
COLLABORATION IN PROJECTS

A qualitative study about how the paradox between teams' autonomy requirements and their embeddedness in the project and team stability influence the collaboration within and between teams

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Preface

With due pride, I present to you my Master thesis. This thesis is written as part of the completion of my Master degree in Business Administration, with a specialization in Human Resource Management at the Vrije Universiteit Amsterdam. The copyright of this thesis rests with the author, I am solely responsible for the content of the thesis, including eventual mistakes. HRM cannot be held liable for the content of this thesis.

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I hope you will enjoy reading my Master thesis.

Sharon Mulder

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Abstract

While collaboration is crucial for project success, there is little known about collaboration in the context of projects. This study provides insight in how the paradox between teams' autonomy requirements and their embeddedness in the project and team stability influence the collaboration within and between teams in projects. The data for this study is collected in a qualitative way, by conducting interviews and observations. The results showed that the way in which the autonomy-embeddedness paradox was coordinated and thereby created an inward focus appeared to positively influence the collaboration within teams, while negatively influencing the collaboration between teams. Team stability mainly influenced the collaboration within teams, the multiple consequences of instable teams appeared to have a negative influence. The knowledge provided by this study partly fills the knowledge gap in collaboration research in the context of projects and thereby creates a more explicit awareness of the influence of the projects' context on the collaboration.

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1. Introduction

1.1 Topic description

In the last decade there has been a dramatic increase in the amount of project working (Jugdev & Müller, 2005). As projects become an increasingly common way of working, there is a growing interest in how to manage these projects. However, there is still ambiguity about how to manage a project successfully (Ika, 2009). Given the specific nature of projects, being temporary, innovative, unique and multidisciplinary, it is generally recognized that to manage projects unique tools and techniques are required (Ika, 2009). Because projects are multidisciplinary and comprise a mix of diverse individuals with highly specialized competencies (Lindkvist, 2004), collaboration is a crucial success factor in any project (Vaaland, 2004). However, due to the unique context of projects, it is not easy to achieve the right level of collaboration (Vaaland, 2004). Still, it is of great importance that good collaboration is safeguarded since difficult collaboration in projects can lead to diverse issues in the project concerning quality, extra costs, safety and delay (Hyvari, 2006).

To make the uniqueness and innovativeness of projects manageable, projects are often divided in different phases (Turner, 2008). Each phase of the project comes with different demands and therefore requires people with different capabilities. Due to this it is inevitable to retain the same people in teams during the whole project (Havermans, 2014), and thereby making it hard to achieve team stability in the context of projects. However team stability research argues for the benefits of both stable and unstable teams in different contexts (Akgün & Lynn, 2002), there is no research done that explicitly applies to the context of projects. This leaves the questions whether stability or instability is beneficial in a context that makes stable teams practically impossible and how this influences the crucial collaboration in projects.

Because projects involve multiple disciplines they are most often organized in decentralized teams (Sydow, Lindkvist & DeFillippi, 2004). These teams can be seen as multi team systems, that while achieving their individual goals, also have to pursue their collective overall goal (Marks, DeChurch, Mathieu, Panzer & Alonso, 2005). Although these two elements seem to exist simultaneously, in practice there is a tension between the teams' autonomy requirements and their embeddedness in the project (Sydow et al., 2004), making it the two elements paradoxical demands (Smith & Lewis, 2011). Since collaboration is seen as essential in reaching the goals of projects (Vaaland, 2004), collaboration can be seen as highly necessary for achieving both elements in the autonomy-embeddedness paradox. Since literature about collaboration is mostly done in the context of a traditional line organization

(Kreitner & Cassidy, 2011), and therefore does not take into account the autonomy-embeddedness paradox the question rises how the autonomy-embeddedness paradox influences the collaboration in projects.

1.2 Research Question and Relevance

Based on previous research there appears to be a knowledge gap in research about collaboration in the context of projects. Due to the main focus of literature around collaboration on traditional line organizations and the specific context of projects, it is difficult to apply the existing knowledge to collaboration in projects, this is where this study steps in. This study will explore how the unique aspects of projects, i.e. autonomy-embeddedness paradox and inevitable team instability, influence the collaboration in projects. This leads to the following research question:

How do the autonomy-embeddedness paradox and team stability influence collaboration in projects?

The research question requires an in-depth analysis of the concept collaboration in the context of projects. The aim is to gain insight in how the aspects team stability and the autonomy-embeddedness paradox in the context of projects influence collaboration in projects. Besides adding to the existing literature, and thereby partly closing the knowledge gap in collaboration in the context of projects, the results of this study are also relevant for project managements. The results provided by this study will give insight in how the aspects in the context of projects influence the collaboration in projects. This knowledge can be useful in managing current projects and the development of future projects. Thereby, the knowledge granted by this study gives an explicit direction to successful project management, a domain that is still ambiguous (Ika, 2009).

1.3 Structure of Thesis

This thesis is organized as follows. The next chapter provides a theoretical framework, with clear definitions of the key constructs, collaboration, within and between teams, projects and team stability and the autonomy-embeddedness paradox in the context of projects. Additionally, relevant theories around the key constructs are explained. Chapter three presents the research method, within this chapter the research design, research context, sample and data collection and analysis are discussed. The fourth chapter presents the results

of the data analysis. Finally, in chapter five, the research question is elaborated and conclusion is drawn. Subsequently the limitations and implications will be discussed.

2. Theoretical Framework

This chapter elaborates the key constructs in this study, collaboration, within and between teams, projects and team stability and the autonomy-embeddedness paradox in the context of projects. The key constructs are explained and previous studies regarding the constructs are described.

2.1 Collaboration

Collaboration can be seen as “a process through which parties who see different aspects of a problem can constructively explore their differences and search for solutions that go beyond their own limited visions of what is possible” (Gray, 1985). Meaning that when people collaborate positive synergy can be created, whereby the collaboration results in a greater outcome than the sum of its parts (Robbins, Judge, Milett & Boyle, 2013). The definition of Graham and Barter (1999, p.7) also implies the creation of synergy when collaborating by defining collaboration as “a relational system in which two or more stakeholders pool together resources in order to meet objectives that neither could meet individually”. Despite the different existing definitions with just slightly different perspectives, the research of Walter and Petr (2000) shows that collaboration is generally understood as simply ‘working together’, implying that terms as cooperation, collaboration are used interchangeable (Longoria, 2005).

Although collaboration is seen as essential for a successful project (Vaaland, 2004), the literature about collaboration in projects is very narrowly focused and is mainly about collaboration with contractors (Vaaland, 2004) and partners (Dietrich, Eskerod, Dalcher & Sandhawalia, 2010). It is argued that projects can be seen as temporary organizations (Gareis, 2005; Turner & Müller, 2003), therefore the more general knowledge about collaboration in projects that will be described next draws on literature concerning knowledge about collaboration in organizations. Within organizational collaboration two levels can be distinguished; inter- and intra-organizational collaboration. Inter-organizational collaboration is directed towards the external stakeholders, capturing the collaboration between organizations, while intra-organizational collaboration is aimed at the collaboration between internal stakeholders, capturing the collaboration within and between teams (Schrage, 1990). With regard to projects there is an element in the collaboration different from traditional line-organizations, namely the fact that the members in projects are all employed by different organizations since they are often externally hired for the project (Huemann, Keegan & Turner, 2007). Since the main focus of the existing project collaboration literature is on the

comparable inter-organizational level, this explorative study focuses on the comparable intra-organizational level and thereby places the collaboration within and between teams in projects central.

