LEADERSHIP IN PROJECT-BASED ORGANIZATIONS

Dealing with complex and paradoxical demands

Liselore A. Havermans

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CONTENTS

Note 1: Throughout this dissertation the authors will be referred to as 'we'. Though Liselore Havermans is the first author of all papers presented in this dissertation, all have been written in cooperation with Deanne Den Hartog and Anne Keegan. The paper presented in chapter 2 is also co-authored by Mary Uhl-Bien.

Note 2: The data used in chapter 2, chapter 3, and Study 1 of chapter 4 come from one overarching dataset. Please see appendix 1 for full details.

CHAPTER 1

INTRODUCTION

Leadership is of crucial importance to the sustainable success of organizations (Smith & Lewis, 2011). Leadership can have a profound impact on individuals, groups, and organizations (Avolio, Walumbwa, & Weber, 2009; Burke et al., 2006; de Hoogh et al., 2004; Dvir, Eden, Avolio, & Shamir, 2002). For these reasons, leadership receives an overwhelming amount of attention in both research and practice. Given that leaders increasingly work in more flexible forms of organizations and face more complex and diverse contexts, studies that explore leadership in new forms of organizing are needed (Daft & Lewin, 1993; Osborn, Hunt, & Jauch, 2002; Shamir, 1999; Uhl-Bien, Marion, & McKelvey, 2007).

The increasing pace of environmental and technological change, together with computer-mediated technologies and globalization, have major implications for organizing (Shamir, 1999; Uhl-Bien et al., 2007). In this more global, dynamic and competitive landscape paradoxical demands, such as efficiency-adaptability and exploration-exploitation, become more salient (Smith & Lewis, 2011). The success of the organization will likely depend upon the ability of organizational members, and specifically leaders, to deal with these tensions (Smith & Lewis, 2011). More flexible organizational forms that rely less on stable structures and more on temporary systems, are required to deal with this complex environment (Shamir, 1999). Therefore we need to reconsider leadership in these more flexible forms of organizing (Shamir, 1999).

One increasingly prominent form of organizing that relies on temporary systems to deal with complex and paradoxical demands is the project-based organization (Sydow, Lindkvist, & DeFillippi, 2004). In project-based organizations most activities are organized in projects (Sydow et al., 2004) that tend to be novel, unique and transient (Turner & Keegan, 1999), and emerge in response to evolving pressures and market and technological demands (Hoegl & Weinkauf, 2005; Keegan & Turner, 2002). Project-based work is the dominant form of organizing in sectors such as IT, construction, and consulting, but is becoming increasingly widespread in many sectors of the economy. Calls have therefore been made to develop new models and theories that enrich our understanding of project reality by recognizing the importance as well as the complexity of projects (Cicmil, Hodgson, Lindgren, & Packendorff, 2009; Winter, Smith, Morris, & Cicmil, 2006).

Despite the importance of leadership and the overwhelming amount of attention for it, most theories of leadership have been developed to reflect leadership processes in traditional line organizations (Uhl-Bien & Marion, 2009), and most leadership studies have been conducted in non-project-based organizations (Keegan & Den Hartog, 2004; Turner & Müller, 2005). As such, current leadership theories may fail to fully capture leadership processes in project-based organizations, characterized by temporary systems, embedded in multiple organizational contexts (Keegan & Den Hartog, 2004; Sydow et al., 2004). Studies which explore, openly and qualitatively,

the role of leadership in project-based organizations could be valuable in advancing our understanding of leadership practices in this increasingly important context (Keegan & Den Hartog, 2004).

In order to shed light on leadership in project-based organizations, we can draw on the complexity sciences to view these organizations, their subsystems, and their broader environments as complex adaptive systems (Stacey, 1996). Complex adaptive systems consist of interacting, interdependent, agents who learn their way into the future through these processes of interaction (Holland, 1992; Stacey, 1996; Uhl-Bien et al., 2007). Projects and project-based organizations can be viewed as complex adaptive systems as they are composed of multiple people and teams that are interdependent in achieving their goals, interact with each other and the broader environment, and adapt and learn through these processes of interaction (Chang, Hatcher, & Kim, 2012; Cooke-Davies, Cicmil, Crawford, & Richardson, 2007). The complexity sciences are a developing paradigm that has only been tested minimally in organizational contexts, but that can provide some direction in exploring organizational processes (Plowman, Baker et al., 2007; Tsoukas & Dooley, 2011), specifically in processes of leadership (Avolio et al., 2009; Mulder, 2012; Stacey, 2010; Uhl-Bien et al., 2007; Uhl-Bien & Marion, 2009) and in project-based organizations (Aritua, Smith, & Bower, 2009; Chang et al., 2012; Cooke-Davies et al., 2007; Mulder, 2012).

Leadership is embedded in multiple levels such as the behavioral, interpersonal, organizational and environmental, is characterized by dynamism, and has a symbolic, interpretative, dimension (Conger, 1998; Parry, 1998). The complexity of the phenomenon of leadership as a social influence process, specifically in project-based organizations, is currently underexplored and therefore qualitative research is commended (Morgan & Smircich, 1980; Silverman, 2011). Qualitative studies can help uncover the nature of leadership as they can provide depth and flexibility, while taking into account contextual factors and symbolic dimensions (Bryman, 2004; Conger, 1998; Klenke, 2008; Murphy & Ensher, 2008; Parry, 1998).

In this introduction we will describe project based organizing, the role of leadership in project-based organizations, and the need to explore leadership in project-based organizations. We will discuss the relevance of our exploration of leadership in project-based organizations for other contexts, and give an overview of the studies presented in this dissertation.

1 THE CONTEXT OF PROJECT-BASED ORGANIZATIONS

According to Sydow et al. (2004): 'Project-based organizations refer to a variety of organizational forms that involve the creation of temporary systems for the performance of project tasks'. Hobday (2000) distinguishes multiple organizational forms ranging from the pure functional form to the pure project form depending on the influence and importance of functional departments compared to that of projects. Projects are defined by Turner (2006) as 'a temporary organization to which resources are assigned to do work to bring about beneficial change.' They can be characterized as 'complex social settings characterized by tensions between unpredictability, control and collaborative interaction among diverse participants on any project' (Cicmil, Williams, Thomas, & Hodgson, 2006, p 676).

Projects can range from relatively small and simple, intra-organizational, endeavors, to complex megaprojects in which team members from multiple organizations from across the globe work together. Projects can therefore be categorized in a variety of different ways. For example, Turner and Cochrane (1993) categorize projects on the basis of whether the goals and methods are well-defined or not. Muller and Turner (2007a; 2007b) categorize projects on the basis of application area, complexity, strategic importance, contract type, life cycle stage, and culture.

Project teams generally bring together members with different specialties (Sydow et al., 2004). In addition, projects can be inter-organizational (Söderlund, 2004), and geographically dispersed (Espinosa, Slaughter, Kraut, & Herbsleb, 2007; Hinds & Mortensen, 2005). As projects are finite, these diverse and potentially geographically spread groups of people who might never have met before the start of the project, will have to develop an effective way of cooperating with each other in a limited period of time.

Though projects are temporary systems, they are usually to some extent embedded in more permanent contexts (Sydow et al., 2004). Projects are often not fully contained within hierarchical organizations, but tend to be embedded in multiple organizational and trans-organizational contexts (Clegg & Courpasson, 2004; Sydow et al., 2004). In multi-project firms, each project is usually embedded in a broader program and/or portfolio of projects (Blomquist & Müller, 2006; Payne, 1995; Söderlund, 2004). In addition, as work in the project team is a temporary assignment, project team members tend to have other 'homes' before, during, and after participating in the project (Lundin & Söderholm, 1995). Project workers often have multiple, temporary, shifting, and sometimes conflicting roles and work relationships (Bresnen, Goussevskaia, & Swan, 2004; Keegan & Den Hartog, 2004; Shamir, 1999; Söderlund & Bredin, 2006). As projects are likely at least loosely linked

to organizational contexts (Sydow et al., 2004), projects are both shaped by and shape the organizations that are involved in them (Levina & Orlikowski, 2009).

More functionally oriented forms of organizing are more suited to perform routine tasks, whereas more project oriented forms of organizing are more suited to non-routine, complex tasks (Hobday, 2000). In order to deal with new demands, projects are instigated. Because projects are generally instigated to complete a unique task (Turner & Keegan, 1999), flexible and creative actions are needed (Lundin & Söderholm, 1995). Project-based organizations tend to operate in environments that require solving complex issues and adapting to changing conditions (Bresnen et al., 2004). Throughout the course of these projects complex issues continuously emerge. Projects enable the organization to flexibly assign resources to deal with emergent issues. They are an essential medium through which organizations accomplish change (Keegan & Turner, 2001). As projects create a 'new' setting for action through which transformation should be achieved, projects could be a way of overcoming the inertia that can be found in permanent organizations (Lundin & Söderholm, 1995).

Paradoxically, though organizations instigate projects to flexibly respond to emergent demands, time pressure limits this ability (Keegan & Turner, 2001). As projects are finite by nature, time is always running out, often leading to perceptions of time scarcity and the development of highly organized ways to deal with time problems (Lundin & Söderholm, 1995). Projects tend to be characterized in the literature as flat, fast and flexible, but Keegan and Turner (2002) find that projects are often managed in a mechanistic manner, relying on strict project control and evaluation methods. Most project management methods have been developed to enable efficient use of resources to stay within predetermined time, cost and quality constraints (Cicmil & Hodgson, 2006). These paradoxical promises of both adaptability and efficiency might be an important reason for the major interest in project-based organizing (Cicmil & Hodgson, 2006).

