for the coming year and a public housing report.

**Organisation**

The special feature of this organisation is the use of SCM. This means that executing parties, such as the suppliers, will join project meetings in the initiative phase instead of the execution phase. By bringing this parties in early in the process, all possible knowledge is used to come up with a project plan for the dwellings.

**Stakeholders**

Because of the size of this project, the amount of stakeholders is not that high. Most of these stakeholders have been working together before in previous chains and are familiar with working in a SCM project. An exception is the project manager. In previous chains another project manager of WonenBreburg was involved in the chain. For this case a new project manager has been assigned to this project.

- Advisors
- Board of directors
- Client
- Contractor
- Project manager
- Suppliers
- Tenant

**Organogram**

During the observations the project was in its initiative phase. This means that the organisation of the project was not yet completely created. The organogram that has been designed for this initiative phase, is really simplistic. All of the named stakeholders will act in the project team (SCM). What is discussed in this project team will reported back to the steering committee in which the board of directors are attending.

Figure 28 Organogram Lindeplein (Illustration of author)
Meeting structure
The following table shows which meetings take place and how frequently they are held.

<table>
<thead>
<tr>
<th>Meeting</th>
<th>Frequency</th>
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</thead>
<tbody>
<tr>
<td>Project team</td>
<td>Once every four weeks</td>
</tr>
<tr>
<td>Steering committee</td>
<td>Once every four weeks</td>
</tr>
</tbody>
</table>

Table 12 Meeting structure Lindeplein

Attended meeting
At the start of this research, both meetings described were mentioned as useful for this research’s observations. Since the project is still in the initiative phase, a clear meeting structure was not drawn up yet. So besides that both meetings are interesting, it was also a fact that these two meetings were the only two that could be observed. Luckily, both meetings comply with the case selection criteria for the cases. The project manager will join both meetings and these meetings will take place every 2 weeks.

In the meeting of the project team, all the stakeholders that are involved in the project, now or in the future, will attend. The project manager from WonenBreburg will be chairing this meeting. Everything that will be discussed will be reported back to the steering committee. Only the project manager and contractor from the project team will attend the meeting of the steering committee, next to the representatives of the board of directors. Any important decision will be made in this meeting and feedback will be given to the project team.

Researcher’s vision
When starting with the orientation for a possible topic for this research project, SCM was a component that had my preference. It became clear that teams in SCM project sometimes find it hard to add an external to the meetings. Luckily enough, WonenBreburg was willing to allow me to observe several meetings within the project Lindeplein.

Compared to the case Heidelberglaan, this projects seems a lot less complicated. The organogram is a lot clearer, since there are fewer stakeholders involved and the scope of the project is also a lot smaller. However, a project like this should not be underestimated. When it comes to the renovation of social housing, the current residents cannot be forgotten under any circumstances. It is important to minimize the inconvenience for the residents and to work with a tight planning.

In addition, the pressure from politics and society are clearly perceptible. The housing corporation should, besides the wishes of the residents, especially think about their own portfolio and what politics and society is expecting from them. I wonder if this could affect decisions that will be made during the process.
Although it is a relatively small project, the fact that the team members work in a chain makes it a very interesting project. How will the stakeholders respond to each other when they come together so early in the project. Can the team benefit from this and how will the project manager coordinate and guide these stakeholders?

5.2 Interview project manager

The project manager was asked to define her own role. She explained that she is responsible for the entire execution of the project, which includes the technical execution and that everything stays within budget. She founds it even more important that everything goes well on a social level, from the start to the aftercare.

The project manager makes the following statements when asked about her own leadership style.

"I have a steering role, in the sense that we indicate the framework within which the project must be carried out." Directive leadership

And

"So that we start together and the we work together till the end." Transformational leadership

And

"I am very much engaged with the role, the way someone acts, the human and the relationship." Directive leadership

The project manager herself indicates that she is a directive and transformational leader, based on these statements. The statements that are coded as directive leadership characteristics are somewhat more convincing than the one statement about transformational leadership. With a directive leadership style, the project manager has a vertical approach in leading the team.

By further going into the development of the team and the process of the project, the project manager made some other statements which can be labelled as characteristics of leadership styles as well.

"If a team has been working together for a long time, then you all will start doing the same. That is just not the intention." Empowering leadership

And

"We are building on a finished project and we establish goals for a new project." Transformational leadership

And
“Speak to each other when you think this is not going well.” Empowering leadership

And

“So we also need to explain things, we should also show how we came to our budget.” Transformation leadership.

Asking these other question shows that besides the preferences for a directive leader, the project manager shows many characteristics of a transformational and empowering leader. This can also be seen in Table 13. This table shows how often each leadership style has been coded in this interview. Besides describing her style as directive and having a vertical approach, the project manager has also a very horizontal approach.

<table>
<thead>
<tr>
<th>Leadership style</th>
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<tr>
<td>Empowering leadership</td>
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</tbody>
</table>

Table 13 Leadership style count interview project manager Lindeplein

5.3 Observations

The following fragments of the observations of the Lindeplein show how the team developed during the meetings and how the project manager responded to these developments using leadership styles. After these fragments, all observations are summarized and explained.

Figure 29 Picture meetings Lindeplein
The input given in this fragment comes from the contractor who appoints his own expectations (A, forming, transformational leadership). While the conversation is going, the project manager leaves the room which shows trust in the self-responsibility of the team (B, norming, empowering leadership).

To support his expectations, the contractor expresses the wishes of the client (C, norming, empowering leadership). This brings up questions within the team (D, forming), that makes the contractor have to explain more (transformational leadership). The project manager returns and directly joins the conversation and expresses that the project is more than just a technical solution (E, forming, transformational leadership). This leads to another question (F, forming) and the project manager responds by indicating that the team is not ready yet to solve this problem (G, forming, directive leadership).