2.1.1 Collaboration Within Teams

Collaboration within teams is about the teamwork between team members (Wurst, Hoegl & Gemuenden, 2001). Good collaboration within teams occurs when workers do “not simply form a group but have become an effective team” (West, Tjosvold & Smith, 2008). An effective team is seen as a team that has innovative ideas, is adaptable to change, has high personal/team commitment, is rated highly by upper management and accomplishes goals (Thamhain, 1990). A team is effective and well collaborating when factors of the people- (e.g. mutual trust), organizational- (e.g. involved management) and task-related (e.g. clear objectives and plans) determinants are in place. To get to the state where all determinants are in place, and where the team is on its highest level of effectiveness, the team goes through a group development of becoming mature (Jewell & Reitz, 1981 in Kreitner & Cassidy, 2011). This process includes going from stages wherein all team members are orientating towards feeling cohesion to fully accept each other and step out as a group. To develop a team on the highest level effectively all the stages of the group development process need to be completed (Kreitner & Cassidy, 2011). The maturity process of becoming an effective, well-collaborating team is associated with increased feelings of affection and friendship between team members (Remmerswaal, 1996), which in return also stimulates the collaboration between team members (West, 2012). This indicates that when the composition of a team changes, the collaboration does not only suffer damage because of the interrupted maturity process, but also because personal feeling of remaining members play a role in how well team members collaborate with each other.

2.1.2 Collaboration Between Teams

Besides collaboration within teams, collaboration also takes place between teams. The teams that collaborate with each other can be linked horizontally, whereby the division of labor is made by the specialisation of each team, or vertically, whereby the hierarchy establishes the chain of command. When teams collaborate they all represent different interests, together they should take decisions with respect to all interests (Kreitner & Cassidy, 2011). A difference between the collaboration between teams and the collaboration within teams is the extent to how well people know each other. Because members of the same teams spend much

more time together they are usually much closer with members from their own team than members from other teams (Remmerswaal, 1996). Since affection and friendship stimulate collaboration (West, 2012), the collaboration within teams is stronger within than between teams.

Although there is little research done on the topic of collaboration between teams in the context of projects, the rare studies that are performed show similar results (Hoegl, Weinkauff & Gemuenden, 2004; Wurst et al., 2001). Both studies identified three similar aspects that are dependents for good collaboration between team: integration of teams' contributions, people's commitment to the project and personal and work related harmony. When looking at other studies, not particularly project related, there seem to be other aspects that also play a role in the collaboration between team. One of these aspects is the organizational culture, the extent to which the culture stimulates information exchange influences the collaboration between teams (Barua, Ravindran & Whinston, 1997). Another aspect that influences the collaboration between teams is for how long these teams exist; longer existing teams share more information, which leads to better collaboration between teams (Van Wijk, Jansen & Lyles, 2008). Whether these aspects, identified in the context of a traditional line organization, apply for the context of projects is unknown.

2.2 Projects

Projects are a temporary form of organizing to accomplish something new (Keegan & Turner, 2002; Sydow et al., 2004) and are often referred to as temporary organizations (Gareis, 2005; Turner & Müller, 2003). Due to their temporary form projects have a start and end time, and therefore a defined scope (Project Management Institute, n.d.), this does not necessarily mean that the projects have a short duration (Hanisch & Wald, 2014). The element of newness comes with complex demands, because newness involves developing something unique concerning multiple disciplines, whereby the project is embedded in a broader context and continuously changes, it is impossible to oversee the whole project (Havermans, 2014). The management of these complexities comes with the challenge of managing a project in such a way that knowledge, skills, tools and techniques are applied to meet the project's requirements (Project Management Institute, n.d.). Therefore, the focus in projects is rather on the project dimensions than the functional dimensions, such as processes and structures. This is what distinguishes projects from traditional line organizations (Lindkvist, 2004).

To deal with the challenging environment of projects, diverse and specialized intellectual resources are integrated (Sydow et al., 2004). Often people are externally hired in order to create a pool of people with diverse specialties that meet the requirements for the different disciplines within a project (Huemann et al., 2007). To meet the challenges that come with the management of projects collaboration between people that work in a project is crucial (Vaaland, 2004). Interesting to see is how the complex manageable context of projects influences the crucial collaboration, which is necessary to make projects successful. In the next paragraphs two aspects in context of projects are highlighted in order to see how they influence the collaboration in projects.

2.2.1 Autonomy-Embeddedness Paradox

The first aspect in the context of projects is the paradox between teams' autonomy requirement and their embeddedness in the project (Sydow et al., 2004). A paradox can be defined as "contradictory yet interrelated elements (dualities) that exist simultaneously and persist over time; such elements seem logical when considered in isolation, but irrational, inconsistent, and absurd when juxtaposed." (Smith & Lewis, 2011, p.387). In case of the autonomy-embeddedness paradox there is a tension between teams' autonomy requirements and teams' embeddedness in the project (Sydow et al., 2004).

The construction in which teams need to integrate their autonomy requirements in order to succeed collectively is often referred to as a multi team system (Marks et al., 2005). The teams within these multi team systems are characterized by their pursuit of different proximal goals, whilst at least sharing one common distal goal (Mathieu, Marks & Zaccaro, 2001). For a system applies that teams may pursue different goals occasionally, but "these goals must somehow come together and be intertwined at a high level" (Bateman, O'Neill & Kenworthy-U'Ren, 2002 in Marks et al., 2005). Therefore it is not only important for a team to be engaged with their autonomy requirement, but simultaneously with their embeddedness in the project in order to achieve their collective goals (Marks et al., 2005).

Although it is important for teams to simultaneously engage with their autonomy requirements and embeddedness in the project, in the context of a project, success depends upon decentralized team working (Sydow et al., 2004); putting the emphasis on collaboration within teams in order to meet the teams' autonomy requirements. As argued by Quinn (1988), the response of the leader to the paradoxical demand is a fundamental determinant of the organization's fate. According to Poole and Van de Ven (1989) there are four ways to do that, accept the paradox and use it constructively, clarify levels of analysis, temporarily

separate the two elements or introduce new terms to resolve the paradox. Still, every way of dealing with a paradox is challenging and requires considerations (Poole & Van de Ven, 1989). In case of the autonomy-embeddedness paradox, that requires balancing between the autonomy requirements of teams and teams' embeddedness in the project, it is important to make sure that the decentralized teams also collaborate with other teams that are part of the multi team system, to align in order to succeed collectively (Marks et al., 2005). Hence, to meet the demands of the paradox in the context of a project, collaboration within and between teams is necessary. This study will explore how the autonomy-embeddedness paradox influences the collaboration within and between teams in projects.

2.2.2 Team Stability

The second aspect that is discussed in the context of projects is team stability. Team stability is defined by Hollenbeck, Beersma and Schouten (2012, p.84) as: "the degree to which team members have a history of working together in the past and an expectation of working together in the future". Lee, Koopman, Hollenbeck, Wang and Lanaj (2015) perceive a team as stable when the members have worked together for a long time with only a few changes in membership. Current team stability literature can be divided into two schools. The first school argues that team stability is preferable since it has a positive effect on team performance (Akgün & Lynn, 2002; Higgins, Weiner & Young, 2012), whereas the second school argues that unstable teams can be beneficial for the performance of teams in certain contexts, such as in rapidly changing environments or changing practices (Akgün & Lynn, 2002).

Both the definition by Hollenbeck et al. (2012) and Lee et al. (2015) indicates that team stability is influenced by changing team members. Although every organizational form has to deal with changing members caused by natural transition (Levine & Choi, 2004), for projects applies another aspect that increases the number of changing team members and thereby the team stability. To make the complexity of projects manageable, projects are often divided into different phases (Turner, 2008). Because every phase comes with different demands (Havermans, 2014), every phase requires people with different competencies (Hobday, 2000). This entails that in every phase of the project team members are replaced, have to leave or come to join the team. Due to these inevitable changes in teams, team members have no expectation of working together in the future and will not work together for a long time, which makes it hard to create team stability in projects.

Although the second school in stability research argues that team instability in phases of changing practices in the project can be beneficial for the performance of teams. When looking at the earlier described maturity process teams have to go through to become effective and well collaborating (Kreitner & Cassidy, 2011), the instability in teams seems to interfere the teams' process of becoming effective and well collaborating teams. This study will explore how the degree of stability in teams of projects influences the collaboration within and between teams in projects.

3. Method

This chapter presents the methodology of the performed study. To show how the results came about, the research design, research context, sample, data collection and analysis are thoroughly described.