2 LEADERSHIP IN PROJECT-BASED ORGANIZATIONS

Researchers have long recognized the demands for efficiency and adaptability as a key tension faced by leaders (e.g. Burns & Stalker, 1961; Mintzberg, 1983; Schumpeter, 1934). Sustainable success in organizing is increasingly held to be a function of being able to exploit current strengths and knowledge as well as explore new possibilities and develop new knowledge (Levinthal & March, 1993; March, 1991). The simultaneous pursuit of exploration and exploitation is conceptualized as ambidexterity (Duncan, 1976; Gibson & Birkinshaw, 2004). Ambidexterity can

be defined as the capacity of an organization to be 'aligned and efficient in their management of today's business demands while simultaneously adaptive to changes in the environment' (Raisch & Birkinshaw, 2008, p 375). At the individual and group level, the pursuit of simultaneous exploration and exploitation within a subsystem, is conceptualized as contextual ambidexterity (Gibson & Birkinshaw, 2004; Lavie, Stettner, & Tushman, 2010).

In order to be sustainably successful, project based organizations will have to be both adaptable and efficient, both explore new possibilities and exploit current strengths (Eisenhardt, Furr, & Bingham, 2010; Farjoun, 2010; March, 1991; Raisch, Birkinshaw, Probst, & Tushman, 2009). Paradoxical demands, such as those for efficiency and adaptability, and for exploitation and exploration, are clearly observable in project-based organizations (Cicmil & Hodgson, 2006; Keegan & Turner, 2002; Lee, DeLone, & Espinosa, 2007; Lewis, Welsh, Dehler, & Green, 2002; Sydow et al., 2004). Project-based organizations embody the twin pressures to respond to novel market and technological demands and to deliver projects on time and within cost and quality constraints (Keegan & Turner, 2002). Projects are set up to accomplish new tasks and are thus often explorative in nature (Lindkvist, 2008). Resources can be flexibly reconfigured in projects in response to emerging marketplace demands (Schreyogg & Sydow, 2010; Sydow et al., 2004). At the same time the clear resource constraints call for efficient use of resources, and exploitation of current strengths (Lindkvist, 2008).

Leaders play an important role in enabling organizations to deal with paradoxical demands (Lewis et al., 2002; Smith & Lewis, 2011). However, the traditionally mechanistic focus of the project management field on efficiency has come with a predominantly narrow perspective on the role of project managers as implementers, focusing on how they keep the project within time, budget and planned scope of the work (Atkinson, 1999; Cicmil et al., 2009; Söderlund, 2004). How do leaders stimulate paradoxical forces in project based organizations, in which the challenges of achieving both adaptability and efficiency, exploring new opportunities and exploiting current strengths (March, 1991) are so directly visible, not just at the organizational level but also at the project level?

In project-based organizations and the projects that are embedded in them, which often cross both functional and organizational boundaries, leading for effective collaboration can pose quite a challenge (Cleland, 1995). Leaders can play an important role in bringing people together over a shared purpose, motivating and inspiring them to collaborate and enabling them to bridge their differences (Alvesson, 1992; Keegan & Den Hartog, 2004; Ospina & Foldy, 2010). However, how do leaders do this in project based–organizations, in which shifting patterns of relationships, complex and paradoxical demands, diversity and finiteness are common in the way of working?

A major challenge in novel projects, in which the goals and methods to attain them are not well defined (Turner & Cochrane, 1993), is solving complex emergent problems. In these novel projects communication is especially important (Turner & Cochrane, 1993) as they require project leaders and participants in the project to constantly try to develop an understanding of the situation and the methods that are needed to reach a moving target.

The linguistic turn draws our attention to the way in which we construct events through interaction (Phillips & Oswick, 2012). The linguistic turn, which places the shaping role of language in action and organizing center stage, is an important development in organizational studies (Alvesson & Kärreman, 2000; Boden, 1994; Boje, Oswick, & Ford, 2004; Phillips & Oswick, 2012; Weick, 2004). Though studies of organizations increasingly focus on language to shed light on complex organizational phenomena (Alvesson & Kärreman, 2000; Oswick, Keenoy, & Grant, 2000), this perspective is still relatively new to the project management literature (Cicmil et al., 2006; Cooke-Davies et al., 2007; Lindgren & Packendorff, 2007). A view of project management informed by the linguistic turn includes an appreciation of the ongoing emergence of events, processes of social interaction, and framing of events and projects (Winter et al., 2006).

Leaders play an important role in interpreting the complexity of the context, shaping the way in which others interpret it, and guiding people through it (Beck & Plowman, 2009; Fairhurst, 2009; Levin, Schneider, & Gaeth, 1998; Ospina & Foldy, 2010; Plowman et al., 2007; Shamir, House, & Arthur, 1993; Smith, Ashmos Plowman, & Duchon, 2010). How do leaders in project-based organizations deal with complex emergent issues?

3 RELEVANCE FOR OTHER CONTEXTS

Organizations today are facing increasingly complex and paradoxical demands, calling for a reconsideration of the role of leadership in dealing with these demands (Shamir, 1999; Smith & Lewis, 2011; Uhl-Bien et al., 2007). In project-based organizations, most emergent complexity is dealt with within projects, in which a solution has to be developed within a finite amount of time. In more traditional line organizations, these complex demands will mainly have to be responded to through changes in ongoing operations. Whether a new and temporary team is set up to deal with an emergent issues, or this issue will have to be dealt with within the standing hierarchy of daily operations will have an impact of the way in which leadership is enacted and rendered effective.

When dealing specifically with paradoxical demands, in most organizations this might mainly be seen as an issue to be dealt with by top management. However,

it is unlikely that all emergent issues can be appropriately dealt with by a few top managers (Stacey, 2010; Uhl–Bien et al., 2007). Though projects are history dependent and tend to be organizationally embedded (Engwall, 2003), projects are relatively autonomous (especially cross organizational projects), as they create a 'new' setting for action and transformation (Lundin & Söderholm, 1995). This more loose embedding in permanent hierarchical organizations can facilitate problem solving and dealing with paradoxical demands at lower organizational levels, i.e. within the project. Thus, the context of project-based organizations can help us shed light on leadership processes of dealing with complex and paradoxical demands at lower levels of organizing. Other types of organizations might be able to learn from the more distributed problem solving processes that can be expected in project-based organizations.

In order to deal with complex and paradoxical demands it is increasingly important to involve a high diversity of people (Uhl–Bien et al., 2007; Uhl–Bien & Marion, 2009). The tension between different ideas and perspectives that emerges in interaction between diverse individuals can help to generate insight into issues from multiple perspectives and develop a more integrated understanding of emergent issues (Uhl–Bien et al., 2007; Uhl–Bien & Marion, 2009). However, diversity can also be seen as a disintegrative tendency that can pull the group apart. In order to accomplish the benefits of diversity, differences between groups and individuals will have to be bridged. In project-based organizations, a functionally diverse group of people is usually brought together within projects to solve issues together (Sydow et al., 2004), whereas in line organizations collaboration between people with different perspectives is often inhibited by assigning them to functional groups. But even when units in line organizations are organized in a more cross functional way to capitalize on a diversity of perspectives, this is still an intra–organizational arrangement, whereas projects often have an added layer of diversity as they tend to be embedded in inter-organizational contexts (Clegg & Courpasson, 2004; Sydow et al., 2004). As most organizations will increasingly have to leverage the potential benefits from including different perspectives in problem solving processes the results found in project-based organizations can help them develop an understanding of how the challenges of bridging differences between diverse individuals and groups can be dealt with.

4 OVERVIEW OF THE DISSERTATION

In order to understand leadership in this context more targeted research attention is needed (Keegan & Den Hartog, 2004). Despite calls, research on leadership in project-based organizations is still limited (Keegan & Den Hartog, 2004; Kolltveit, Karlsen, & Grønhaug, 2007; Turner & Müller, 2005). In order to examine leadership

in project-based organizations we will shed light on how leaders deal with a number of important challenges.

In chapter 2 we address the role of leaders in project-based organizations in enabling both adaptability and efficiency (Smith & Lewis, 2011). In this chapter we aim to answer the following research question: How do leaders in project-based organizations use indirect leadership practices to enable adaptability and efficiency? An emergent perspective on leadership we draw on in this dissertation that begins to address the leadership challenge of enabling both adaptability and efficiency is complexity leadership theory (Uhl-Bien et al., 2007; Uhl-Bien & Marion, 2009). Enabling leadership entangles the efficiency focused administrative function and the adaptability focused adaptive function. However, the way in which enabling leaders have been theorized to do this is by enabling adaptability, not efficiency. We draw on the concept of enabling leadership to explore the role of leadership in dealing with the paradoxical demands for adaptability and efficiency.

In chapter 2 we provide one of the first empirical explorations to further develop complexity leadership theory. We inform complexity leadership theory (Uhl-Bien et al., 2007; Uhl-Bien & Marion, 2009) by showing how complexity leaders not only stimulate adaptability, but also efficiency, by approaching requisite complexity through the paradoxical leadership strategies of complexity absorption and complexity reduction. On a more fine grained level we identify the indirect leadership practices in the form of semistructures (Brown & Eisenhardt, 1997) that these leaders use to enact their opposing leadership strategies (Gebert, Boerner, & Kearney, 2010).

In chapter 3 we address the related paradox of simultaneously exploiting current strengths and exploring new possibilities within a sub-system, i.e. creating and sustaining contextual ambidexterity (Gibson & Birkinshaw, 2004). In this chapter we investigate the following research question: How do leaders in project-based organizations use direct leadership practices to create and sustain contextual ambidexterity? Project-based organizations are a context in which the need for contextual ambidexterity is especially pronounced as on the one hand projects are set up to explore new possibilities to adapt to changing demands, while on the other hand the finite nature of projects pushes for exploitation of current knowledge (Keegan & Turner, 2002). This chapter informs the ambidexterity literature by shedding light on the microfoundations of ambidextrous organizing (Eisenhardt et al., 2010) by exploring the role of leadership in achieving contextual ambidexterity as a dynamic accomplishment rooted in day to day practices. We show the leadership strategies and direct leadership practices enacted by leaders to achieve contextual ambidexterity. In addition, this paper builds upon the results presented in chapter 2 related to leaders' influence on the complexity of responses by identifying leadership practices aimed at both the complexity of beliefs and the complexity of actions.