The project manager then continues with pointing out the importance of the team members (empowering leadership), they have the knowledge needed for this project (H, forming). The fragment ends with the remark of one of the suppliers, that it is important everyone knows what is going on in the project (I, Norming).
The project manager makes clear that the team members should use the chain as a testing ground for new ideas (A, forming, empowering leadership). She then continues explaining the goals of the project (B, forming, directive leadership). One of the team member asks how the team as a whole has to continue with this list of goals (C, norming). The project manager responds and suggests that the team should make clear arrangements (D, forming, empowering leadership).

The contractor agrees and states that the team should make arrangements (E, forming) on who tests what and how everything will be checked (directive leadership). Everyone agrees (F, norming) and the project manager suggests that she will come up with a list for this project that will summarize all arrangements (directive leadership).

One of the team members has a question that does not concern this list (G, forming), but the project manager understand the importance of the question (transformational leadership) and takes time to answer it (H, forming).
Directly after the start of this fragment, the housing consultant takes over the conversation and informs every team member on the current situation regarding the way the client communicates with the residents (A, performing). During his talk, the housing consultant is interrupted by team members that have questions on the subject. The housing consultant answers all of these questions and the entire team listens attentively (B, C, D, norming).

The contractor is familiar with the tool that is used to communicate with the residents and supports the plan freely (E, performing). Now the team reacts even more excited (F, performing).

The contractor continues in sharing his own experience based on a previous project (G, norming, transformational leadership). This results in a situation where all the team members are so excited that everyone starts talking over each other. There is one team member that is still a bit suspicious and has a question about the way everything will be documented (I, norming).

The project manager tries to make everyone to listen and suggests that a final decision on this subject will be taken next week (J, performing, empowering leadership).
Discussing the next point on the agenda is the start of this fragment (A, norming). A team member notes that another point on the agenda is skipped (B, performing). The project manager reacts immediately and continues with that point.

One of the team members responds to this point and comes up with a possible solution (C, performing). The entire team seems to agree, but the contractor names what could go wrong (D, norming). The project manager disagrees (E, storming) and supervises what the next steps of the team should be (directive leadership). The contractor wants to continue this discussion, but is interrupted by the project manager because of the lack of time (F, storming, directive leadership). Although the contractor is recalled, he continues with the discussion (G, storming). The project manager attempts to resolve this issue (transformational leadership) and suggests that the team should come together another time to further discuss this subject (H, performing).

At the end of this fragment it is obvious that the team members do not agree with one another. The project manager does sense this disagreement as well and stresses the need to come together and align (I, forming, empowering leadership).
The project manager asks for input from the team about the goals for this project (A, performing, empowering leadership). One of the team members gives his own ideas on this subject (B, performing) and the rest of the team listens and chuckles (C, performing).

This comments brings up a question that has been asked before regarding the residents (D, norming). The project managers again asks for input from the team members about their preference (E, norming, transformational leadership). One of the advisors speaks on behalf of the team (F, performing), but one of the team members expresses his doubt if further research is not necessary (G, storming).

The project manager asks the housing consultant directly what his vision is on further research, since he is in direct contact with the residents (H, norming, transformational leadership). The housing consultant shares his vision (I, norming) and the team seems to agree on that (J, performing).

Then the project manager wonders how to continue with this subject (K, performing, empowering leadership). A first suggestion is done by one of the suppliers (L, performing) which leads to the team searching for a solution together (M, performing).
This fragments occurs at the end of the meeting when one of the team members asks what is expected of the team for the next meeting (A, forming). The project managers names the actions for the next meeting to structure the tasks of the team (B, norming, directive leadership). To clarify a view things, one of the advisors has a question about that to-do list (C, forming). The project manager takes the time to answer that question (D, forming, directive leadership).

The contractor takes a moment of silent to make a point about the time pressure and progress of the project (E, storming), but he immediately reassures the team by giving an example of a previous project and expressing his faith in this team (F, performing).
Lindeplein total observations

The following table summarizes all the observations from the Lindeplein. It shows which leadership styles have been observed in which team phases. The total counts of codes is further divided into the roles that showed leadership styles, since the project manager was not the only team member that ‘leads’ the team.

The table will be further elaborated on using the observations above and quotations from the analysed observations in ATLAS.ti.

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<th>Counted</th>
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<th>Contractor</th>
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<td>4</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Storming</td>
<td>1</td>
<td>1</td>
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</tr>
<tr>
<td></td>
<td>Norming</td>
<td>5</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Performing</td>
<td>6</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Adjourning</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 14 ATLAS.ti counted codes cases Lindeplein
Leadership styles

During the observations of different meetings none of the team members showed any characteristics of an aversive leader or an transformational leader. Both leadership styles were not observed in any of the meetings.

The most observed leadership style is the directive leadership style. This style has been observed in four phases, mostly in the forming and norming phase.

The directive leadership style in the forming phase is mostly used to structure the tasks of the team or the team members. This is mainly observed when the project manager or contractor wants to explain what is expected of the team or to divide the tasks among the team members.

"Further explains the assignment and project, and names bottlenecks of this project."

And

"Answers the question and turns the answer into a task on the to-do list for the team."

Another reason that was observed for using the directive leadership in the forming phase, was to supervise the steps of the team as was shown in observation II on page 52 where the project manager supervises the step of the team by suggesting to draw up a list of what the team has to do.

In the storming and performing phase the directive leadership style has been observed less than in the other two phases. In both phases the directive leadership is used to supervise the steps of the team and to structure the tasks of the team.

"You must show us what you mean." storming phase

And

"We could ask the technical supervisor to provide us with more information" performing phase

Next to the directive leadership style, the transformational leadership style is also mostly observed in the forming and norming phase. Within the forming phase, the transformational leadership style was observed when the project manager or contractor shared their own vision or experience from other projects with the team with the aim to enthuse the team.