3.1 Research Design

This research is designed to understand how the autonomy-embeddedness paradox and team stability in projects influence the collaboration in this context. To answer this ‘how-question’ in an unexplored research area this research is done in a qualitative way, with an explorative character to find out the underlying reasons and dynamics (Edmondson & McManus, 2007). Qualitative research is ideal for investigating phenomena that have not been researched extensively (Edmondson & McManus, 2007), fitting the state of literature well. Thereby qualitative research suites the research question to study the phenomenon of collaboration in projects in the environment in which it naturally occurs (Gephart, 2004). To study the rich real world context in which the phenomenon occurs, a single-case study is performed (Eisenhardt & Graebner, 2007). Within this study the bounded system of one project is explored through detailed in-depth data collection (Creswell, Hanson & Morales, 2007).

In this study an abductive approach is used, as it combines the inductive and deductive approach (Locke, 2011; Saunders, Lewis & Thornhill, 2007). The deductive approach is reflected in the use of existing theories. The existing theories about collaboration are applied in the context of projects in order to identify the knowledge gap, come up with interview topics, codes and possible explanations (Saunders et al., 2007). The inductive approach is reflected in the openness during the data collection in order to create new insights in the theory of collaboration in the context of projects (Saunders et al., 2007). The conjectural approach enables to create interplay between theory and data, something that is fundamental for explorative research (Locke, 2011).

Since the study aims to answer a ‘how-question’, extensive and detailed data is needed. Interviews are highly suitable to get this data because they can help measuring attitudes and perceptions and they can provide in-depth information, necessarily for explorative research (Johnson & Turner, 2003). Besides interviews, observations were conducted to get information about what the actual collaboration within and between teams looks like, additionally to the participants own attitudes towards and perceptions of these collaborations.

3.2 Research Context

The unit of analysis for this study in the project Noord/Zuidlijn, based in capital of the Netherlands, Amsterdam. The Noord/Zuidlijn is a project of Metro and Tram, part of Gemeente Amsterdam. Metro and Tram is responsible for the control and maintenance of Amsterdam's metro and tram network. The Noord/Zuidlijn project, that started in 2003, is set up to construct a new metro line that will connect the north and the south part of Amsterdam. Currently, the Noord/Zuidlijn project is in its final phase, the project is planned to be finished in October 2017 (Gemeente Amsterdam, n.d.).

This study focuses on three sub departments of the project: system integration department (SI), transport technique & completion department (TT&C) and the signalling & control and ICT/telecom department (S&C/ICT). Each department is responsible for their own contracts. The TT&C and S&C/ICT department both work on the completion of the Noord/Zuidlijn. The SI department is responsible for the functioning, safety and workability of all the subsystems that are part of the Noord/Zuidlijn. The TT&C department works on the completion of metro stations and tunnels. This department is responsible for the monitoring and planning of the construction of elevators, escalators and other elements that can be constructed after structural work on stations and tunnels is completed. The S&C/ICT department develops security systems that ensure metros do not derail or collide, ride with the correct speed and secure the correct interval between metros (Stoiber & Scheffrahn, n.d.).

The project director is Hoite Detmar, he has the responsibility for realizing the Noord/Zuidlijn. Gerard Scheffrahn has the role of realization director and is responsible for the daily operation, whereby every sub department has its own manager. Within the sub departments, responsibilities are divided and assigned to different managers (Stoiber & Scheffrahn, n.d.).

3.3 Selection and Profile of Participants

In order to study the collaboration within and between teams in the Noord/Zuidlijn project, people that work in one of the three sub departments of the project were selected. Due to the limited knowledge of the researcher about people their function in the project, the assistant realization manager selected participants for the interviews. In the selection the following two criteria were used: 1) works on the Noord/Zuidlijn project and 2) works in the TT&C, S&C/ICT or SI team. To construct an as broad as possible variety of perspectives, all the interviewees had different functions within the selected teams. In addition to selecting participants with these criteria, the realization director was also added to the sample. In total

there were nine men and one female who were interviewed, they all had different functions in one of the three teams in the Noord/Zuidlijn project. Table 1 gives an overview of the sample.

The meetings for the observations were also selected by the assistant realization manager, due to time constraints for the data collection of this study the selection of the meetings were mainly practical. In total two meetings were observed. The first observed meeting was a meeting in which people with managerial roles come together to discuss the progression, potential pitfalls and successes. The second observed meeting was a meeting of the ‘change-team’, in this meeting people who work in different teams in the project come together to make plans to actively involve people in the way of working.

Table 1 - *Overview of sample*

Interviewee	Gender	Team	Function	Educational Background
1	Male	S&C/ICT	Realization Manager	HTS Electrical Engineering
2	Male	TT&C	Project Leader Vijzelgracht & Central Station	HBO Civil Engineering
3	Male	Management	Realization Director	HTS Civil Engineering HTS Business Technology
4	Female	S&C/ICT	Interface Coordinator	BSc, Civil Engineering MSc, Civil Engineering and Management
5	Male	SI	Manager Architecture & Engineering Manager	HBO Business Management HBO Electrical Engineering MSc Business Administration
6	Male	S&C/ICT	Project Leader Realization	HTS Electrical Engineering
7	Male	Management, SI	Manager SI	BSc Law MSc Business Administration
8	Male	SI	Project Leader Testing	HTS Mechanical Engineering
9	Male	S&C/ICT	Realization Assistant Manager	BSc Civil Engineering
10	Male	Management, S&C	Contract Manager S&C	Electrical Engineering

3.4 Data Collection

As indicated before the data is collected through interviews and observations. The participants selected for the interviews were approached by email with a short explanation of

the study and a request for participation. All interviews were done face to face and took place in one of the offices of the Noord/Zuidlijn project, all interviews took between 45 and 60 minutes.

In order to be able to analyze the data thoroughly, the interviews were recorded with an audio-recorder application on a laptop. In advance of all interviews, interviewees' were guaranteed confidentiality and anonymity, they were also explicitly asked for their permission to record the interview. After every interview the audio-recordings were transcribed verbatim. Because the native language of both the researcher and interviewees is Dutch, all the interviews were done in Dutch as well as the written transcripts. The parts of the transcript that were used for illustrative quotes in the results section were accurately translated.

To structure the interviews a semi-structured interview-guide was used (see Appendix I). This structure allows to get an in-depth understanding of reasoning patterns and underlying assumptions and at the same time leaves room for the perspective and sense making of the interviewees, meeting the explorative character of this study (Legard, Keegan & Ward, 2003). The interview-guide consists of three main topics: general collaboration, team stability and the autonomy-embeddedness paradox. The questions in the interview-guide were developed in a deductive way, using the existing literature as a starting point (Saunders et al., 2007).

To be able to give structure to the observations a semi-structured observation plan was developed (see Appendix II). The plan consists three main topics to observe: team stability, autonomy-embeddedness paradox and general aspects (e.g. jargon, rituals). The observation plan was developed on the basis of a previous attended similar meeting. The observations were descriptive, which means that the focus was on the process rather than the outcome or content of the meetings (Saunders et al., 2007). The researcher was present during all the meetings that were observed, and the participants were aware that the researcher was observing these meetings.

3.5 Data Analysis

The data analysis is based on the Gioia methodology (Gioia, Corley & Hamilton, 2013), which categorizes the data into first order concepts, second order themes and aggregate dimensions. The first step was to analyze the transcripts sentence by sentence and linking those to a suitable code. As the first step progressed and the amount of different codes increased, there was moved back and forward in the transcripts in order to see if the new

added codes could also fit the earlier analyzed parts of the transcript (Gioia et al., 2013). To create a better overview, the codes that were linked to one of the specific aspects in this study, were labelled an abbreviation (e.g. CBT for collaboration between team and CWT for collaboration within teams). The first step of categorizing the data into first order concepts resulted in 219 different codes. Because of the overwhelming amount of codes, there had to be looked into the codes again after which could be concluded that some of the codes had the same content and therefore they could be merged, this resulted in a total of 190 different codes.

The second step is more theoretical realm and is about integrating the first order concepts into second order themes. Within this step there was searched for concepts that could help explain the studied phenomenon (Gioia et al., 2013). This was done by grouping the first order concepts and linking them together to either existing concepts or seemingly new concepts. This step was a process of long considerations and moving back and forward between the first order concepts and newly created second order themes.