In chapter 4 we examine the challenge of disintegrative tendencies which can pull the project apart (Kolb & Putnam, 1992; Morgan, 1981) to answer the following research question: How do leaders in project-based organizations use leadership practices to balance the disintegrative tendencies of diversity and finiteness with the integrative tendency of project identification? In projects, a wide diversity of people have to bridge their differences to collaborate in a finite period of time. In order to facilitate teamwork, leadership is needed to overcome these disintegrative tendencies. However, this is not achieved by limiting them, rather it is achieved by strengthening integrative tendencies, such as shared project identification (Rousseau, 1998). In chapter 4 we examine integrative and disintegrative tendencies in projects, and the leadership practices used to stimulate shared project identification in a mixed methods study.

In chapter 5 we explore the challenge of dealing with complex emergent problems by examining how project and program manager's construct complex emergent issues through language. We do so to answer the research question: How do leaders in project-based organizations construct complex emergent problems through language, what is the nature of their constructions, and what are the possible implications of their constructions for the resolution of complex emergent problems? Projects and programs are an important context within an organization in which complex emergent problems get solved (Turner & Keegan, 1999). How people perceive and deal with complex emergent issues is shaped through language in processes of collective meaning making (Alvesson & Kärreman, 2000; Boje et al., 2004; Phillips & Oswick, 2012). In these processes of collective meaning making, managers' narratives play a particularly significant role (Tsoukas & Chia, 2002). In chapter 5 we surface narratives project and program manager's use to frame complex emergent issues.

Chapter 6 is dedicated to the overall theoretical and practical implications of this collection of studies. We address the theoretical implications of these studies for leadership in project-based organizations, and the extent to which these results are generalizable to other contexts. We highlight the implications of our findings for practice, and address the limitations of this dissertation and how these can be addressed in future research.

CHAPTER 2

EXPLORING THE EFFICIENCY-ADAPTABILITY PARADOX IN LEADERSHIP: A STUDY OF COMPLEXITY LEADERSHIP IN PROJECT-BASED ORGANIZATIONS

ABSTRACT

In the current qualitative study we build upon a perspective of leadership informed by the complexity sciences to explore the role of leaders in harnessing both adaptive and efficient organizational processes. Though leadership has been acknowledged to play a crucial role in dealing with this key paradox of organizing, this role has not been fully addressed in leadership research. We explore this issue in project-based organizations, as the paradoxical demands for adaptability and efficiency are especially apparent in this context. The results from our qualitative investigation indicate that leaders pursue both adaptability and efficiency by enacting opposing action strategies of absorbing and reducing complexity. We show how leaders adaptively combine these leadership strategies, and outline the indirect leadership practices used to enact these strategies of absorbing and reducing complexity. We discuss the implications of these findings and offer suggestions for future research.

1 INTRODUCTION

The context in which leaders operate in our increasingly complex knowledge economy is changing, and recent insights suggest it is important to adapt theorizing on leadership to acknowledge these complexities and their impact on the leadership role (Uhl-Bien et al., 2007; Uhl-Bien & Marion, 2009). A growing number of studies in the field of leadership are thus recognizing the need to consider broader views of leadership that not only focus on motivating individual and collective performance, but also engage with complexity to generate adaptive organizing processes (Hannah & Lester, 2009; Hazy & Uhl-Bien, Forthcoming; Lichtenstein & Plowman, 2009; Marion & Uhl-Bien, 2002; McKelvey, 2007; Plowman, Solansky et al., 2007; Uhl-Bien et al., 2007; Uhl-Bien & Marion, 2009). In the wider strategy and organization literatures, it is becoming clear that the simultaneous pursuit of efficient and adaptive organizational processes are critical for the sustainable success of organizations (Eisenhardt et al., 2010; Farjoun, 2010; March, 1991; Raisch et al., 2009) and that leadership is expected to play a crucial role in the paradoxical demands for adaptability and efficiency (Smith & Lewis, 2011).

Although most leadership theories have not focused on the role of leaders in managing this paradox (for an exception see Rosing, Frese, & Bausch, 2011), one area of research that is beginning to address the simultaneous need to consider efficiency and adaptability is complexity leadership theory (CLT) (Marion & Uhl-Bien, 2001; Uhl-Bien et al., 2007; Uhl-Bien & Marion, 2008). CLT draws from the complexity sciences to offer a framework for thinking about leadership relative to both the administrative and adaptive functions in organizations (Uhl-Bien & Marion, 2009). According to CLT, effective leadership processes in organizations are characterized by flexible administrative functions that simultaneously enable adaptive dynamics and capitalize on these dynamics to produce strong business results for the firm (Uhl-Bien & Marion, 2011). CLT forms a leadership paradigm that focuses on enabling the learning, creative, and adaptive capacity of complex adaptive systems in the context of bureaucratic systems (Uhl-Bien et al., 2007).

While the conceptual underpinnings of CLT are fit to accommodate the role of leadership in the efficiency-adaptability paradox, theoretical developments in CLT to date may have overemphasized the role of leaders in stimulating adaptability and underemphasized the importance of stimulating efficiency. This is perhaps unsurprising given the tendency in previous theorizing to overstate the importance of bureaucratic structures and hierarchy in framing leadership roles and the development of CLT in response to this. However, it means that we need empirical investigation to better understand the ways in which leaders address needs for both efficiency and adaptability in managing work processes (Uhl-Bien & Marion, 2011).

Therefore, the purpose of our study is to use CLT as a lens to investigate the

role of leadership in the efficiency-adaptability paradox. Specifically, we conduct an exploratory qualitative investigation in the context of project-based organizations. We begin by reviewing literature on the efficiency-adaptability paradox and the implications for complexity leadership research. We show the value and current limitations of CLT and suggest how insights from the strategy and organization fields concerning opposing action strategies (Gebert et al., 2010), requisite complexity (Boisot & McKelvey, 2010), and semistructures (Brown & Eisenhardt, 1997) can be embedded in CLT. This helps further our understanding of the role of leadership in dealing with the efficiency-adaptability paradox. We then describe why project-based organizations provide a good environment for studying these issues, embodying as they do the twin pressures to respond to novel market and technological demands (adaptability) and to deliver projects on time and within cost and quality constraints (efficiency) (Keegan & Turner, 2002). Through an in-depth study in a wide range of project-based organizations, we identify how leaders respond to dual pressures to stimulate project workers to be both adaptable and efficient, and to pursue adaptive and efficient organizing processes. In our research, we uncover the concrete practices used by leaders in projects to balance the efficiency-adaptability paradox, and in so doing respond to the call for empirical evidence to support further developments in the field of CLT (Avolio et al., 2009). Finally, we conclude by going beyond the specifics of our study to examine what the results suggest for the role of leaders in dealing with the central paradox of adaptability and efficiency.

1.1 The Efficiency-Adaptability Paradox

Since the earliest work in management and organization theory, researchers have recognized that a key tension faced by leaders is that between efficiency and adaptability (Schumpeter, 1934). For example, Burns and Stalker (1961) describe mechanistic management systems as designed for efficiency appropriate to stability, and organic management structures as flexible and responsive, appropriate to changing conditions. Mechanistic systems emphasize vertical specialization and control focused on routine and efficiency, while organic systems emphasize horizontal coordination and professional expertise focused on innovation and adaptability (Mintzberg, 1983).

The efficiency-adaptability paradox is also central to March's (1991) distinction in explorative and exploitative approaches to organizational learning. Exploration includes factors associated with adaptive processes (e.g., search, variation, experimentation, risk taking, discovery, flexibility, and innovation), and exploitation includes activities associated with production (e.g., refinement, choice, selection, efficiency, implementation and execution). According to March (1991), both of these factors are equally important for organizational success.

Therefore, maintaining balance between exploration and exploitation is a primary factor for system survival (March, 1991). The question of what it means to maintain balance is not trivial, however. In a review of March's framework, Lavie, Stettner and Tushman (2010) refer to the issue of balancing exploration and exploitation as a paradox, a dynamic tension of juxtaposed opposites (Lado, Boyd, Wright, & Kroll, 2006) that represents contradictory yet interrelated elements, 'elements that seem logical in isolation but appearing absurd and irrational when appearing simultaneously' (Lewis, 2000). As described by Lavie et al. (2010), 'exploration and exploitation are contradictory activities, yet an organization cannot achieve desirable performance objectives without engaging in both' (p. 126). Such paradoxes generate tension because they represent divergent or oppositional thinking (Lado et al., 2006; Smith & Lewis, 2011) that goes against internally consistent theorizing (Poole & van der Ven, 1989).

This tension associated with the efficiency-adaptability paradox is implicit in many studies, often represented as a focus on enabling joint capacities for alignment and adaptability (Gibson & Birkinshaw, 2004; Rivkin & Siggelkow, 2003; Siggelkow, 2001; Tushman & O'Reilly, 1996). According to Eisenhardt (2000), rather than compromising between efficiency and adaptability, thriving organizations, groups and individuals successfully change by holding the two states simultaneously: 'This duality of coexisting tensions creates an edge of chaos, not a bland halfway point, between one extreme and the other' (Eisenhardt, 2000). The key is exploring the tension in a creative way that captures both extremes (Eisenhardt, 2000).

1.2 The Efficiency-Adaptability Paradox in Leadership Research

Although the efficiency-adaptability paradox has clear and important implications regarding the role of leaders in organizations, it has not yet been often addressed in leadership research. By conceptualizing the demands for efficiency and adaptability as a paradox, the dilemma for leaders can be framed as the necessity to support these opposing forces in an environment that needs both for successful organizational outcomes (Smith & Lewis, 2011), as is generally the case in project-based organizations.

Where issues of duality have come up in leadership it has primarily been in the context of contingency theory (Fiedler, 1964). A recent exception that has focused on the role of leadership in dealing with the efficiency-adaptability paradox is Rosing, Frese and Bausch (2011). Acknowledging that a single leadership style cannot promote innovation, Rosing et al. (2011) propose a framework of 'ambidextrous leadership' that advocates flexibly switching between increasing and reducing variance in followers' behavior to meet the changing requirements

within the innovation process. In direct reference to exploration and exploitation (March, 1991), this model recognizes a crucial feature of leadership for innovation as 'fostering of either exploitation or exploration via the reduction or increase in the variance of follower behaviors' (p. 957).