When a transformational leadership style characteristic is detected in the norming phase it is mostly used to generate commitment of the team. For example point H in observation V on page 55. The project manager asks the housing consultant to share his vision on further research, in order to have him committed to the team.
Another example of the transformational leadership style in the norming phase can be found in another observation where the project manager directly asks the team members to express their own ideas on a subject:

“*What do you prefer?*”

The last leadership style, the empowering leadership style, is observed mostly observed in the team phases and just once in the storming phase.

In the forming phase multiple characteristics of the empowering leadership style are observed. The observations show that the project manager wants to encourage the team to be committed to the project, as can be seen in observation II on page 52.

In the norming phase, the empowering leadership is used to encourage the self-responsibility of the team. The project manager encourages by taking a step back as a leader to make the team work together.

“*The project manager gives a short answer, then stops talking and waits for the team to come up with new ideas.*”

When the team is in the performing phase, the project manager has a more monitoring role in the process of the team, but also encourages the self-problem solving of the team.

“*Suggests someone else will be invited to the meetings to see where a possible improvement could be.*” Monitoring

And

“*How would you do it yourself?*” Self-problem solving

To summarize the observations from the case Lindeplein, the following scheme shows which leadership style dominates in which team phase, except for the adjourning phase. As Table 14 showed other styles different from the dominate styles were used. These styles will be taken into account when this case will be compared to case 1, Heidelberghaan in chapter 4.

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**Figure 42 Dominant leadership styles in team phases Lindeplein (Illustration of author)**
6. COMPARING CASE STUDIES

In this chapter the two cases, Heidelberglaan and Lindeplein will be compared. How do these two cases relate to each other when looking at the counted codes and the drawn graphs? Are there differences between the cases when looking at the links between leadership styles and team phases. What differences or similarities stand out?

Another comparison will also be made between the two project managers that were interviewed for this research. What are their approaches of leading a team and does their approach reflect what has been observed?

6.1 The team observations

The counted codes from both cases have been summarised in two tables, Table 15 and Table 16. The first table shows how many times the team phases have been observed and is used to compare the teams of both cases. The second table will be used to compare the leadership styles, based on how many times a leadership style was coded during one of the team phases.

The two cases will be compared to each other by looking at the five different leadership styles and when these styles were observed during which team phases.

<table>
<thead>
<tr>
<th>Team phase</th>
<th>Heidelberglaan</th>
<th>Lindeplein</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forming</td>
<td>7</td>
<td>51</td>
<td>58</td>
</tr>
<tr>
<td>Storming</td>
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</tr>
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<td>Norming</td>
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<td>51</td>
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</tr>
<tr>
<td>Performing</td>
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<td>30</td>
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</tr>
<tr>
<td>Adjourning</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 15 Counted team phase codes cases Heidelberglaan & Lindeplein

The adjourning phases has not been observed in any of the two cases. This can be explained by the fact that both cases are still in the first stages of the projects.

When comparing the written fragments and graphs of both cases, it shows that both teams do not run through the team phases gradually. There is a constant change in the phases, that goes up and down. Remarkable in this dynamic process is that the storming phase is often skipped. This does not mean that the storming phase is not observed, but it is mostly observed outside of a process as described in the fragments of both cases.

Although both projects are in the earlier stages of the process, it stands out there is a difference in which phases are most observed during the meetings. Table 15 shows that in the Lindeplein case the forming and norming phase are most observed, while in the Heidelberglaan case it are mostly the norming and performing phase.
Leadership styles

Table 16 shows the counted codes for both case studies. The table shows how many times a leadership style was coded during one of the five team phases per case and how many times when the cases are added together.

<table>
<thead>
<tr>
<th>Leadership style</th>
<th>Team phase</th>
<th>Heidelberglaan</th>
<th>Lindeplein</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aversive leadership</td>
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</tr>
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<td>Storming</td>
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<td>Performing</td>
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<td>14</td>
</tr>
<tr>
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<td>Performing</td>
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<td>11</td>
</tr>
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<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Transactional leadership</td>
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</tr>
<tr>
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<td>0</td>
</tr>
<tr>
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</tr>
<tr>
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</tr>
<tr>
<td></td>
<td>Norming</td>
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</tr>
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<td></td>
<td>Performing</td>
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</tr>
<tr>
<td></td>
<td>Adjourning</td>
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</tr>
</tbody>
</table>

Table 16 Counted codes cases Heidelberglaan & Lindeplein relation leadership styles & team phases
Aversive leadership
This leadership style has neither been observed in the Heidelberglaan case and the Lindeplein case.

Directive leadership
In both cases, directive leadership is a style that is frequently used. A directive leader leads by giving direction, instructions and commands. Remarkably is that there is a clear difference in which team phase this style is used when comparing both cases.

The directive leader from the case Heidelberglaan focusses primarily on the storming and performing phase, whereas the leaders from the case Lindeplein mainly operate in a directive mode during the forming phase.
Based on this comparison, one could say that the team from the Lindeplein case needs more guidance right from the beginning of the project. The leader has to give clear instructions to the team during this phase of discovering what has to be done.

There were only two instances of directive leadership in the forming phase of the case Heidelberglaan. This would suggest that the team skipped the forming phase entirely, with two small fallbacks. The fact that most of the stakeholders cooperated before could explain this low value of observation.

Transactional leadership
This leadership style has only been observed once in the case Heidelberglaan. Since it has not been observed in the other case, it is not possible to make a comparison. And as there is a shortage of quantities, this leadership style has no real role in this research.

Transformational leadership
Again, there is a different outcome in the two cases concerning this leadership style. The case Heidelberglaan shows a transformational leader in the storming and norming phase. This shows that the team in this phase needs a leader that enthuses and can be trusted. For the case Lindeplein this leadership style is mostly observed in the forming phase and to a lesser extent in the norming phase.

Again this shows that the team from the case Heidelberglaan left the forming phase behind and is already more focussed on working as a team. The team of the case Lindeplein still has to get to know each other and needs a leader to enthuse them to do so.