The third step was about aggregating the dimensions. This process was about finding out how the different themes were interconnected. Just as the second step in the analysis process this step was also a process of long considerations and moving back and forward between the previous created themes and newly created dimensions. The three steps in the data analysis process resulted in the following figure (see Figure 1).

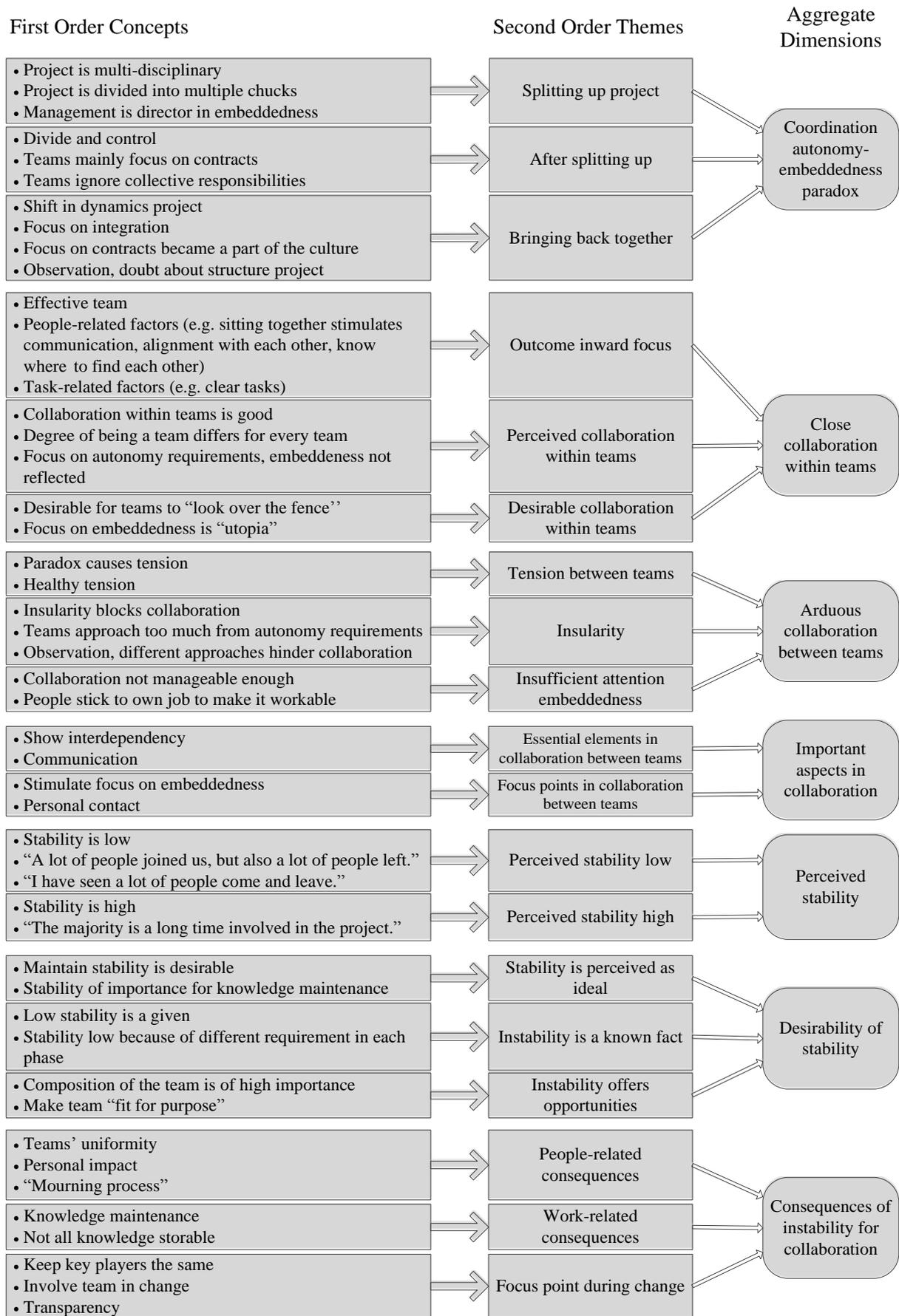


Figure 1 - Data structure

4. Results

In this section the results of the explorative research are described. The results give insight in how the autonomy-embeddedness paradox and team stability influence collaboration within and between teams in projects. Table 2 (see Appendix III) gives an overview of additional illustrative quotes that support the quotes used in the results section.

4.1 Coordination of Autonomy-Embeddedness Paradox

An important theme throughout the course of the interviews was the way in which the autonomy-embeddedness paradox is coordinated. This appeared to be of influence on the collaboration within projects. Almost all interviewees explained that there is a need to split up the project in order to manage a comprehensive project. In the Noord/Zuidlijn project this is done by splitting up the work into different teams, each teams autonomously fulfils the requirements of the contract they are assigned to.

Quote 1 | Interviewee 3

“There are so many different disciplines in the project, it is so comprehensive. You have to cut it into pieces to make it manageable, so we cut the great whole into multiple chunks.”

When explaining the process of splitting up the project, management emphasized not to overlook how teams are embedded in the project and work on the project collectively. The teams’ responsibilities become clear in the following quote:

Quote 2 | Interviewee 7

“Teams have a duty of results and a duty of efforts. They have to realize their contracts as soon as possible. But they also have to cooperate in linking all the parts. We [management team] have to give direction in this.”

After the project was split up, there was a so-called “divide and control” strategy (Interviewee 7). According to the interviewees from the management team, there was a strong focus on the contracts, the autonomy requirements of each team. This is consistent with how multiple interviewees reported the way their teams work, which ignores the collective responsibilities they have with the other teams.

Quote 3 | Interviewee 5

“In this project everyone is just blind for what others do, together we have to make a chair and while one team has to make the seat cushion and the other the backrest, they are blind for how it comes together.”

In the course of the project different phases followed each other. In the current phase the dynamics of the project strategy are shifted towards the integration of all elements. According to the management the emphasis in this phase should be on how the teams are embedded in the project, bringing back together what has been split up. However, the dynamics of the project were supposed to be shifted in this new phase, the majority of the interviewees claimed that the teams still operate through their own contracts, their autonomy requirements. When asked about the reason for this, the answers were very like-minded; the following quote is comprehensive for most of the given answers:

Quote 4 | Interviewee 5

“It has to do with the project, the teams always had the instruction, or they are directed that way, to do their own contract. [...] Working that way has become a culture, and the problem with cultures is that they are not easy to break down.”

Although the judgements about teams focusing on their autonomy requirements being a nature of work are alike, the opinions about whether teams have enough notion about their embeddedness in the projects are divided. A few interviewees were confident that the focus on the teams' embeddedness in the project came too late in the project. This also became evident in one of the observations, when issues were discussed and there seemed to be no easy solution, multiple times participants expressed themselves about whether the structuring of the project was ideal.

To summarize, the autonomy-embeddedness paradox has been coordinated in a way that puts a focus on one aspect of the paradox in each phase of the project. Because of this, focusing on the autonomy requirements has become a part of the culture, implicating that it is hard to shift the focus toward the teams' embeddedness in the project, particularly now in a phase in which integration should be central.

4.2 Close Collaboration Within Teams

The way in which the autonomy-embeddedness paradox has been coordinated, has put a focus on the autonomy requirements of teams and thereby led to an inward focus of teams. Several interviewees mentioned that the way in which the project is coordinated has an influence on how people collaborate with each other.

Quote 5 | Interviewee 9

“You choose a particular structure and focus [...] you make that people will act on that focus. We choose to put separate teams on the contracts. In doing so, you direct how people will work together.”

The data showed that the inward focus of teams is also reflected in the way the teams collaborate with each other. The inward focus created by the way in which the paradox was coordinated seems to have led to the development of what seem to be effective, well collaborating teams. Different aspects of effective teams were identified in the data. The following quotes illustrate people-related factors (Thamhain, 1990):

Quote 6 | Interviewee 6

“Well, the structure to align with each other, the unity, an unambiguous approach, it is just all there within the teams.”