While this study by Rosing and colleagues (2011) is noteworthy in its recognition of the need for leaders to simultaneously consider adaptability and efficiency, conceptual and methodological aspects of this work limit its ability to more fully inform us regarding the nature of the efficiency-adaptability paradox for leadership. For example Rosing et al. (2011) describe the adaptability–efficiency paradox, yet the data from which they draw are findings from the transformational and transactional leadership literature (i.e., the multi-factor leadership questionnaire, MLQ), which is not designed to address the issues of flexibly switching between increasing and decreasing variability in followers' behavior theorized by Rosing et al. (2011). To further investigate the efficiency-adaptability paradox in the context of leadership, we need a conceptual framework that more closely aligns with the theoretical underpinnings of the management and organization literatures concerning the central paradox of adaptability and efficiency. One such framework is CLT (Uhl-Bien et al., 2007).

1.3 Complexity Leadership Theory

CLT draws from the complexity sciences to provide a framework for thinking about leadership consistent with the central paradox of adaptability and efficiency as described in the management and organization literatures. This entails viewing organizations, their subsystems, and their broader environments as complex adaptive systems (Stacey, 1996). Complex adaptive systems (CAS) consist of interacting agents bounded by rules (schemas) who work to improve their behavior (Stacey, 1996; Uhl-Bien et al., 2007).

CLT brings attention in leadership research to the importance of enabling and interacting with adaptive dynamics (innovation, adaptability, learning) in the context of bureaucratic organizing structures. The framework of CLT is suitable to studying the efficiency-adaptability paradox in that it 'seeks to foster CAS dynamics while at the same time enabling control structures for coordinating formal organizations and producing outcomes appropriate to the vision and mission of the organization' (Uhl-Bien et al., 2007).

CLT sees a key challenge in leadership as addressing the dynamic relationship between the bureaucratic, administrative needs of the organization and the emergent, informal adaptive needs (Uhl-Bien et al., 2007). It addresses this challenge by introducing three leadership functions in organizations. Administrative leadership

refs to formal acts that serve to coordinate and structure organizational activities; adaptive leadership refers to leadership that occurs in the informal adaptive dynamics of the organization; and enabling leadership serves in the interface between the other two, working to enable adaptive dynamics and help enable adaptive outcomes into the organization to generate productive outcomes for the firm (Uhl-Bien et al., 2007).

Within this framework, enabling leadership appears to most closely relate to the challenge of the efficiency-adaptability. According to CLT, enabling leadership both fosters conditions that enable the emergence of adaptive dynamics, and mediates the relationship between the administrative function and the adaptive function (Uhl-Bien & Marion, 2009). It does this by 'trying to assure a healthy ambiance for the adaptive function while simultaneously trying to assure that the adaptive function serves the goals and mission created by administrative leadership' (p. 645).

Though the conceptual underpinnings of enabling leadership are thus fit to accommodate the role of leaders in the adaptability-efficiency paradox, current theorizing on the role of enabling leaders does not fully address both sides of the paradox by focusing more on stimulating adaptability and less on stimulating efficiency. In the following sections we describe how insights from the management and organization literatures can be embedded into a framework of CLT in order to shed more light on the role of enabling leaders in effectively dealing with the adaptability-efficiency paradox.

1.4 Enabling leadership strategies: Opposing action strategies

In order to explore the role of enabling leadership in effectively dealing with the paradoxical demands for organizations to achieve both adaptability and efficiency, we first outline the organizational strategies leaders should implement in order to effectively deal with these demands for adaptability and efficiency. Achieving the dual goals of efficiency and adaptability calls for enabling leaders to implement the opposing action strategies of complexity reduction and complexity absorption.

Boisot and Child (1999) distinguish two strategies organizations can pursue to deal with complexity: complexity reduction and complexity absorption. Complexity reduction is an 'efficient' way of dealing with complexity by developing a single representation of that complexity followed by a single response (Ashmos, Duchon, & McDaniel, 2000; Boisot & Child, 1999). Complexity absorption is a 'flexible' way of dealing with complexity by developing multiple, possibly conflicting, representations of that complexity and developing a range of responses (Ashmos et al., 2000; Boisot & Child, 1999). Given that these different responses to complexity carry with them particular challenges for leading and managing both people and resources, Boisot

and Child have noted that organizations generally pursue either a reduction or an absorption strategy (1999).

Others, however, argue that in order to pursue both adaptability and efficiency leaders will have to combine the opposing strategies of complexity absorption and complexity reduction, as enacting either in isolation 'yields undesired effects that may trigger negative spirals' (Gebert et al., 2010). Rather than impeding or offsetting each other, each enables the positive effects of the other (Gebert et al., 2010). Lewis et al. (2002), for example, found that a combination of emergent and planned management styles enhances project performance. Research on complex processes such as team innovation and organizational learning identify the benefits to these processes of synergies brought about by the opposing actions strategies of opening and closing, or loosening and tightening (Gebert et al., 2010; Hannah & Lester, 2009; Rosing et al., 2011).

This is supported by a case study of Infosys by Garud, Kumaraswamy and Sambamurthy (2006). Garud et al. (2006) show opposing action strategies in Infosys's 'design for emergence,' which both seeds the organization with generative (i.e., adaptive) properties and includes mechanisms for routinely applying these elements to generate effective performance. For example, Infosys's design promotes iterative experimentation, learning and change along with efficiency and reliability. Its governance structures work to balance stability with growth and continuity with change. Similar to Gebert et al.'s (2010) description of opposing action strategies, these design elements 'reinforce and balance one another, leading to the emergence of an organizational platform that supports both day-to-day performance and transformation' (Garud et al., 2006).

In contrast to these views which identify the need for opposing action strategies, theoretical developments of enabling leadership have placed primary emphasis on the importance of a strategy of complexity absorption (Uhl-Bien et al., 2007; Uhl-Bien & Marion, 2009). For example, Uhl-Bien et al. (2007) identify interaction, tension and interdependence as three aspects of leading that stimulate complexity absorption. In combination, these 'complexity absorption' strategies (Boisot & Child, 1999) increase the adaptability of the organization by stimulating discussion of conflicting views (i.e., tension is surfaced in interaction) and fostering interdependence among agents that serves as an incentive for both interaction and for acting upon new information (Uhl-Bien et al., 2007). Moreover, Uhl-Bien et al. emphasize the role of enabling leaders in enacting a strategy of complexity absorption as opposed to enacting a strategy of complexity reduction when they stress that enabling leaders protect adaptive processes from 'stifling control preferences' (Uhl-Bien & Marion, 2009) in the formal organization.

Therefore, it appears that theoretical development of enabling leadership has emphasized the role of leadership in stimulating adaptability over efficiency

by stressing the importance of a strategy of complexity absorption (Uhl-Bien et al., 2007; Uhl-Bien & Marion, 2009). Building on the insights from the strategy literature, enabling leadership cannot be expected to be effective in dealing with the adaptability–efficiency paradox effectively when purely enacting a strategy of complexity absorption, but should instead combine the opposing action strategies of absorbing complexity and reducing complexity. However, this balancing act of both absorbing and reducing has not yet received much attention in CLT.

1.5 The adaptive nature of enabling leadership: Approaching requisite complexity

Another aspect we need to consider in theorizing how leaders deal with the adaptability–efficiency paradox, is the inherently adaptive nature of this process. Scholars writing on the complexity sciences argue that the extent to which adaptability and efficiency are needed to achieve successful organizational outcomes depends on the complexity of stimuli from the environment.

This need for adaptation can be explained on the basis of Ashby's law of requisite variety, which states that 'Only variety can destroy variety' (Ashby, 1970). Boisot and McKelvey (2010) see variety as a proxy for complexity and introduce requisite complexity to show that an organization can only be adaptive if the complexity of external stimuli is matched by the complexity of internal responses. As the complexity of stimuli from the environment continuously changes, organizations will have to adapt their complexity of responses in order to approach requisite complexity.

Leaders can increase or decrease the complexity of responses by shifting the focus of their action strategies between complexity absorption and complexity reduction respectively. The shifting pressures for efficiency and adaptability are affected by the misalignment between the complexity of responses and the complexity of stimuli. When the complexity of stimuli is higher than the complexity of responses, this increases the pressure for adaptability. Leaders can respond to this increased pressure by shifting their focus more towards a strategy of complexity absorption, stimulating a wide range of representations and responses. This leads to a higher complexity of responses, decreasing the gap between the complexity of responses and the complexity of stimuli, and in this way (temporarily) approaching requisite complexity. The opposite occurs when the complexity of stimuli is lower than the complexity of responses. This increases the pressure for efficiency, and leaders can approach requisite complexity by shifting their focus towards a strategy of complexity reduction. To deal effectively with the adaptability–efficiency paradox, enabling leaders will have to adaptively use the strategies of complexity absorption and complexity reduction in order to approach requisite complexity.

1.6 Indirect enabling leadership practices: Semistructures

Drawing this together, we focus on the question: How do leaders enact the opposing action strategies of complexity absorption and complexity reduction? The extant literature suggests that indirect leadership practices are expected to play a major role in enabling the organization to deal with complexity and pursue the dual goals of efficiency and adaptability (Anderson, 1999; Eisenhardt et al., 2010). Indirect leadership practices are specific practices with which leaders attempt to influence others indirectly through their impact on structures, as opposed to direct leadership practices with which leaders directly influence others in interaction (Yukl, 2009a). Because of the theorized importance of indirect leadership practices in dealing with complexity and pursuing the dual goals of efficiency and adaptability, we focus specifically on these leadership practices in this study.