Empowering leadership
The Lindeplein again shows with this leadership style that the team is primarily in the forming phase, but this leadership style has also been observed in the norming and performing phase.
With this style the leader enhances the self-confidence of the team and the team members.
Based on the fact that this team works in a chain, it is easy to understand that in the norming and performing phase there is not one leader needed to guide the team. In both phases the team works as a functioning unit towards a common goal.

The Heidelberglaan case shows similarities with the Lindeplein case, with the exception that this leadership style has only be observed in the norming and forming phase. This shows that when a team reaches the norming and performing phase it can stand on its own feet and the role of the leader disappears to the background.

Comparing the dominant leadership styles per phase in the two cases, a number of similarities show. One should note that the leadership style in the Heidelberglaan case can be more clearly linked to a team phase than the styles in the Lindeplein case. The table shows that the three observed leadership styles in the Lindeplein case are all observed in different team phases.

6.2 The project managers

The project managers of both cases were interviewed and asked about their leadership styles and the way in which they work with the team. Both project managers described their leadership style as directive, and only the project manager from the Heidelberglaan case also described transformational leadership style characteristics.

However, when other questions were asked about the team and the project itself, the project managers made some statements that showed other characteristics of leadership styles, in addition to their preferred styles.
The project manager from the Lindeplein case also revealed to be a transformational leader by making statements about the team and project, such as:

"We are building on a finished project and we establish goals for a new project." Transformational leadership

And both project managers showed they can be an empowering leaders as well, by making the following statements:

"Speak to each other when you think this is not going well." Empowering leadership (Lindeplein)

"I am a real team person, but I think that everyone should take their responsibility. I am not fit to take people by the hand." Empowering leadership (Heidelberglaan)

Comparing the two project managers, based on the analysis of both interviews, shows that they both have a vertical approach as well as a horizontal approach.

The vertical approach is characterised by the directive leadership style, that both project managers mention when asked about their preferred leadership style. This shows that both project managers believe that a team needs strict guidance and that a project manager should structure the tasks and activities of the team.

Yet, other statements of both project managers expressed a horizontal approach. These statements were coded as transformational or empowering leadership characteristics. With these two leadership styles, a project manager steps into the role of a leader that lets a team goes its own way and that trusts the self-reliance of the team and its team members.
7. CONCLUSION & DISCUSSION

The aim of this research was to investigate different leadership styles among project managers and to study if there was a relation between these leadership styles and the development phases in a team. Using interviewing and extensive observations of two interesting cases, data were collected to answer the main research question:

*Which leadership styles do project managers use to manage collaborative teams, and can different styles be related to different team phases?*

This chapter presents first of all the key findings that answer the main research question. Next, final conclusions on this research will be drawn. These conclusions will be followed up by discussing the main findings.

Research question

The conceptual model drawn for this research resulted in the phrasing of the main research question. The core of the conceptual model is the research of Webber and Webber (2015). As part of this study, their theory has been aligned with the research of Pearce and Conger (2002) that describes five leadership styles. Following this is can be argued that there is a relation between leadership styles and team development phases.

The main finding of this research is that observational data show that there is no evidence that a team will always and naturally follow the phases of team development as has been suggested by Webber and Webber (2015). This is corroborated by the findings during the different observations, when it was observed that teams do not move gradually between phases. The data collected in these observations also suggest that leaders use different leadership styles during different phases and that there is no clear preference for one single leadership style.

Though team development does not gradually progress, there is clear evidence that at earlier phases characteristics of directional leadership styles were more prevalent, than the more supportive leadership styles. That does not mean that there is a relationship between leadership styles and team development.
It just seems that project managers at the onset of a project are the ones to define the aims of the project and at later stages give way to collaborative team processes in order to enhance goal setting behaviour. This interesting finding needs further investigation, as it could well be that these findings were heavily depending on the few cases in this study. However, the results of this research, as summarized in Figure 46, may be considered as an important first step.

**Figure 46 Research findings summarised (Illustration of author)**

This figure reads as follows. A project manager leads a team using different leadership styles. These leadership styles range from vertical leadership to horizontal leadership, dominated by three leadership styles: directive leadership, transformational leadership and empowering leadership. The leadership styles in the top line were found to be the most prevalent leadership styles and are therefore considered the dominant leadership styles. Thus, directive leadership is particularly present during the first two phases of team development. When the team develops into the norming and performing phases the two more supportive leadership styles are dominant: transformational leadership in the norming phase and empowering leadership in the performing phase.

The grey coloured leadership style in the bottom line are less dominant in the team development phases, but were still observed during the meetings.

The development of a team does not follow the schedule of five development phases gradually. Therefore a project manager must anticipate in what the team wants at different points in time. The difficult part of the team phases, is that it can be difficult to define the phase of an entire team, which makes it also difficult to link leadership styles to the phases of a team.

This research shows that multiple leadership styles were used during each of the team phases, but further research needs to be conducted to strengthen the evidence-base.
Team phases

As mentioned before, a team does not gradually evolve from one phase into the next phase. Indeed, it was not possible to define the team phases of an entire team, therefore individual team members were assigned the defined team phase codes, which made clear that different team members may not act according to the same team phase. An important strength of the current study, is that recurrent observations were made of teams over time.

This to address the criticism of Mathieu, Maynard, Rapp, and Gilson (2008) on studies that based their conclusions on cross-sectional data rather than using repeated assessments in real-world teams. This might indeed explain why this study does not reproduce the crude evolution of team phases as has been suggested by Webber and Webber (2015) and by theory of Tuckman (1965) and Tuckman and Jensen (1977). Since the team phases could not be observed for an entire team, it is questioned how the two studies of Tuckman could come up with the five team phases.