Quote 7 | Interviewee 5

“They [team members] talk with each other from their own initiative, they just tune really quick with each other and set clear how they are going to reach goals.”

Two other aspects that appeared multiple times during the interviews were that sitting together with a team in one area stimulates the communication and creates clarity among team members' tasks. All the aspects that are in place in each team are in line with the people- and task-related factors that according to Thamhain (1990) make teams effective and well collaborating.

The team members also seem to perceive the collaboration between teams as good. Although the level of collaboration within teams appears to differ for each team, the overall collaboration within teams is perceived as very good. This is illustrated by the following quotes.

Quote 8 | Interviewee 6

“You got a planning scheme for your own team. You know exactly what is going on and who is going to do what.”

Quote 9 | Interviewee 2

“Within teams that [the collaboration] is all just alright, they just do their own thing.”

Although the inward focus created well collaborating teams, the collaboration within the teams is also very inward focused. Their perceptions of the collaboration within teams were mainly about teams’ responsibility of taking care of their contract, without mentioning the collective responsibility they have with other teams. This is interesting given the fact that this close collaboration has arisen because of not simultaneously paying attention to both elements of the autonomy-embeddedness paradox. Indicating that the one-sided focus on the autonomy requirements caused a way of collaborating in which they are very close, but in which the embeddedness in the project does not seem to be part of the perceived collaboration within teams.

It is remarkable that while collaborating closely and inward focused, the data also showed that it is desirable to have teams also worry about other teams, while also working on their autonomy requirements.

Quote 10 | Interviewee 4

“Of course everyone needs to maintain their own garden, but it is important that you do not distance your garden from others. You also need to look over the fence.”

Indicating that the focus on just one element of the paradox created an undesirable way of collaboration within teams. One of the members of the management had a noticeable view on the undesirability of the one-sided focus in the close collaboration within teams. He explained that getting people into a focus of having the responsibility for a task that eventually will be embedded in the overall project is a “utopia”.

Quote 11 | Interviewee 10

“All those people are not concerned with that [their embeddedness in the project], they are fully engaged in their own field of expertise. They do not constantly ply how that is embedded in the project.”

All in all, the way in which the paradox was coordinated caused the teams to have an inward focus which is also reflected in the way they collaborate within teams. Although the inward focus created effective, well collaborating teams, teams are mainly concerned with teams' autonomy requirements, the embeddedness of teams did not seem to be part of the collaboration within teams. Indicating that the close collaborating within the teams is very much focused on their own responsibilities. Remarkable is that it is also frequently mentioned that it would be more desirable for the collaboration within teams to have a more equal focus on both elements of the paradox.

4.3 Arduous Collaboration Between Teams

After analyzing the data three ways can be distinguished in which the autonomy-embedded paradox influences the collaboration between teams. In contrast to collaboration within teams, the collaboration between teams was also partly influenced by the paradox itself and not only by the way it was coordinated. The collaboration between teams is influenced by the paradox itself due to the tension that is caused by the paradoxical demands. Being embedded in a project, while having autonomy requirements caused tension in the collaboration between teams.

Quote 12 | Interviewee 1

“Where you should achieve something together, all from your own interest, tensions will arise.”

The tension between teams when collaborating is noted by almost all interviewees, seeing the paradox as a direct source of tension between teams. Some interviewees specified this and said that the tension between teams even got bigger since the project shifted towards the phase of integrating all the elements. It is important to mention that almost all interviewees who mentioned the tension also highlighted that they see it as a healthy tension. However, the tension makes the collaboration between the different teams more laborious.

One way in which the collaboration between teams is influenced by the coordination of the paradox, is by causing insularity which blocked the collaboration. As showed before, the way in which the paradox is coordinated has caused the teams to have an inward focus. This focus also seems to be reflected in the collaboration between the different teams. The data revealed that the collaboration between teams is too much approached from teams' autonomy requirements.

Quote 13 | Interviewee 2

“When we are all together, everyone is still there with their own contract in their lap.”

The influence of the inward focus is also reflected in the observed meetings. During these meetings, when collective issues were discussed participants reacted by explaining what the issues mean for their contracts. With collective issues each team seemed to have their own way of interpreting things, which seemed to make it hard to work out the issue collectively.

The other way in which the collaboration between teams is influenced by the coordination of the paradox, is by giving one part of the paradox, the embeddedness in the project, insufficient attention. This became evident because the collaboration between teams did not seem to be manageable enough. Multiple interviewees indicate that they see people sticking to their teams' autonomy requirements because they just do not know enough about how to handle aspects that also concern other teams.

Quote 14 | Interviewee 4

“You also have to make it workable for yourself. [...] I see it happen that people just close themselves for anything that is not their own thing. Because so much is happening, people start thinking, if I just do my part right, everything will be fine.”

Important to note is that all interviewees who mentioned this associate this observation with others and not with themselves.

To summarize, the autonomy-embeddedness paradox influenced the collaboration between teams in such a way that the collaboration became arduous. In contrast to the collaboration within teams, not only the coordination of the paradox influenced the collaboration between teams but also the paradox itself. Firstly, the paradox caused a tension between teams making the collaboration laborious. Secondly, the way in which the paradox

was coordinated caused an inward focus, making the teams insular which blocked the collaboration between the teams. Lastly, insufficient attention for the embeddedness part of the paradox in the coordination made the collaboration less manageable for people and thereby hindered the collaboration between teams.

4.4 Important Aspects of Collaboration

It seems like there is awareness that the autonomy-embeddedness paradox influenced the collaboration. To deal with this influence there are two essential elements. The first is to show teams their interdependency. Multiple interviewees indicated that it is beneficial for the collaboration between teams to show teams how they depend upon each other and give clear directions in this. The following quotes illustrate the essentiality of showing teams' interdependency.

Quote 15 | Interviewee 8

“The current collaboration is based on the creation of clarity. In other words, outline the path of our collective goal and show where we are now and where we need to be in October 2017. Thereby it is important to show everyone’s role in that process.”

Quote 16 | Interviewee 3

“We try to set a direction which is as clear as possible. Our way of doing things, set clear expectations, to make sure everyone can link to that. By doing that we take away a cause for struggling between different teams.”

The second essential element in the collaboration is communication. Several interviewees stressed the importance of gearing to one another in order to be aligned with each other in a comprehensive project. The essentiality of communication is reflected in the following quotes.

Quote 17 | Interviewee 10

“The most important aspect of teamwork is communicating with each other. Being clear about what you expect from one another.”

Quote 18 | Interviewee 3

“In the end we are one organization, so that takes a lot of communication.”

Although the collaboration between teams has been negatively influenced by the paradox, there seems to be realization that the collaboration between teams needs extra attention because of that. This became evident when the data showed that all the essential elements were mainly about the collaboration between teams.

To deal with these essential elements in practice, there seem to be two focus points within the collaboration. The first is the stimulation of the focus on the element of the paradox, which so far has received little attention, the teams' embeddedness in the project. This focus point is mainly mentioned by management members.

Quote 19 | Interviewee 10

"Sometimes you have to show people the bigger picture. A lot of people are very focused on their daily task, at times you have to remind people that they are part of the greater whole."

Quote 20 | Interviewee 3

"When there is an issue that concerns multiple teams, we create 'workgroups' in which members from different teams collaborate with each other. In this way of going beyond people their own team we try to improve the collaboration between teams."

The stimulation on the focus of teams' the embedded in the project also came evident in both observations. In one of the observed meeting it repeatedly occurred that management members interrupt the on-going discussion or conversation to remind all participants that they all have the same goal and that they are part of one and the same project. In the observation of the 'change-team' meeting creating more awareness for the embeddedness of teams appeared to be one of their action points. In order to achieve this they, for example, planned to organize tours through the tunnel of the Noord/Zuidlijn.

The second focus point is more personal contact, which could help to know each other and know where to find each other in order to be able to collaborate well. Interviewees explained that meeting members from other teams once in a while is a great way to achieve that.

Quote 21 | Interviewee 4

"Just to have conversations with a cup of coffee about: "What exactly do you do?". There has to be room for those type of meetings, just to talk about those things."