According to Brown and Eisenhardt (1997), organizations that successfully manage demands for efficiency and adaptability use semistructures. Semistructures exhibit partial order, such that some aspects are prescribed and others are not (Brown & Eisenhardt, 1997). Semistructures combine opposing action strategies as they comprise elements of structure and freedom to move. For example, semistructures could involve setting some responsibilities, meetings, and priorities while leaving space for the design process to emerge in an organic manner (Brown & Eisenhardt, 1997), or time pacing in the form of deadlines to provide a minimal amount of direction to enable progress monitoring without specifying how the work should be done (Okhuysen & Eisenhardt, 2002; Okhuysen & Waller, 2002).

Semistructures therefore might help us understand how leaders enact the aforementioned opposing action strategies. While semistructures can help to effectively deal with the efficiency-adaptability paradox, constant vigilance is necessary to avoid slipping into pure order or pure chaos (Brown & Eisenhardt, 1997). Leaders thus not only play an important role in developing semistructures, but also in vigilantly maintaining them. In the current study we will explore the role of leaders effectively dealing with the adaptability-efficiency paradox by exploring the indirect leadership practices with which they do this, and assess whether these leadership practices take the form of semistructures.

1.7 Present Study

In the present study we address the following research question: How do leaders in project-based organizations use indirect leadership practices to enable adaptability and efficiency? The framework we develop to understand the role of indirect leadership practices in settings in which the adaptability-efficiency paradox

is especially apparent, is explored using qualitative data from 48 interviews. On the basis of this data we explore two aspects of leadership in project based organizations. First, we assess whether leaders in these organizations adaptively enact the opposing action strategies of complexity absorption and reduction to achieve adaptability and efficiency respectively. Second, we examine the indirect leadership practices associated with complexity absorption and complexity reduction.

In order to develop a rich understanding of how leaders deal with the paradoxical demands of adaptability and efficiency, we analyze this issue in a context in which this paradox is especially apparent, namely project-based organizations. Scholars of project-based organizing have described the tensions produced by the necessity to manage for both adaptability and efficiency (Sydow et al., 2004). These paradoxical demands are explicitly pronounced in project-based organizations, as projects are set up to accomplish new tasks (pushing for adaptability), and do this within clearly defined boundaries in terms of time and money (pushing for efficiency) (Lindkvist, 2008).

On the one hand project-based organizations are designed so that resources can be rapidly and flexibly reconfigured in order to carry out projects in response to emerging marketplace demands (Schreyogg & Sydow, 2010; Sydow et al., 2004). On the other hand, projects are subject to pressures for efficiency, and most project management methodologies stress planning and control as well as time, cost and quality constraints (Atkinson, 1999; Keegan & Turner, 2002; Söderlund, 2004). We expect that the explicit demands for both adaptability and efficiency in project work make these types of organizations a rich context to observe leadership strategies and practices enacted to deal with this paradox.

2 METHOD

2.1 Data collection

Data were gathered on 20 separate projects in companies located in the Netherlands to explore how leaders deal with the adaptability-efficiency paradox in project-based organizations. We conducted 48 semi-structured individual interviews with team members and either their project managers, their line managers, or both (see Table 1 for a description of the interviewees and the projects). Interviewees were purposefully sampled for variation in settings including for multiple industries (e.g., IT, consultancy, construction), internal and external projects, and governmental and non-governmental organizations. Such variation in settings and perspectives can

help to identify new aspects of leadership in project-based organizations (Corbin & Strauss, 2008). Consistent with best practice in qualitative research, we gathered data from respondents representing different views of leadership, and specifically indirect leadership practices. This was done to allow for triangulation of events and processes across data sources and in order to remain open to emerging information not captured by our preliminary sets of questions and themes in the semi-structured interview protocol (Miles & Huberman, 1994).

The purpose of the interviews was to gather data on leadership practices in project-based organizations. To achieve this, we defined focal projects during each interview by taking a project that the project team member and project manager were both working on. Important characteristics of focal projects were that they represented a project in which the interviewees worked extensively, and that the project was nearing completion or was recently completed. The semi-structured interview protocol (see Appendix 2) was used to ensure key topics were addressed and to allow the opportunity for additional information to emerge during the interview. Non-directive questions were used to probe emerging issues of interest in the study. The interviewees were prompted to talk about concrete leadership practices exhibited during the focal projects. Open questions were used to encourage interviewees to use their own words to express their observations and experiences and to facilitate insights emergent from the local project context and practice (Alvesson, 2003). In particular, questions were asked about influence behaviors, working relationships, and the process of developments in and around the focal projects. The individual interviews lasted one hour and 10 minutes on average. All interviews were recorded, with the consent of the interviewees, and transcribed verbatim. This resulted in 1161 pages of transcript. We maintained confidentiality throughout the process and did not report the results of specific focal projects back to the organizations involved or discuss with interviewees the content of other interviews.

After the first 11 individual interviews, additional data were gathered during one day of observation of a practicing project manager in the role of leading an ongoing project. We observed this project manager because the emergent themes from his individual interview posed a surprise in light of CLT. The data from this observation were used to corroborate emerging insights and provide depth on specific issues relating to the processes of adaptive balancing of efficiency and adaptability, and of specific indirect leadership practices used to reduce and absorb complexity.

After the day of observation, a group interview was conducted to reflect upon emergent themes. Data gathered from these interviews were summarized into emergent themes, which were presented in one group interview to 6 project managers recruited through one of the prominent project management associations in the Netherlands, namely the International Project Management Association (IPMA-NL). The purpose of this interview was to test the adequacy of emerging

explanations in a practical setting. On the basis of feedback from this group interview we reframed and refined the themes used to develop our semi–structured interview protocol before carrying out later interviews.

Table 1 Description Interview Sample

Project number	Project description	Type of project	Employer project manager	Employer team member & line manager	Client organization	Team members interviewed	Project managers interviewed	Line managers interviewed
1	Developing a new website	ICT	IT firm 1	IT firm 1	Bank 1	1	1	1
2	Developing a construction contract for a road	Infrastructure	Professional services 1	Province 1	Province 1	1	1	1
3	Designing and building a school	Construction	Consultancy and engineering firm 1	Consultancy and engineering firm 1	Three schools and a nursery 1	1	1	
4	Testing an IT system	ICT	Consultancy 1	Self employed 1	IT expert centre	1	1	
5	Implementing new business software	ICT	Consultancy 1	Consultancy 1	Inter-governmental organization	1	1	
6	Developing a talent exchange platform	Consultancy/ICT	Consultancy 2	Consultancy 2	Bank 1	1		1
7	Outsourcing datacenter	ICT	Consultancy 3	Consultancy 3	Bank 1	1	1	1
8	Designing and implementing an internal transport system	Construction	Trade fair	Trade fair	Trade fair	1	1	1
9	Redesigning a park	Landscaping	Municipality 1	Municipality 1	Municipality 1	1	1	1
10	Developing a sustainable plan for a new neighbor-hood	Consultancy	Consultancy and engineering firm 2	Consultancy and engineering firm 2	Province 2, municipality 2 and water board	1		1

#	Project	Sector						
11	Building metro stations	Infrastructure	Professional services 1		Municipality 3		2	
12	Developing a new content management system	ICT	Self-employed 2	Public transport 1	Public transport 1	1	1	1
13	Testing a motor	Manufacturing	Temporary work agency	LM Semiconductor manufacturer - TL temporary work agency	Semiconductor manufacturer	1	1	1
14	Designing a motor	Manufacturing	Semiconductor manufacturer	Semiconductor manufacturer	Semiconductor manufacturer	1	1	1
15	Developing a new business plan	Consultancy	Professional services 2	Professional services 2	Professional services 2	1	1	
16	Improving travel information	Consultancy	Consultancy 4	Consultancy 4	Public transport 1	1	1	
17	Introducing new hardware	ICT	Governmental organization	Governmental organization	Governmental organization	1	1	1
18	Developing company policy	Policy development	Professional services 2	Professional services 2	Professional services 2		1	1
19	Building a school	Construction	Contractor	Contractor	School 2	1	1	
20	Improving group performance	Consultancy	Consultancy 5	Bank 2	Bank 2	1	1	
						Total	Total	Total
						18	19	12

2.2 Data analysis

In order to build upon CLT and explore how leaders deal with the adaptability-efficiency paradox we employed an abductive approach to the analysis of our qualitative material (Locke, 2011). Abduction involves rethinking current theories in light of a surprising empirical phenomenon and resolving surprises by articulating a new interpretative rule or theory (Alvesson & Karreman, 2007). We chose this abductive approach to build upon the framework of CLT, while remaining open to surprising findings and alternative explanations, as we expect CLT can inform our understanding of the role of leadership in the adaptability-efficiency paradox but cannot assume that this framework is complete and fully fitting, as it has rarely been studied empirically.

In order to address both existing theories and emergent results, all 48 individual interviews were coded both inductively and deductively using the software NVivo 9. The initial analysis of each interview began by writing up a contact summary sheet (Miles & Huberman, 1994), containing the key points made by the interviewee as well as special circumstances to take into account when analyzing the data. During the process of coding, multiple types of memos were written, including memos about emerging themes across all interviews, within each interview, and links to theory. With the input of these memos, the broader emerging theoretical framework and remaining inconsistencies were recorded. Together with the coding logbook, these memos allowed us to look back at the way the study developed and key theoretical issues emerged, which facilitated in tracing the emergence of new ideas. The memos helped to ensure reflexivity in dealing with the data and the emerging theory.

We iterated multiple times between interaction with the empirical material and interpretation guided by academic theories and found the interface between these different levels of interpretation useful in the development our framework (Alvesson & Sköldberg, 2009). We also alternated between the part and the whole in a hermeneutic circle in a variety of ways, including transitioning from the detailed coding of the data to a theoretical interpretation, and transitioning from coding the details to describing each interview and the whole set of interviews per project setting. Such iterative processes of reflection, reframing and refinement of data analysis through within case and between case analysis are common in inductive research (Eisenhardt, 1989; Miles & Huberman, 1994). This analysis of the qualitative material allowed us to find appropriate existing theories to explain the data and to extend those theories on the basis of unexpected findings in the data of relevance to these theories. Table 2 gives an overview of the initial deductive codes from existing theories and the final abductive codes that we generated through this process of data analysis.