Related to this conclusion is the conclusion about the actual team phases. Observing the team members in different meetings showed that there is a constant change in team phases, see Figure 40. This does not happen gradually, but fluctuates between the first four phases: forming, storming, norming and performing. As was observed and shown in the different graphics, the fluctuation between these four phases does not happen sequentially,

Phases are skipped when moving from one phase to another. This contradicts with what is mentioned in literature, though Tuckman (1965) reported that the storming and norming phase behave differently. When a group of people fails to become a team in the norming phase, it drops back into the storming phase. However, the current findings clearly show that the storming phase is not the only phase the observed teams fell back into. Apart from falling back into lower phases, teams also skip phases when moving into a higher phase.

Another point of discussion about the transition from one phase to another is what causes the transition. During observations, the transitions were purely based on what was said and done by individual team members. But then, how to decide about the phase of a whole team, and how to decide that the team has moved into another phase? Based on this research it is more likely that acts of individual team members cause the transition of team phases.
An important limitation of the current study is that this research made no distinction between new team members and team members that collaborated before. This distinction did not become evident immediately during observations. But one could assume that new team members are more likely to go through phases differently, then team members that are familiar with each other. Further research should therefore take this distinction into account so as to see if this has any influence on team development.

**Leadership styles**

As previously mentioned a leader does not have one single leadership style, but uses different ones. It can therefore be concluded that using leadership styles depends on the individual leader.

Yet, the leaders observed during this research all showed a variety of three different leadership styles: directive leadership, transformational leadership and empowering leadership. Each leader prefers one leadership style, but it is unlikely that only this style is applied. This can be linked to the theory of situational leadership.

The classic model of situational leadership described by Hersey, Blanchard, and Natemeyer (1979) also illustrates different phases of team development, from immaturity (phase one) to maturity (phase four). During these phases the leadership style of the project manager progressively develops from task-directing to the final stage of relatively detached delegation. The current aim of the project manager is thus to develop the team through the four phases. A good project manager is able to switch between the four leadership styles, depending on the situation.

As has been observed in this study, leadership styles depend on the individual leader, but a leader should both have a vertical approach and a horizontal approach. The three observed dominant leadership styles appeared in each team phase, which showed that each of these leadership styles are needed and that a project manager should be able to practice each of them.

This research is not only about the leadership styles of project managers. The observations showed that no team gradually goes through the five team phases and that it is important to recognize this dynamic process as has also been stated by Mathieu et al. (2008). Webber and Webber (2015) made a first attempt to link the tasks of the project manager to the team development phases. Within their research they neither mention the theory of Mathieu et al. (2008) nor the theory on situational leadership of Hersey et al. (1979). Linking these three theories should be further investigated in order to see if there is a relation between the dynamics of team development and the dynamics of leadership styles.
Research methods
When executing this research, the researcher experienced that the chosen research methods showed some inconveniences. Qualitative research put a challenge. But by doing this research, important lessons were learned. A number of remarks can be made about the different research methods.

Cases
The two cases selected for this research met all of the case specifications. Yet, there were a number of differences that have an impact on the results and outcome of this research.

There is a clear difference between the sizes of the two cases, on different levels. First of all the size of the Heidelberg project is much bigger than the Lindeplein project. It is likely that the size of a project has influence on the project manager’s tasks.

Related to the project size is the size of the project team. As can be seen in these two cases, the project team of the Heidelberglaan case consisted of much more team members than the Lindeplein case. This resulted in multiple project managers within the team of the Heidelberglaan. Both the project size as the size of the project team should be items to take into consideration in further research.

Observations
The observations were divided into intervals of ten minutes and ten minutes of observation. This division was made after a test run with the observation checklist. One may wonder whether this division gives the researcher the opportunity to observe all relevant data, or that one should observe during the entire meetings, with no intervals.

Yet, this would probably not give another outcome of this research, since the intervals are short so that crucial information will not be lost. In addition, it should be noted, that if something essential would have happened between observations, the researcher would have taken a note and would have included it in the research.

Not everything that was expected to be observed, actually was observed. Although both the project manager and the researcher were very enthusiastic about the RealDrives in the Heidelberglaan case, during observation nothing was observed. Yet, this does not mean that the RealDrives did not have any influence on the development of the project or the project team.

In this research it is remarkable that the Heidelberglaan project team hardly ever shows characteristics of the forming phase. It could be that there is a connection between skipping this phase and the RealDrives method.

Observing just one case that used this method is not enough to make a statement about the influence of such a method. The effect of these management tools could be the topic of a whole new research.
For example a research that compares multiple cases, of which a few make use of a method and others that do not so as to see whether or not the effectiveness of teams is affected.

**Checklist**

The checklist prepared for this research made it possible to observe both the team phases and the leadership styles. Observing the team phases was more difficult than observing the leadership styles.

During observations, the checklist for writing down both verbal communication and non-verbal communication could be used. Since the meetings were recorded, the observant could mainly focus on non-verbal communication, including the attitude of the team members and their physical reactions to situations during the team meetings. However, it appeared that observing non-verbal communication in a team was most difficult and that more information could actually be taken from verbal communication. When non-verbal communication was observed, it corresponded with the verbal communication that was observed at the same moment.

**Data analysis**

When taking a critical look at this part of the research, something can be said about the researcher’s objectivity. The researcher reviewed, analysed and coded the collected data from the observations in ATLAS.ti. Although only one person was involved in analysing the data, ATLAS.ti was useful in discussing and having a closer look at findings with supervisors, which adds to the transparency of the study.

So ATLAS.ti has proven to be very valuable for research like this.

The developed methodology of an observation checklist and research protocol as of how to make the observations is another important asset of the current study, although it was tough at times. To my knowledge, this is one of the few studies that developed a checklist for observation and this greatly contributed to the findings of the study as mentioned earlier.
8. RECOMMENDATIONS

Although this study has now been complete, recommendations can be made for future research. In addition, bases on this research, recommendations also can be made to project managers and other leaders on how to lead a team.