Quote 22 | Interviewee 2

“Good collaboration depends on knowing things about each other and knowing where to find each other.”

It is remarkable that all the essential elements and focus points are mainly about the collaboration between teams. There is just once spoken about a focus point within the collaboration within teams that might need some extra attention. However this is in line with the perceived good collaboration within teams and the more negative perceived collaboration between teams. Generally, interviewees concluded that all the essential elements and focus points around the paradox are in place within the collaboration within teams and only the collaboration between teams needs extra attention. However, just as in the collaboration between teams, in the collaboration within teams there also seems to be little attention for teams’ embeddedness in the project. This indicates that the collaboration between teams could also use extra attention.

4.5 Perceived Team Stability

The other aspect is how team stability in projects influences the collaboration within and between teams in projects. Remarkable is that there are two opposing perceptions about team stability in the project. Even interviewees who are member of the same team perceived the team stability different. Part of the interviewees experienced the employee change as high and do not have the expectations to work together for a long time, therefore this part of the interviewees perceived the team stability low.

Quote 23 | Interviewee 4

“I am here for almost three years. When I look back, there is only a small group left of all the people I started working with in my team. Since I am here a lot of people joined us, but people also left or had to leave.”

Quote 24 | Interviewee 5

“I think in a project like this team stability is by definition low.”

However, another part of the interviewees perceived the team stability as high since they experience they have a long history of working together with their team members.

Quote 25 | Interviewee 1

“Within my team the stability is pretty high. The majority is involved in the project from the very beginning.”

Quote 26 | Interviewee 3

“We are fortunate that the lead-time of this project is very long, so the teams can all stay pretty the same.”

Notable is that there are no outstanding background differences between the interviewees with different perspectives about the team stability.

4.6 Desirability of Team Stability

Just as the perceptions of team stability in the project, the extent to which interviewees perceive team stability as desirable also differs. Some of the interviewees perceived team stability as an ideal situation, and therefore believe it should be maintained. Their motivation, to perceive stability as ideal, is mainly concerned with knowledge maintenance. These arguments generally did not take the different requirements in each phase of the project into account.

Quote 27 | Interviewee 10

“I try to keep the people that I have in my team, those people who are already in the team know the project best.”

Quote 28 | Interviewee 9

“There are some examples of teams who did the tender phase and are also part of the realisation phase. I think that has a very positive outcome, they took their knowledge with them.”

Another part of the interviewees perceived stable teams as an illusion in the context of projects. Their arguments were closer to the need to have people with different capabilities in order to meet the requirements of each phase. This is illustrated in the following quotes.

Quote 29 | Interviewee 8

“It is the same in all the projects I did. The change of guard you see every time, for me that is just something that is given in projects.”

Quote 30 | Interviewee 7

“You should not take the people from the design phase to the building phase, at least not all of them, that is the same for every phase transition. You have to filter in these transitions.”

Whether they perceived team stability as desirable or not, especially interviewees who are member of the management, pointed out the opportunity that comes with the instable teams by meeting the requirements of the different phases. Still, interviewees who perceived stable teams as desirable seem to feel their arguments about knowledge maintenance outweigh the possible opportunities.

Quote 31 | Interviewee 7

“I am continuously making sure my team is equipped to meet the requirements and fits the phase of the project, in this way we are always fit for purpose.”

Quote 32 | Interviewee 10

“When the design phase came to an end I consciously said goodbye to some people and welcomed some other people in my team to make sure we are well prepared for the upcoming phases.”

4.7 Consequences of Team Instability for Collaboration

From the data of interviewees who perceived the team stability low, different consequences could be identified which had an impact on the collaboration. The first type of consequence that emerged several times in the data involves people-related consequences for teams, again this is in line with one of the aspects Thamhain (1990) assigns to effective and well collaborating teams. Part of the people-related consequences is linked to teams' uniformity.

Quote 33 | Interviewee 2

“These changes can damage the teams' cohesion. Everyone has to reshuffle and find their position in the team again, that just takes time.”

Another people-related consequence is the personal impact, which is about the emotional process teams go through when the team composition changes.

Quote 34 | Interviewee 7

“There are also personal relations in teams. When you are very close with one of your colleagues, you grab a beer after work together and then at a certain point he gets laid-off. Then you have an opinion about that and you are frustrated because of that. [...] Teams go through a mourning process when people leave.”

An aspect that is often highlighted in the context of team stability is the importance to build on a team before it can function properly. However, the people-related consequences show how team instability can negatively impact that. Therefore it is assumable the people-related consequences of team instability have a negative effect on the collaboration within teams.

The second type of consequences the data revealed is work-related, these consequences are mainly concerned with the effect of team instability on knowledge maintenance and thereby the effectiveness of the team.

Quote 35 | Interviewee 4

“You can never transfer all the knowledge, the knowledge and experiences are mostly in a person itself.”

That knowledge is hard to maintain in instable teams is also the reason for interviewees to perceive stable teams as more desirable. Still in a situation where instable teams are inevitable, the work-related consequences will influence the team effectiveness and thereby collaboration in teams in a negative way.

Because the interviewees, especially management members, seemed to be aware of the consequences the team instability comes with, there are some points they try to focus on during periods of change in order to let the instability have less negative influence on the team as possible. The first focus is trying to keep the key players in a team the same in order to retain as much as possible stability.

Quote 36 | Interviewee 10

“You should always have a permanent base of skilled people, you have to make sure you do not touch that base. [...] I try to keep the same people as much as possible, they are already part of the team, they know the project.”

Another focus is to involve teams in upcoming changes. Within this process it is important to make sure the teams get used to the new situation. The following quote illustrates a way to do that:

Quote 37 | Interviewee 1

“Before someone is replaced there is double staffing in order for the new person to get used to the team and the other way around. In this way the one who is leaving can transfer his knowledge to the replacer.”

The third focus, transparency, is very much in line with the previous focus. In order to create understanding for implemented change it is important to be open, clear and honest.

Quote 38 | Interviewee 8

“What important is during these kind of changes, is always involve your team in things that are about to happen. To show, we are about to enter a new phase, these are the fringes and consequences for you.”

Although, the interviewees did elaborate on how the instability in teams influences the collaboration within teams, when asked about how it influences the collaboration between teams the information stayed out. The data only contains short answers that indicate that the instability of teams has no influence on the collaboration between teams. When asked why, the interviewees linked it to the way the instability is taken care of within the teams.

5. Discussion

In this section the research question is elaborated on and a conclusion is drawn based on the results. Finally, the limitations, theoretical and practical implications of this study are discussed.

5.1 Conclusion

This study focused on understanding how the autonomy-embeddedness paradox and team stability influence collaboration in projects. The data, collected by interviews and observations, showed that especially the way in which the paradox was coordinated had a great influence on the collaboration. The data revealed that the autonomy-embeddedness paradox is actually not treated as a paradox. To deal with the paradox, one of the approaches described by Poole and Van de Ven (1989) was used, namely dividing the two elements. However, in this process in which the two elements should be temporary divided (Poole and Van de Ven, 1989), the elements were not treated as a paradox in which the two elements exist simultaneously (Smith & Lewis, 2011), but more in a way in which the focus on the elements followed up on each other. After decentralizing the project, the focus was mainly on the autonomy requirements. After a long period when all the different elements should come together the focus on teams their embeddedness in the project was disseminated. The outbalanced focus on the elements of the paradox led to an inward focus of teams that had a major impact on the collaboration. Just as Quinn argued (1988), the way in which the leaders responded to the demands of the paradox was fundamental for the fate of the organization.

Remarkable is that although the elements in paradox did not exist simultaneously as prescribed by Smith and Lewis (2011), the inward focus created by the way the paradox was coordinated did have a positive effect on the collaboration within teams. The inward focus led to what Thamhain (1990) characterizes as effective and well collaborating teams. Another interesting finding is that however the interviewees perceived the collaboration within teams as good and were not directed in a way in which the elements of the paradox exist simultaneously, they do share Smith and Lewis' (2011) vision and think the focus on the elements of the paradox should be more balanced.