Table 2. Changes in coding scheme

Deductive codes	Final abductive codes

Enabling leadership
• Stimulate interaction
• Stimulate tension
• Stimulate interdependence
	Complexity leadership
	Leadership strategies to deal with complexity:
	• Absorb complexity
	   o Stimulate interaction
	   o Stimulate tension
	   o Stimulate interdependence
	• Reduce complexity
	   o Bound interaction
	   o Bound tension
	   o Bound interdependence

Semistructures • Time pacing	Semistructures Leadership practices to implement leadership strategies: Semistructures to absorb complexity • Meetings • Co-location • Escalation • PM not available • Opposing goals Semistructures to reduce complexity • Time pacing • PM as interface • Planning and reporting
Considerations in leadership strategies and practices: • Requisite complexity	Considerations in leadership strategies and practices: • Type of issues: content or process • Requisite complexity

3 RESULTS

The results shed light on the role of leadership in effectively dealing with the adaptability–efficiency paradox. First, the results showed that leaders in project-based organizations combine opposing action strategies of complexity absorption and complexity reduction in order to achieve both adaptability and efficiency. Second, the analysis of the qualitative material showed that leaders combine opposing action strategies in an inherently flexible manner in order to approach requisite complexity. The combination of opposing action strategies changed as the leaders responded to complexity in the environment. Third, the results showed the important role of semistructures as indirect leadership practices. Our findings revealed a distinction between semistructures that most directly support an action strategy of complexity reduction, and those that most directly support complexity absorption. The findings also showed that semistructures mainly affect the complexity of responses through their impact on interaction, tension or interdependence.

3.1 Combining opposing action strategies

A key finding in our data is that leaders in all of the projects that we studied combined the opposing action strategies of reducing complexity and absorbing complexity in order to achieve both adaptability and efficiency. This was illustrated by a project team member who stressed that the complexity of the situation called for the use of these opposing action strategies:

'[W]e don't want to be too bureaucratic, that's not possible either because it is so complex (…) just hold each other by the arm and if you don't do that, then you are hopelessly and utterly lost. (…) because it is so complex, you can't catch all this in a routine way with reporting, you catch 80 percent with that and the 20 percent really difficult stuff is holding each other's hands again and tell each other, speak up and don't keep walking around with it.' (Team Member, Project 7)

Leaders combined these opposing leadership strategies in an adaptive way in order to approach requisite complexity. This meant that leaders generally shifted their focus to complexity absorption when the environment became more complex, and complexity reduction when the environment became less complex, in order to achieve a complexity of responses consistent with the complexity of stimuli from the environment. Leaders intuitively recognized the need for a high complexity of responses in situations of high complexity of stimuli. This is demonstrated in the following quote from a project manager, who explicated the importance of continuously testing the accuracy of the way in which problems were solved in a changing environment:

'Look, in a dynamic project the rules of the game change every day. (…) You will always have to keep testing: "Am I doing things right?" And the fact that it went well yesterday doesn't mean that if you do things the same way today it will go well tomorrow. And that calls for communication. That calls for searching out other people.' (Project Manager Project 11)

Our results also showed a temporal pattern, in which leaders first enabled a strategy of complexity absorption and then enabled a strategy of complexity reduction. This can be partly explained by a perceived reduction in the complexity of

environmental stimuli because of a growing understanding of these stimuli. Through the implementation of a strategy of complexity absorption an understanding of the environment evolved, reducing the perceived complexity of stimuli, and increasing the need for complexity reduction. One project manager explained that a complexity reduction strategy was needed as the project advanced to ensure the project could be finished:

'So, as the project approached the end we formalized more things. Also work sharper with detailed functional descriptions. Look, the project, and also from piloting (…) had developed a very informal atmosphere. (…) We stretched the system that we bought with a whole lot of wishes and demands, and wanted a lot from the system, that we almost built the website in a type of prototype forwards manner. That works in the beginning, but when you start facing deadlines it becomes difficult. Then you want to say, "This is it, it's no longer a prototype." Then it just has to be finished.' (Line Manager, Project 1, talking about another project for which he was project manager)

Although there appeared to be a general trend in shifting focus from complexity absorption to complexity reduction across the project life cycle, this shift did not represent a purely linear development. Instead, this development was conducted iteratively in order to improve adaptation. Indeed, a line manager in our sample explained about a project in which the complexity of responses had to be increased again after it had already been brought down, as the emergent design of the product showed flaws:

'So you have to get a number of experienced people from somewhere else who can take fresh look at the existing design. Then you also bring in discussion. You don't take away everyone that has been on it, but you put in a few new ones that are at the same level. They will romp with each other. Beautiful discussions arise like "this does work" and "no this doesn't work because…".' (Line Manager, Project 14)

In addition, leaders took into account the content of complexity in the environment. An action strategy of complexity absorption was most often used to respond to issues related to the content of the work, while complexity reduction was most often used for issues related to process such as discussions around deadlines

and budgets. Interviewees indicated that flexibly absorbing complexity was more important for content issues, whereas for process issues a strategy of complexity reduction was better suited. To illustrate, one project manager explained how he reduced complexity on process issues. He tried 'to shield the team from political games that are being played,' and 'hold off the questions and discussions' about 'interpretation of agreements, interpretation of requirements.' He explained his role in the following way:

> 'I'm an interface, a screen towards the client that asks things and translates that to work for the developers. What I hope is that they realize that I intercept things for them and I only give them things that really have to get done.' (Project Manager, Project 1)

A project team member working with this same project manager explained that she values being shielded from process issues, especially when approaching deadlines. Since this enabled a more efficient handling of process issues, she was left with more room for handling content issues:

> '[The client] really likes conference calls. It's really bad. (…) And then we'd have the same discussion about point eleven for example and that would be the same discussion as the day before. (…) With the same people and with the same conclusion that [the client] had to decide something before we could implement it or something like that. Well anyway, at a certain moment I said, "This is a waste of time and we are approaching the deadline and I can spend my time better by helping or supporting content management, and thinking about it properly." So then [the project manager] said "I'm staying in and you can go to work".' (Team Member, Project 1)

Taken together, the results showed that leaders enacted both strategies of complexity absorption and complexity reduction, and that they did this in an adaptive way so as to approach requisite complexity. These efforts showed a general pattern over time of shifting focus from absorbing to reducing complexity as evolving understanding reduced the perceived complexity of stimuli, but this general pattern could involve multiple iterations. Approaching requisite complexity also involved a focus on process issues in complexity reduction, so as to allow the time and space to effectively absorb complexity on content issues.

3.2 Indirect leadership practices: Semistructures for complexity absorption and reduction

By closely examining the action strategies used to deal with the efficiency-adaptability paradox, our results identified a number of indirect leadership practices that played an important role in enacting these strategies. Our analyses showed that leaders indirectly influenced others through creating, transforming, and disassembling semistructures in which some aspects were prescribed, and others were not.

Our data also revealed two different types of semistructures used by leaders. One type of semistructure was consistent with complexity absorption, increasing interaction, tension and/or interdependence, thereby increasing the complexity of responses. The second type of semistructure was consistent with complexity reduction, decreasing interaction, tension and/or interdependence, and thus decreasing the complexity of responses. An overview of these different types of semistructures, and an example of a specific indirect leadership practice that represents each type of semistructure, is shown in Table 3. We briefly describe each below to illustrate how leaders used semistructures to enact the strategies of complexity absorption and reduction.

Table 3. Leadership strategies and practices

Strategy	Most direct result	Semi-structure	Route	Representative quotes
Absorb complexity of responses	Stimulate interaction	Meetings	Face-to-face group interaction to surface tension and enable team interdependence	Having meetings is important because 'then they learn from each other, hear things about problems you could run into' and have 'a little cross-fertilization' (Line manager project 14). 'I called all those people to the table, (…) indicated what the intention was, what the planning was, (…) then the comments start coming (…) then you try to find a way to approach the planning in such a way that it is possible.' (Team member, project 8)
		Co-location	Face-to-face group interaction to surface tension and enable team interdependence	'I attach great importance to my team sitting together. Preferably at location. (…) That works best for a) the forming of the team. So learning to trust each other, getting to know each other, but also knowing each other's weaknesses. (…) And b) knowledge exchange is much faster in word than per email, chat, or even calling.' (Project manager project 15) 'We have a real project office, that's also necessary because you really have to deal with each other a lot.' (Team member, project 5)
	Stimulate tension	Opposing goals	Formalize tension between efficiency and adaptability	'And what you see, if you get stuck in time and such a project manager starts cutting corners and skipping things then my role as watchdog kicks in, to supervise it, keep an eye on the essence of the [planning and reporting] steps. (…) Often it is a mild battle. The project manager (…) wants to reach that timing and I am mainly responsible for quality. (…) Those are typical tensions that we consciously apply.' (Line manager, project 14)
	Stimulate inter-dependence	Escalation	Stimulate interdependence across hierarchical levels	'I escalate because if I don't get this we will have a problem and I don't want to be punished for that. It's just.. in the end the goal is to slip responsibility. I don't mind doing executive work, but if I get stuck you have to solve it. And then I mean my project manager.' (Team member project 5) 'You can easily say to the employee "in first instance you look at it yourself, if you can't solve it then you sound the alarm with the team leaders", and well, it is scaled up that way until in theory finally the director.'(Line manager, project 2).