8.1 Recommendations for project managers & other leaders

- Project managers should be aware of the dynamic process of team development and must anticipate to this dynamic process.
- Project managers should be aware of what their influence can be on the team phases. Probably more importantly, project managers should be more aware of the leadership styles and the characteristics. Since each phase asks for different leaders, participation in the different phases is the job of the project manager.
- Leaders should realise that consciously or unconsciously they have a preference for a certain leadership style and that it is important to know what their preference is.

8.2 Recommendations for scientific future research

- ATLAS.ti does not recognize hand written nor scanned PDF files. Everything had to be typed out after observation, which took some extra time. Perhaps it is better to do future similar observations on a computer.
- Always stick to the ten minutes observation and ten minutes break. This makes an observation more reliable. If anything interesting happens during the ten minutes break, write it down. But the real observations should take place in those ten minutes. Any notes taken during the ten minute break can be added to the data as a memo in ATLAS.ti.
- Do more interviews. This research has shown that there never is just one project manager that will lead a team. Therefore it might be useful to start with the observation and see which stakeholders show leadership styles. Based on these observations the researcher should make a list of possible candidates for interviewing.
- Make sure there is enough time for the observations, since the researcher has to rely on the progress of a project.
- Although ATLAS.ti is a good program for analysing data collected through observation, future research could expand these analysis with the program SPSS. This program can be used to enrich the collected data. Although this has not been used in this research, the possibilities of using SPSS were examined. With the use of SPSS the data is turned into numbers, which makes it somewhat more readable and understandable for outsiders.
- A researcher should keep in mind that, when working with building projects, the complexity of a project is something that just happens. In this research it was the Park Boswijik case that showed what the impact can be of the complexity of a project. Due to the complicated history of the project, it was not possible to include the case in this research during the time that the observations were carried out.
9. REFLECTION

This last chapter of this report gives a reflection on the research, the process and the researcher itself. The aim of this chapter is to look back on the research. Did the research approach work and what can be learned from this? The reflection consists on the following four subjects: the relationship between the research and design, the relationship between the theme of the graduation project and the subject/case study, the relationship between the methodical line of approach of the graduation lab and the method chosen and lastly the relationship between the project and the wider social context.

Relationship between research and design

In the summer of 2015 I started thinking about possible subjects for my graduation research. The subjects I came up with were mostly based on my personal interest in the soft side of project management. A logical step in the process of choosing a subject was to start reading literature to increase my knowledge in this field.

Discussing my ideas with my chosen mentors, gave me a first step in the right direction. They immediately made clear, was that a graduation project should have clear boundaries. This meant that I had to narrow down my personal interests and knowledge gained from literature, into a researchable subject.

So I had to let go of some of my ideas. Obviously I would have preferred to appoint all of my ideas and preferences into one research. But during this first period of my graduation year, I quickly learned that the time span of one year would not allow this. Focussing on those subjects of my interests and reading more literature made it possible to form a main research question that would be central to this research.

During the master Real Estate & Housing, setting up a research design was addressed occasionally in different courses. Still, I found it difficult to understand what the results of this research design would mean. How solid would this design prove to be? Would I be allowed to differ or change my design during the research? What if a method would not work within this research, would I have to rewrite and redesign my whole research?

Luckily my mentors assisted me in this ‘search’ to the research design. They would let me figure it out all by myself, but with the help of their feedback I believed to have delivered a well thought out research design.

While conducting the research, I have come across some difficulties related to the research design and the research itself:

- It took more than one test run to get the observation checklist correct
- Somehow my telephone did not always record the entire observation, which meant I had to fall back on my own observation.
- Observing a project meeting sounds easier than it is in real life. When team members get into a discussion, it is sometimes difficult to observe everything that is going on at the table. I resolved this for myself by adding an extra box, that would indicate such a discussion took place during the ten minutes of observation.

- Doing interviews is time consuming. During the first interviews with the project managers I realised that it may not be wise to do similar interviews towards the end of the research as was suggested in the first research design.

- Projects never go the way you want them to go. This may sounds a bit dramatic, but during this research I was dependent on the progress of the case studies I selected or was assigned to. In addition to this, as a researcher you are even more dependent on the agenda of others, e.g. the planning of the interviews with the project managers.

- Analysing the data using ATLAS.ti was a challenge, since I had never worked with this program. But step by step I got familiar with the program and started to see the benefits of working with it. Beneficial is the fact that you can link all your data.

- I still wonder if I should have done more interviews, especially since the two project managers interviewed were not the only stakeholders that showed leadership styles during the meetings.

**Relationship between graduation project and subject**

As stated before, this research started based on personal interests. By doing an internship before I started this master Real Estate & Housing, I learned that creating a good and pleasant work environment is just as important as managing a team and achieving the intended goals and planning. So when each graduate student was asked to come up with a research subject, these personal experiences formed the base for this research.

My next question was how to make these personal interests into a relevant research subject. Out of the different graduation projects, *Collaboration and integration in construction* was the project that immediately appealed to me and seemed like the right choice to post my own research subject.

The graduation project was described as following: This broad research program focusses on the effectiveness of different construction project organisations on an organisational level (top down), project team level (bottom up), and at artefacts that are believed to speed integration (i.e. BIM).

When I formed my research question and worked towards my research proposal, I started to see some linkages with the graduation project and the research itself.

The aim of this research was to identify leadership styles in project team development. With this aim I could match this research with the described focus on the project team level. Also the organisational level is shortly described in the context analysis for both cases.

Within this research, I observed project teams during regular meetings to investigate how a team can develop. This research then aimed on finding out if leadership styles can stimulate this development and can therefore be labelled as artefacts to speed the integration.
Relation between methods of graduation lab and chosen methods

The data was collected through semi-structured interviews and observations. The first method is a method generally used in graduation project for the master Real Estate & Housing. The other method, doing observation, is a method that is not used that often in other graduation researches.