Although the outbalanced coordination of the paradox had a positive effect on the collaboration within teams this is not the case for the collaboration between teams. Because of the paradoxical nature of the two elements and the long period of focusing on teams' autonomy requirements that created an inward focus, teams seem to be struggling to work as a multi team system. The aspect of multi team systems to pursue different proximal goals and

intertwine these later (Mathieu et al., 2001; Bateman, O'Neill & Kenworthy-U'Ren, 2002 in Marks et al., 2005), gives rise to tension between the teams. Indicating that one of the aspects required for good collaboration, harmony, is not present (Hoegl et al., 2004; Wurst et al., 2001). Another consequence of the inward focus is that teams become insular, and therefore they had difficulties with an important element of collaboration between teams, taking decision with respect to all interests (Kreitner & Cassidy, 2011). Another way in which the coordination with the outbalanced focus negatively influenced the collaboration between teams was that by creating a lack of attention for teams' embeddedness in the project. The collaboration between teams was not manageable enough for people in different teams, since they did not know how their teams' contributions are integrated (Hoegl et al., 2004; Wurst et al., 2001).

Because the elements of the paradox did not exist simultaneously as prescribed by Smith and Lewis (2011) it negatively influenced the collaboration between teams. It seems that the project management is aware of the lacking collaboration between teams, since they now mainly focus on this by giving extra attention to communication between teams and showing teams their interdependency. This is done by putting a bigger focus on the teams their embeddedness in the project and creating more personal contact between the teams.

As regard to team stability, it is noteworthy that the data showed opposing perceptions of the team stability in the project. Considering that all the interviewees work on the same project, and some of them even work in the same team, the perception of team stability is probably highly subjective. The extent to which team stability is perceived as desirable also differs. Part of the perceptions is in line with the first school of thought in team stability research. Although this school argues that stability is preferable concerning the performance (Akgün & Lynn, 2002; Higgins et al., 2012), the data showed a more specific reason for this preference, namely knowledge maintenance. Remarkable is that the other part of the perceptions is not particularly linked to the second school of thought (Akgün & Lynn, 2002), but just accepted the fact that team stability is low in projects. Accepting the low team stability as a given fact or desiring a team to be stable, it is recognized that the changing demands in each phase of the project (Havermans, 2014) create the chance to make teams fit for purpose.

The data showed that the inevitable instability, to which is acted in the project, has a negative influence on the collaboration within teams. Team instability appeared to have multiple consequences for the collaboration within teams. One of these consequences is damage to factors that are in line with the people-related factors that Thamhain (1990)

assigns to effective and well-collaborating teams, such as the team uniformity and personal impacts. As known from the maturity process (Kreitner & Cassidy, 2011), these factors take time to reach an optimum, which indicates that the instability has a long-term negative influence on the collaboration within teams. The other consequence for the collaboration within teams are work-related, and concern the influence of team instability making less knowledge available which makes the teams less effective. Linking this to Thamhain (1990), it can be concluded that less effective teams also collaborate not as well compared to more effective teams.

It is remarkable, that despite interviewees and previous studies claim that the instability in project organizations offers opportunities, there are some consequences of instability that are not preferable in the context of collaboration. Although the opportunities of instable teams are recognized, there is tried to maintain the teams as stable as possible within the context of the project. This is done by keeping the teams' key players the same, involving teams in changes and creating transparency.

All in all, this study showed that the autonomy-embeddedness paradox and team stability have a great influence on collaboration in projects. It can be concluded that not treating the autonomy-embeddedness paradox as a paradox, by putting the emphasis on the autonomy requirements, has lead to an inward focus of teams. However, this created a close collaboration within teams, it made the collaboration between team arduous. In contrast to the paradox, team stability appeared to have a negative influence on the collaboration within teams, how team stability influences the collaboration between team remained unclear.

5.2 Limitations

All limitations of this study can be linked to the methodology. The generalizability of this study is subjected to two limitations. Firstly, due to time constraints for this study the sample size was small, to improve the generalizability in future research the sample size should be bigger in order to get even richer data. Secondly, all interviews and observations were done in the same project, which makes the sample homogeneous. Because of the specific context of the project, especially being long-term, it is hard to apply the finding to other projects. For future research it would increase the generalizability when data is collected in multiple projects with different contexts.

Subjectivism is another limitation of this study. Although subjectivity is already often described as the major limitation for qualitative research (Sanders et al., 2007), it is still noteworthy to mention how this study is subjected to subjectivism. Firstly, the observations

and interviews involve the interpretation of the researcher, making the data subjective. However due to awareness of high probability of subjectivism it has been tried to keep this at a minimum level. Secondly, because the native language of the researcher, interviewees and participants in the observations is Dutch the conducted interviews and observation notes were conducted and transcribed in Dutch. When used in the research paper the researcher translated the quotes from Dutch to English. Although, this is done very accurate, it is possible that the connotation of the quotes might differ.

5.3 Theoretical and Practical Implications

This study fills the knowledge gap between collaboration and the context of projects. Whereas almost all research about collaboration is done in traditional line organizations, this study builds further on that knowledge by studying how collaboration is influenced by the context of projects. By showing that especially the coordination of the autonomy-embeddedness paradox has a big influence on collaboration within and between teams, it created a stepping-stone for further research. For example, further research can elaborate on the influence of different ways to coordinate the autonomy-embeddedness paradox.

Aside from theoretical implications this study also has practical implications. Since this study gave explicit insight in how team stability and the autonomy-embeddedness paradox influence collaboration in projects, it created awareness for these influences. Although probably every person who works on a project will learn from every project they are part of, the insights provided by this study can form a more explicit guideline and eye-opener, which can be of use in managing current projects and the development of the management of future projects.

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Appendices

Appendix I - Interview-Guide

Checklist interview

- Ask for permission to record interview
- Turn on voice recorder
- Introduce study (anonymity, open question, answer preferably descriptive with examples)

Topic 1 Personal information

5 minutes

Sub-questions

- Experience (education, jobs)
- Team – In which team do you work?
- Position – What is your roll in team? (Who do you manage?/Function in team)
- Describe Noord/Zuidlijn project

PROBE OPTIONS

- Example
- How?
- Why?
- Where?
- Who?
- When?
- What?

Topic 2 Collaboration (within & between teams)

10 minutes

Open question

- How do you perceive the collaboration within and between teams?

Sub-question

- To what extent do you perceive collaboration as important to get results?
- What do you do/is done to improve the collaboration?
- What do you do/is done to make the collaboration more effective?

Topic 3 Team stability

15 minutes

Introduce team stability

Open questions

- How do you perceive the stability within your team?
- How do you perceive the stability within other teams?

Sub-questions

- How does this influence the collaboration? Why?
- What is your preference, stability or instability? Why?
- How does this instability/stability influence you?

Sub-topic 4 Autonomy-embeddedness paradox

15 minutes

Introduce autonomy-embeddedness paradox

Open question

- How does the paradox influence the collaboration?

Sub-questions

- How does the paradox influence the collaboration in your team? (choices/perspective)
- How does the paradox influence the collaboration between teams?
- What does this collaboration look like?
- How could it be made more effective?

Wrap-up

- Are there other things that hinder or promote the collaboration within/between teams?
- Conclude (name outstanding points/ask about ambiguities)
- Are there any things you would like to add you might think being relevant for this study?
- Thank

Appendix II - Observation Plan

Focus points (research question)

- Intra-organizational collaboration (within and between teams)
- Aspects context project
 - Team stability
 - Autonomy-embeddedness paradox

Situational aspects (optionally gathering this information before/after meeting)

- Participants
 - Functions
 - Team
- Theme/goal meeting
- Setting
 - Location
 - Interactivity
- Activities

Topic 1 – Team stability

- Do participants know each other's function?
- Do participants know who is performing which actions?
- Do participants know who has which responsibility?
- Do participants use the meeting as an opportunity to create stability?

Topic 2 – Autonomy-embeddedness paradox

- Is there any attention for other teams' responsibilities?
- Is there any attention for the embeddedness/collective responsibility?
- From which perspective is reasoned? (own team/collective)
- Is meeting used as opportunity to deal with the paradox?