↓   ↓

		PM not available	Stimulate interdependence among project team members	'[This project manager] will just not pick up his phone and not call back. (…) Because you get that responsibility to do things, you learn how to solve your own problems. So it is just a different way of, in projects, delegating or letting go of responsibilities.' (Team member, project 3) 'You've got people who really give lists from day to day, like you have to do this today. Well, if team leaders, or people in my team expect that from me, I say like "then you'll have to search for a project somewhere else, because you're not going to achieve that". As far as that is concerned I believe in the knowledge and abilities of the people themselves'. (Project manager, project 1)
Reduce complexity of responses	Bound interaction	Time pacing	Reduce time spent on process issues by team	'At a certain moment we were often being called and emailed [by the client] and we mentioned this [to the project manager]; "we are constantly disturbed and they want answers directly". And well then he arranges a question hour. Things like that to make our work easier.' (Team member, project 1)
	Bound tension	Planning and reporting	Gain clarity on process issues	'That is very important, because otherwise you get, if you don't do that with such a big group of people, then the expectations and outcomes aren't clear for anyone anymore (…) and that is why it's so important we work with documents.' (Project manager, project 14) 'By means of the project plan everyone had a clear image of what had to be done.' (Project manager, project 4)
	Bound inter-dependence	PM as interface	Boundary spanning handled by PM only	'they [line managers] have to make sure that you as a man of content can do your job properly and that, if there is a conflict with another department, they solve it for you.' (Team member, project 9) 'I think "I can't work this way" and then a sort of cordon gets build around you. "Leave him alone, let him do his job!" (…) Because multiple people bothering me at once, that doesn't help me. Because clarity "do this, first this, then that, that, then finished". (..) And peace. That is the most important thing.' (Team member, project 14)

3.2.1 Indirect leadership practices for complexity absorption

Leaders in project-based organizations created, transformed and disassembled a number of different semistructures to implement a strategy of complexity absorption. All of these semistructures increased the amount of interaction, tension and/or interdependence. Leaders mainly used the semistructures of calling meetings and ensuring co-location to stimulate high quality group interaction. Meetings could stimulate face-to-face group interaction, which in turn could surface tension in the form of the discussion of a wide diversity of views.

'Once every two weeks we have a meeting where we all sit together. This is desirable, because you can all engage in a discussion, because you have areas of expertise everywhere, and sometimes it's just useful if you all engage in a discussion and come to a solution from those different points of view.' (Project Manager, Project 18)

Meetings also enabled a higher level of interdependence, as all team members had enough information about the project to solve problems together without necessarily needing direct instructions on exactly what to do from the project manager. Co-locating the project team enabled more face-to-face interaction among team members, facilitated sharing of different views, and allowed for working together interdependently with a reduced need for the project manager to make all decisions.

In addition, leaders indicated that they stimulated the inherent tension between efficiency and adaptability by creating a semistructure with formalized roles that involved opposing goals. To illustrate, in one case where the project manager was responsible for bringing the project in on time, and the line manager was responsible for quality. This formalized tension, and resulting interdependence between the roles, contributed to a situation where both needs were taken into account in decision making as each person worked specifically to achieve one of these needs.

Finally, leaders used another set of semistructures aimed at stimulating interdependence: 'escalation systems' and project managers deliberately not making themselves easily available. Escalation systems involved strategies in which leaders offered a formal route through which project team members could inform people higher up in the hierarchy about the problems they observed or foresaw that they couldn't solve on their own. This semistructure increased interdependence among people at different levels of the project hierarchy, as an issue that was officially recorded in the escalation system would move up through the hierarchy until someone solved it. The second semistructure that leaders used to stimulate interdependence among team

members was some project managers making themselves deliberately not available to team members. This semistructure stimulated people to solve their problems without management decisions for every step of the way. This semistructure could, however, lead to anxiety on the part of project team members when it occurred in stark contrast to their current situation. For example, in the following illustration a project manager explained the effects of changing a situation in which team members used to be led on a detailed level to a situation in which the project managers were not easily available to solve the problems of their team members.

> 'People were used to being led in a directive way. What we did in the beginning is, we were not easily available, which led to some nice scenes, because if you are used to seeking alignment with your boss to a very detailed level, but he is not there, you will get a sort of split at a certain moment. Well, at first this led to panic. (…) They just did not see that we did it on purpose, like "Take the decision yourself".' (Project Manager, Project 11)

3.2.2 Indirect leadership practices for complexity reduction

In addition to semistructures leaders used to implement a strategy of complexity absorption, the results revealed another set of semistructures that leaders used to implement a strategy of complexity reduction (see also Table 3). All of these semistructures decreased the amount of interaction, tension and/or interdependence. The first semistructure, time pacing (e.g., in the form of leaders' introducing a question hour for questions from the client to the project team), was mainly used to decrease the time spent on interaction. The results showed that the semistructure of time pacing was created by leaders to limit the time spent by the team on communication with people outside the team, and specifically on process issues, to help team members focus on core tasks.

The second set of semistructures, involving planning and reporting, identified ways in which leaders decreased tension on process issues by stimulating the development of a single representation of these issues among team members. Planning mainly decreased tension through enabling the team to develop a similar view of where they were going and at what pace. Reporting likewise decreased tension, but here more specifically by enabling the team to develop a similar view on tasks that have been completed and what challenges still remain.

Finally, leaders also bounded interdependence by creating a semistructure

in which they acted as an interface between the team and the environment. This decrease in interdependence between the team and the environment came with decreased interaction between individuals inside and outside of the team, as the project manager shielded the project team from certain types of interaction, certain issues, or certain individuals. Consequently, this semistructure could decrease tension as the leader limited the amount and type of information flowing from the environment to the team, or from the team to the environment. Project managers used this role of interface to filter information from the environment, and in this way they stimulated the development of a single representation of the environment by all team members. Shielding team members from some information reduced the complexity of responses on these issues, allowing for more attention and complexity of responses on issues most relevant to the project.

3.3 Implementation of semistructures

In sum, these indirect leadership practices in the form of semistructures illustrated how leaders enacted opposing action strategies of complexity absorption and complexity reduction. Our findings showed that although these semistructures were mostly implemented in a manner that enabled the system to effectively deal with complexity, the same semistructures, when implemented in ways unfit for their environment, prevented effective handling of complexity. This links back to our results concerning the enactment of opposing action strategies in order to effectively deal with the demands for both adaptability and efficiency by approaching requisite complexity. The question of which leadership strategies and practices were called for depends on the extent of the mismatch between the complexity of environmental stimuli and the complexity of responses. In other words, the value of these semistructures in dealing with complexity depended on the way in which they were implemented, configured, and matched to the environment at a specific time.

4 DISCUSSION

Though the central efficiency-adaptability paradox has major implications for leadership, it has received very little attention in leadership research. The results of the current study shed light on the role of leaders in dealing with the central paradox of adaptability and efficiency, and provide an early empirical illustration of complexity leadership theory (CLT). We have explored this issue in a setting in which the efficiency-adaptability paradox is especially apparent, namely project-based organizations.

The current study builds upon CLT in several ways. Most importantly, we showed that in order to effectively deal with the adaptability–efficiency paradox, enabling leaders pursued strategies of both complexity reduction and absorption, as opposed to merely complexity absorption. The extent to which each of these strategies was implemented was dependent upon the types of issues at hand (process or content), and the extent to which the complexity of responses matched the complexity of stimuli.

We also identified indirect practices leaders enacted to implement the opposing action strategies of complexity absorption and reduction that we described as taking the form of semistructures (Brown & Eisenhardt, 1997). Enabling leaders create, transform and disassemble semistructures to effectively deal with the adaptability-efficiency paradox. For leaders, implementing a strategy of complexity absorption involved creating semistructures that increase the complexity of responses by increasing interaction, tension and interdependence, while implementing a strategy of complexity reduction involved creating semistructures that decrease the complexity of responses by decreasing interaction, tension and interdependence.

4.1 Implications for theory

The current study has several implications for current theorizing on both CLT and the efficiency-adaptability paradox. First, based on our findings, we inform CLT by moving beyond enabling leadership and proposing that the leadership function described in the current study is more appropriately characterized as complexity leadership. Second, we discuss the ways in which leaders adapt their leadership strategies and practices in order to approach requisite complexity to effectively deal with the adaptability-efficiency paradox. Third, we add the concept of semistructures to CLT, and propose two categories of semistructures: complexity absorption semistructures that stimulate interaction, interdependence and tension, and complexity reduction semistructures that decrease interaction, interdependence and tension.

4.1.1 Informing CLT: From 'enabling leadership' to 'complexity leadership'

The results of our current exploration imply that insights developed from a perspective informed by the complexity sciences can enhance our understanding of leadership in settings in which the efficiency-adaptability paradox is especially apparent. Though CLT provides a valuable basis for the exploration of how leaders deal with the central paradox of adaptability and efficiency, our results suggest that

the previous theorizing is incomplete. Although CLT has taken paradoxical pressures into account, its leadership functions have over-emphasized the role of leadership in stimulating adaptability over efficiency.

Our findings suggest enabling leadership does not fully capture the leadership role of bridging the adaptive and administrative functions of the organization as its focus is on enabling the adaptive function and protecting it from the administrative function (Uhl-Bien et al., 2007; Uhl-Bien & Marion, 2009). Specifically, we inform CLT by proposing that the leadership function described in the current study is more appropriately characterized as complexity leadership, defined as dealing with complexity by harnessing both efficiency and adaptability to approach requisite complexity through the opposing action strategies of complexity absorption and complexity reduction.

As describe above, in CLT enabling leadership has been conceptualized as entangling the formal structures and informal network dynamics of organizations through a strategy of complexity absorption. Enabling leadership, with its important role bridging the adaptive and administrative functions of the organization, is well placed to deal with the paradoxical demands of adaptability and efficiency. Previous theoretical developments in enabling leadership have already highlighted the influence leadership can have on the complexity of responses through its impact on interaction, tension and interdependence. But they have done so only by emphasizing the role of enabling leadership in complexity absorption. The current study shows that in order to effectively deal with the paradoxical demands of adaptability and efficiency, complexity reduction is an equally important leadership strategy.