Creating an observation checklist was an important part of this research. Since there were not many graduation researches using this method, I had to do some extra research into how to do observations. Luckily I was smart enough to do a test run with the checklist, to find out if I draw up a useful checklist. Now that the research is finished, doing observations proved to be an useful method for doing research into team phases and leadership styles.

Besides using good methods for collecting data, it is even more important to have a good plan for analysing the data. In this case, ATLAS.ti proved to be very useful. With this program all the transcripts of the observations and interviews were grouped into one library. This made it easy to compare data and see if there were any connections between everything that was observed.

In addition to the program ATLAS.ti, me and one of my mentors took an afternoon to discover how another program, SPSS, can be linked to the data ATLAS.ti. With the program SPSS, the qualitative data is translated into numerical data. Although I think that ATLAS.ti is a suitable program for this type of research, SPSS could also be very useful to make data a bit more understandable for outsiders. But then a researcher should keep in mind to have enough time to work with both programs.

Relationship between project and wider social context

What first comes to mind, when thinking about the wider social context of this research, I think of the differences between SCM and traditional projects. I observed that the meetings of both projects differ from each other on a view points:

- Formal vs informal, where the SCM project, the Lindeplein case, sometimes almost felt like a family coming together to talk about all sort of things. The more traditional project, the Heidelberglaan case, felt more formal most of the time, this did made the traditional project more structured.
- This brings up the next point, structured vs unstructured. Within the Heidelberglaan case the project manager and other team members were familiar with working with an agenda and defined roles and tasks. During the meetings of the Lindeplein case the project manager did structure the meeting, but the team would easily deviated from this agenda.

A project manager’s role in building teams
Besides this social context, I also learned more about the role of the project manager. Not only by observing the leadership styles, but also by doing the internship. Observing the project managers and leadership styles, showed me that the role of the project manager very divers and requires an adaptive capacity of the person. I hope that with this research I have taken a first step in a tool to help project managers develop this adaptive capacity.

I would also like to point out, that I was really enthusiastic about getting to know the method of RealDrives. During my first weeks of my internship at ABC Nova I joined two of these meetings which showed a different way of starting a team. It was a nice way to see how this meetings are used to have team members to get to know each other through their colours and to come up with a joined strategy for the project. Unfortunately, I have seen little of these RealDrives back in the observations. Something I had imagined otherwise at the start of this research.
REFERENCES


### APPENDICES

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<th>Page</th>
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</table>
Appendix I  
Interview protocol

Leadership styles in team development

In the last decades working in integrated teams has developed. This has resulted in the evolving role of the project manager, from a task manager into a project leader. As a consequence to this change there is a growing demand for a model that project managers can help in initiating and overseeing these integrated teams.

While previous research has mainly focussed on managing projects, this research is more focussed on managing these integrated teams. On the basis of established leadership styles, based on literature, it is checked whether there is a connection between these leadership styles and the development of a team.

By observing several cases/projects this potential link is being investigated. A part of these observations is to interview the project managers of these projects. These interviews are used as data to support further research.

Of course, all the required data will be processed anonymously. Name of persons or companies will not be named directly in the investigation and the final report.

It is expected that het interview will last for an hour, with a range of up to half an hour. The entire interview will be recorded and will be transcribed afterwards. If the interviewee is interested, the transcript of the interview can be sent afterwards.

Interview data:

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<td>Interviewee</td>
<td>Name, function, company</td>
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<tr>
<td>Interviewer</td>
<td>Roos Wijnstra (R.), student, TU Delft</td>
</tr>
</tbody>
</table>
Questions

1. How would you describe you role/position within the project *Project name*?

I want to know:
- Role of the PM

2. Could you give me some background information about the project *Project name* (e.g. goals, challenges, important agreements)

I want to know:
- Goals;
- Challenges;
- Important agreements.

Questions could be:
- Have there been set specific goals for this project?
- What are the biggest challenges in this project?
- Which important agreements have been made within this project?

3. How has the team for this project come together?

I want to know:
- How the composition of this team came together.

4. Has there been a previous collaboration between the parties in this team?

I want to know:
- Which parties have been working together before;
- Did parties work together in a similar team;
- Was the PM familiar with all the involved parties.

Questions could be:
- Do you know which parties have been working together before?
- Did this collaboration took place in a similar team as this project?
- When you got involved in this team, where you familiar with all the parties?
5. **How do you see your role as a project manager within the team of *Project name***?

I want to know:
- How the PM sees her or his role within the team;
- If there are situations that changes this role;
- What influence the team can have on the role of the PM.

Questions could be:
- Could you give me an example on when you role clearly emerges?
- Could you give an example on a situation where you had to act outside your role?
- Are there situations where you have to act outside your role as project manager, because other team members fall short in their role?

6. **Specific question per case**

6.1. **Within the project Heidelberglaan** team building days were planned where the team was introduced to *RealDrives*. What have you learned from these days?

I want to know:
- Experience with RealDrives;
- Important lessons for the PM;
- Contentment.

Questions could be:
- Have you been working before with RealDrives?
- Which lessons learned do you take with you in a future project?
- Would you use these team building days in future projects?

6.2. **Within the project Lindeplein** supply chain management is used. What do you think are the advantages of working together using this method?

I want to know:
- Experience with SCM;
- Important lessons for the PM;
- Contentment.

Questions could be:
- Have you been working before with SCM?
- Which lessons learned do you take with you in a future project?
- Would you use SCM in future projects?
7. How has the team been developing since the kick-off?

I want to know:
- How the team has developed;
- What the role of the PM has been in this development;
- If the team had a setback in its development;
- In which phase the team currently is.

Questions could be:
- How would you define the different phases of team development?
- What has been your contribution to the development of this team?
- Did the team experience any setbacks during their development?
- Could you describe in which current phase the team is?
- To which extent did the *management style (RealDrives/SCM)* had an influence on the development of this team?