Topic 3 – General aspects

- Language use (jargon, jokes)
- Patterns, rituals, unwritten rules
- Differences in what is actually done and what is said in previous interviews

Appendix III - Additional Illustrative Quotes

Table 2 - Overview of additional illustrative quotes

Quote Number	Additional Illustrative Quotes
Quote 1	<p><i>“The Noord/Zuidlijn is very comprehensive. [...] So many different parties work on different parts of the project, it is very hard to get that well managed. Therefore the project is divided in a similar way.” (Interviewee 6)</i></p> <p><i>“We developed a strategy for the project, we asked ourselves: “How are we going to direct this?”, and well that was cutting the project in different parts. So Central Station was one part and also the tunnel boring, the three deep stations Rokin, Vijzelgracht, De Pijp and the north part. It was really about dividing the whole project in parts.” (Interviewee 7)</i></p>
Quote 2	<p><i>“We do not organize everything ourselves, but we have to make sure that it is organized in order to make sure that in the end everything works as one.” (Interviewee 3)</i></p> <p><i>“All the contracts of the teams are different pieces of the puzzle, we have to make sure that in the end all those pieces form one puzzle.” (Interviewee 5)</i></p>
Quote 3	<p><i>“Teams are also responsible for their collective goal. You can notice that teams miss that responsibility. Our collective goal is to have a running metro, you can notice that not every team feels it that way.” (Interviewee 2)</i></p> <p><i>“I see that teams do not feel responsible for the practices of other teams and the match with other teams. We [System Integration] run into many issues that are a matter of alignment.” (Interviewee 5)</i></p>
Quote 4	<p><i>“Now, we follow a strategy that has to lead to integration. Everything we do now is to integrate all the separate parts. You can see that that causes a fuss, because teams are still very focused on the divide and control strategy.” (Interviewee 7)</i></p> <p><i>“In the end, it has to be one system. Looking back at the project, you could say that the awareness for integration came too late.” (Interviewee 9)</i></p>
Quote 5	<p><i>“I think, it does not matter in what way you cut the project in parts, either way it will impact the project. Whenever you cut five centimetres to the left or to the right, it will influence the teams in some way.” (Interviewee 4)</i></p>

	<i>“Until recently, teams were very focused on their own contracts. But they cannot be blamed, because they were directed that way by the management of the project. So they worked together in a way to fulfil those demands.”</i> (Interviewee 8)
Quote 6 & Quote 7	<i>“In the TT&C team, you really see people searching for collaboration within their team.”</i> (Interviewee 4)
Quote 8 & Quote 9	<i>“I think there are differences in the extent to which teams are really a team.”</i> (Interviewee 3)
	<i>“The collaboration within teams is just very close, you are all on the same floor and you cross each others desk on the way to your own.”</i> (Interviewee 4)
Quote 10	<i>“We have a collective goal. To reach that goal we have different teams, we have to ensure that they help each other instead of threat each other.”</i> (Interviewee 1)
	<i>“The project requires a lot of alignment. You cannot afford to work only on your own part. You should constantly make sure that your part is aligned with the things that other teams do.”</i> (Interviewee 3)
Quote 11	<i>“To get everyone in a setting in which they are constantly aware of how the things they do are integrated in the project is a utopia. You just cannot achieve that.”</i> (Interviewee 10)
Quote 12	<i>“The teams are very busy to complete their contracts. Sometimes the boundaries of those contracts have to move aside. That can lead to tension, and that is understandable.”</i> (Interviewee 7)
	<i>“Sometimes teams say: “We had to complete this contract and we completed it exactly as we should have.”, but when you look at the contract from a perspective of integration it still can be a little off. This is not to blame to the teams, they just did what they were asked. But we just look differently at things. Integration really looks at the total project.”</i> (Interviewee 8)
Quote 13	<i>“Teams are too much in their own role, they do not listen enough to each other.”</i> (Interviewee 6)
	<i>“We need more of the ‘we-feeling’, us needs to become we. Not everyone feels that, it is more us as a team and the other team.”</i> (Interviewee 7)

Quote 14	<i>“Sometimes you see it happen, something is going on and people just sit and wait until someone tell them what to do. [...] Waiting to see what that means for them. You have to be professional and search for information as well.”</i> (Interviewee 2)
Quote 15 & Quote 16	<i>“It is very important to have strict management within the project, management has to give clear and strict direction.”</i> (Interviewee 6) <i>“It is very important to have a clear script that everyone can understand. You all have to know what story you are writing with each other.”</i> (Interviewee 7)
Quote 17 & Quote 18	<i>“Communicating with each other is just very important. Being able to collaborate well is all about communication skills.”</i> (Interviewee 2) <i>“It is just all communication, communication is the number one fail cause in the world of constructing.”</i> (Interviewee 7)
Quote 19 & Quote 20	<i>“On the integration days, the designers of every team come to us to look at the integration designs. First, those designers were a little scared, we took them out of their comfort zone. Now they really like it to be with us on those days. [...] They really became part of the team, at this point it is hard to see what team they are originally part of.”</i> (Interviewee 5)
Quote 21 & Quote 22	<i>“There are some other things that can encourage the collaboration, for example meeting each other once in a while. Just to eat cake together or to celebrate things.”</i> (Interviewee 1) <i>“There are small things that can be of great influence. For example, eating cake together. We try to eat cake together every four weeks, just to celebrate something and to bring us closer together.”</i> (Interviewee 2)
Quote 23 & Quote 24	<i>“The turnover is pretty high. I have seen a lot op people leaving or being dismissed.”</i> (Interviewee 2) <i>“In the Noord/Zuidlijn project I experience the team stability as low. We have had to say goodbye to a lot of good colleagues.”</i> (Interviewee 8)
Quote 25 & Quote 26	<i>“I believe the stability in teams is pretty well in place.”</i> (Interviewee 6)
Quote 27 & Quote 28	<i>“You have to make sure that your team stays stable.”</i> (Interviewee 1)

	<i>"It is good to have a homogenous team, so there is enough time to develop with each other."</i> (Interviewee 3)
Quote 29 & Quote 30	<i>"By saying that we need other people for the up coming phase does not have to mean that someone is just laid off. It just means that someone did what he or she can do best. In a new phase it is time for someone else to do that."</i> (Interviewee 4)
	<i>"You will have instability by definition. [...] Different phases require different people."</i> (Interviewee 5)
Quote 31 & Quote 32	<i>"The team composition was just not right anymore. [...] I adopted new people in my team and I created a bigger team. Also because the role of our team became bigger in the new phase."</i> (Interviewee 5)
	<i>"I think it is good to continuously work on the composition of the team. [...] It is something we should keep doing."</i> (Interviewee 8)
Quote 33	<i>"Every time new people come into our team, you have to sense. Even when it is just for one day, it does influence how we collaborate."</i> (Interviewee 4)
	<i>"Of five managers he replaced two and one partly. Well, I can guarantee you, that was a big boom for the team."</i> (Interviewee 7)
Quote 34	<i>"Everyone who was new in the team really wanted to be a part of the team, they were very active. The person who was already part of the team before, you could see he was struggling with it, it was really hard for him."</i> (Interviewee 5)
	<i>"We have to continuously focus on team building. Nothing is as changeable as a human being, emotional feeling also have a big role."</i> (Interviewee 8)
Quote 35	<i>"Most knowledge is in people's heads. They know the context, and know what is agreed upon earlier."</i> (Interviewee 1)
Quote 36	<i>"That is our priority. Key players never changed."</i> (Interviewee 1)
	<i>"I am part of the ICT team, so I can only speak on behave of my own team. I think that the constant factors remained the same. All the key positions are still staffed by the same people. And that is very nice, because I think that is really important."</i> (Interviewee 4)
Quote 37	<i>"Recently, I hired people that are highly specialized in the transmission"</i>

phase. I did that in a very early stage, so they can think with us and already work along.” (Interviewee 10)

Quote 38 *“When I have had an exit conversation with someone, I always grab the phone and start calling other team members. Then I tell them: “I just had a conversation with Jan, and we agreed on ending it because of this and that.”.” (Interviewee 7)*