8. How do you, as a project manager, ensure that the team continues to develop?

I want to know:
- How the PM controls the team;
- If there were specific situations where the development of the team was jeopardized;
- Role of the PM

Questions could be:
- Do you have methods you use for managing a team?
- If we look at the different phases of a team, does every phase require its own method?
- Do you, as PM, have different roles during each different phase?

9. In what role/actor do you pay special attention within this project team?

I want to know:
- If there is a specific role that the PM pays attention to;
- If there is a role that is dominant within the team;
- If a role is a weak or strong link within the team;
- How the PM deals with dominant roles.

Questions could be:
- Does his or her position make you focus on this role?
- Does his or her personality make you focus on this role?
- Is this a link that slows down or stimulation the progress of the process?
- Are there moments in the phases where this role stands out?
10. In which situations was your role as project manager been essential for the team?

I want to know:
- In which situations the team had to be controlled;
- At which moments within the team phases these situations occurred.

Questions could be:
- How can you tell the team needs this?
- At which moments within this project did these situations occur?

11. How does the team deal with mutual tension?

I want to know:
- When the team solved tensions/conflicts without instructions;
- How the team solves tensions/conflicts.

Questions could be:
- How has the team solved this?
- What was your role as PM in these situations
- At which moments within the project did these situations occur?

12. How would you define your own leadership style?

I want to know:
- How the PM would describe his or her own leadership style.

Questions could be:
- What characteristics can you define in this style?
- In which situations can this style be best used?
- In what situation will this style be put to the test?

13. What would you do with the experiences you have gained in previous projects?

I want to know:
- If the PM has learned anything from previous projects;
- In which the PM would like to develop;
- What the PM has learned from this project so far.

Questions could be:
- What are important lessons you have pulled out from projects?
- On what level would you like to develop yourself in the future?
- Are there lessons in this project so far you will take with you in future projects?

This were the question I had for you in connection with my research. Do you have any questions for me?
Appendix II  Transcription form

Interview information

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<th>Date</th>
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<td>Interviewee</td>
<td>Name of interviewee (Initials), role, company</td>
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<tr>
<td>Interviewer</td>
<td>Name of interviewer (Initials)</td>
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</tbody>
</table>

Main abbreviations

| LS | Leadership Style |

Questions:

1. How would you describe your role/position in this project?
2. Could you give me some background information about the project (e.g. goals, challenges, important agreements)
3. How has the team for this project come together?
4. Has there been a previous collaboration between the parties in this team?
5. How do you see your role as a project manager within the team of Project name?
6. Case specific question
7. How has the team been developing since the kick-off?
8. How do you, as project manager, ensure that the team continues to develop?
9. In what role/actor do you pay special attention within this project team?
10. In which situations was your role as project manager been essential for the team?
11. How does the team deal with mutual tension?
12. How would you define your own leadership style?
13. What do you do with the experienced you have gained in previous projects?
Interview transcript

Names of those involved and there initials

Interviewee = AA
Roos Wijnstra = RW

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<th>Start</th>
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<td>Q#1 + (xx:xx)</td>
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<td>AA</td>
<td>Answer</td>
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<td>Follow-up question + (xx:xx)</td>
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<td>AA</td>
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<td>(...)</td>
<td>Used if the conversation is irrelevant to the interview goal and does not need to be transcribed</td>
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| RW    | Q#n + (xx:xx)               |
| AA    | Answer                      |
| End   | xx:xx (time in audio file)  |

Any other relevant data:
Appendix III  Observation checklist

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<td>Team member ○</td>
<td>Team member + laptop/ipad ●</td>
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Neutral □ Happy □ Cheerful □ Explanatory
Irritated ○ Annoyed ○ Angry ○ Raising voice ○ Conving ○ Decisively ○ Relieved ○ Quizzically ○ Unknowing ○ Surprised

Team phases
Observation No. ___ Time ___:___ Observation takes place every 10 minutes for 10 minutes.

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<th>Who</th>
<th>Comment</th>
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<th>Team → Leader</th>
<th>&gt;Team&lt;</th>
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### Appendix IV  ATLAS.ti codes

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<td>A1</td>
<td>Team attempts to discover what must be accomplished.</td>
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<td>A1.1</td>
<td>Team member defines position in the group.</td>
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<td>Team determines parameter of the task.</td>
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<td>Team member attempts to discover what must be accomplished.</td>
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<td>Storming</td>
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<tr>
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<td>Conflict between team members.</td>
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<td>Team member demonstrates resistance toward demands of the task.</td>
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<td>A2.3</td>
<td>Team experiences friction.</td>
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<td>Team members become hostile towards one another.</td>
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<td>Team members experience conflicts between personal and task demands.</td>
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<td>Team member expresses personal opinion</td>
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<td>Team norms are developed</td>
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<td>Open exchange in information</td>
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<td>Team members are comfortable with each other</td>
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<td>Performing</td>
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<td>Unified team approach</td>
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<td>Team members recognise their responsibility</td>
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<td>A4.3</td>
<td>A solution is chosen as a team</td>
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<td>Constructive attempts are made to resolve issues</td>
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<td>Team develops insight into task solution</td>
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<td>B3</td>
<td>Transactional leadership</td>
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</table>
### B3. Clarify effort-reward system
- B3.1 Clarify effort-reward system
- B3.2 Implement equal reward system
- B3.3 Reinforce desired behaviour

### B4. Transformational leadership
- B4.1 Enthuse the team (goal)
- B4.2 Share own vision
- B4.3 Generate commitment of the team (stimulation)
- B4.4 Set example
- B4.5 Express high expectations
- B4.6 Support individual members

### B5. Empowering leadership
- B5.1 Encourage initiative of team members
- B5.2 Encourage self-responsibility of team members
- B5.3 Encourage self-confidence of team members
- B5.4 Encourage self-goal setting of team members
- B5.5 Encourage self-problem solving of team members
- B5.6 Monitor progress of the team

### C. Role
<table>
<thead>
<tr>
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### G. Other
| G   | Other                     |