Specifically, the results of the current study indicate that, for complexity leadership, effectively dealing with complexity involves balancing opposing action strategies of complexity absorption and complexity reduction. We inform CLT by moving beyond enabling leadership with a focus on enabling the adaptive function, which only addresses complexity absorption, to a focus on 'complexity' leadership, which captures opposing action strategies of complexity absorption and reduction to approach requisite complexity, to better capture the dynamic nature of leadership in complex environments. A focus on complexity leadership more clearly represents what both our findings, and the strategy and organization literatures, reveal about the role of leadership in the efficiency–adaptability paradox.

4.1.2 Complexity leadership to approach requisite complexity

Our results also provide support for, and emphasize the importance of, requisite complexity in leadership research (Boisot & McKelvey, 2010; Hannah, Lord, & Pearce, 2011; Hazy & Uhl-Bien, Forthcoming; Lichtenstein & Plowman, 2009; Miller,

1993; Uhl–Bien et al., 2007). More specifically, our findings shed some light on the ways in which complexity leaders adapt their leadership strategies and practices to approach requisite complexity. Often, this development entails a temporal pattern, in which complexity leaders gradually shift their focus from complexity absorption to complexity reduction. The leadership process we identify is similar to processes described for moving from creativity to innovation implementation by generating ideas, selecting ideas and implementing those ideas (Somech & Zahavy-Drach, forthcoming). This temporal pattern in leadership can be explained by a growing understanding of the complexity in the environment. This growing understanding reduces the perceived complexity of stimuli, increasing the need for a reduction of the complexity of responses in order to approach requisite complexity.

Although this shift over time from complexity absorption to complexity reduction is a general trend, our results highlight that this development can show multiple iterations within one project. The project management literature highlights a similar type of development in that the project life cycle is not always seen as a waterfall, in which project phases have limited overlap, but rather as a rolling wave, iteratively moving between planning, executing and receiving feedback (Alvesson, 1996).

Another factor leaders take into account in their leadership strategies is the type of issue under consideration (content or process). A strategy of complexity reduction is not without risk, as the increased ability to focus on core tasks and reduced anxiety of team members comes with a reduced opportunity for collective learning from working through the complexity of stimuli (Stacey, 2010). This could explain why when leaders implement an action strategy of complexity reduction, they tend to shield team members from complexity in process issues such as discussion over deadlines and budgets. These process issues offer relatively little opportunity for valuable collective learning compared to content issues, making the downsides of this strategy less pronounced. In addition, reducing the complexity of responses concerning process issues leaves valuable time and cognitive space for dealing with the complexity of content issues.

4.1.3 Implications for work on the adaptability-efficiency paradox

The findings of our study also have implications for work on semistructures. The results support the argument posed by Eisenhardt and colleagues (2010) that leadership can harness both efficiency and adaptability through semistructures. Our results suggest two categories of semistructures important in complexity leadership: those geared toward complexity absorption that stimulate interaction, tension and interdependence, and those geared toward complexity reduction that decrease

interaction, tension and interdependence. So, though semistructures can enable organizations to achieve both efficiency and adaptability, not every semistructure does this in the same way. Semistructures such as meetings, co-location, escalation systems, opposing goals and managers not being available are more geared towards the adaptability end of the paradox, whereas semistructures such as time pacing, planning and reporting and managers acting as interfaces are more geared towards the efficiency end of the paradox. It's the emerging configuration of semistructures and their fit with the evolving complexity of stimuli that can lead to sustainable success.

Finally, our results add to the debate in the strategy and organization literatures on enabling efficiency and adaptability. Calls have been made in the field of strategy to explore both the mechanisms used in organizations to balance efficiency and adaptability and to establish the appropriate organizational level at which to integrate efficiency and adaptability (Lavie et al., 2010). Andriopoulos and Lewis (2009) theorize that balancing efficiency and adaptability is an important responsibility at all levels within the organization. Moreover, some scholars specifically call for a focus on individuals to explain the microfoundations of strategic organization (Felin & Foss, 2005). However, others have argued that individuals will not be able to accomplish what even whole organizations struggle with (Schreyogg & Sydow, 2010). Our findings alleviate this latter concern by showing that individual leaders do indeed adaptively balance efficiency and adaptability, and highlight leadership as a crucial aspect of the microfoundations of performance in complex organizations.

4.2 Strengths, limitations and future research

The current study has a number of limitations and related implications for future research. In order to explore how leaders effectively deal with the adaptability-efficiency paradox, we have conducted a qualitative study in project-based organizations. The context of project-based organizations have proven to be a fitting environment in which to study the role of leaders in dealing with this paradox as our results show leaders clearly experience these paradoxical demands and enact a number of leadership strategies and practices to deal with them.

Though we have sampled our interviewees from a wide variety of project-based organizations, our limited sample prevents us from claiming these results are applicable to all project-based organizations. In addition, future research is needed to assess whether these results are generalizable to other types of organizations. Using semi-structured interviews to gather data also has limitations. Interviews only get at what the respondents can remember and choose to share in a period of approximately one hour. Long-term observation can reveal more ways in which leaders indirectly

enable the organization to deal with complexity.

The results show the leadership strategies and indirect practices aimed at harnessing both adaptability and efficiency. Future research is called for to further explore leadership strategies, and both direct and indirect leadership practices in enabling both adaptable and efficient organizational processes. In addition, as the impact of complexity leadership on long-term effectiveness cannot be proven by this method, future research could delve deeper into the effects of these leadership practices on complexity of representations, complexity of responses, efficiency, adaptability, success of the project and sustainable success of the organization. Specifically, future research could illuminate the effects of different configurations of semistructures and their adaptations over time. More research is needed to assess the extent to which complexity leaders are conscious of the adaptive balancing act within the complex adaptive systems in which they work, and their effects on it.

4.3 Conclusion

To conclude, studying leadership through a complexity lens opens up relevant pathways to advance our understanding of the role of leaders in harnessing adaptability and efficiency. We have explored this role empirically in project-based organizations. Complexity leaders in project-based organizations already seem to implicitly understand much of the dynamics needed to adaptively balance efficiency and adaptability. However, further research is needed to help us continue to uncover these important leadership dynamics, and guide complexity leaders as they engage in their constant balancing act of managing efficiency and adaptability to approach requisite complexity in organizations.

CHAPTER 3

EXPLORING THE ROLE OF LEADERSHIP IN ENABLING CONTEXTUAL AMBIDEXTERITY

ABSTRACT

Sustainable success calls for contextually ambidextrous organizing. Enabling simultaneous exploration and exploitation within a subsystem forms a major challenge. In the current study we contribute to the literature on the role of leadership in enabling contextual ambidexterity. We do this by exploring leadership in project-based organizations, a context in which the pressure for contextual ambidexterity is high. We show that leaders enact a range of leadership practices to stimulate both exploration and exploitation, and that they do this in an adaptive manner to adjust to the complexity they face to sustain contextual ambidexterity. We discuss the implications of these findings for our understanding of ambidexterity as a dynamic accomplishment that emerges in everyday interactions and the role of leadership in enabling contextual ambidexterity.

1 INTRODUCTION

The challenge for organizations to respond effectively to requirements to be flexible and at the same time efficient has been at the forefront of organizational theorizing for many years. Successful, sustainable organizing is held to be a function of being able to exploit current strengths as well as explore new possibilities (March, 1991) and to pursue new knowledge while at the same time using existing knowledge optimally (Levinthal & March, 1993). In recent years, a growing number of theorists conceptualize the dilemmas of simultaneous pursuit of exploration and exploitation under the banner of organizational ambidexterity (Duncan, 1976; Gibson & Birkinshaw, 2004; Tushman & O'Reilly, 1996). In organizational theorizing, ambidexterity is defined as the capacity of an organization to be 'aligned and efficient in their management of today's business demands while simultaneously adaptive to changes in the environment' (Raisch & Birkinshaw, 2008, p 375).

While in the past, theorists have argued that it is difficult for organizations to meet the needs for both exploration and exploitation (Hannan & Freeman, 1984), recent approaches are characterized by attempts to specify the different ways in which organizations can achieve the required balance between exploitation and exploration (Lavie et al., 2010). Ambidexterity has, for example, been studied as structurally or temporally separated processes of balancing exploration and exploitation (Jansen, Tempelaar, Van den Bosch, & Volberda, 2009; Tushman & O'Reilly, 1996) in which the balancing challenge is set at the organizational level (Lavie et al., 2010). Ambidexterity has also been identified with attempts to manage simultaneous exploration and exploitation within a subsystem (Gibson & Birkinshaw, 2004). This latter type of ambidexterity has been conceptualized as harmonic ambidexterity (Simsek, Heavey, Veiga, & Souder, 2009). Harmonic ambidexterity is described by Simsek et al. (2009, p 870) as the 'simultaneous pursuit of exploitation and exploration within a subsystem, for example, a business unit'. Building on the approach of Gibson and Birkinshaw (2004) and Adler et al. (1999), harmonic ambidexterity derives its roots from a consideration that is focused on contextual factors that encourage or enable a behavioral orientation or capacity for the simultaneous pursuit of exploration and exploitation. As such, it has also been referred to as 'contextual ambidexterity' (Gibson & Birkinshaw, 2004) which is a label we adopt in this paper to ground our approach. In order to achieve contextual ambidexterity, the challenge is to enable individuals and groups to deal with the inherent tension between the processes of exploration and exploitation. Contextual ambidexterity is thus conceptualized at the individual and group level (Lavie et al., 2010), rather than at the organizational level.

To date the role of leadership in contextual ambidexterity has only received limited attention (for exceptions see, Gibson & Birkinshaw, 2004; Nemanich & Vera, 2009; Rosing et al., 2011). Gibson and Birkinshaw (2004) pay attention to the role of

leaders in creating a supportive context for contextual ambidexterity characterized by stretch, discipline, support and trust. Nemanich et al. (2009) focus specifically on the role of transformational leadership in promoting contextual ambidexterity. The work of these authors suggests that we can consider leadership functions for contextual ambidexterity to be comprised of relatively stable features such as a need for transformational leaders, or the facilitation of discipline and trust.

Similarly, in studies that have addressed the factors that enable structurally separated exploration and exploitation, leadership has been identified as a crucial factor and has mainly been studied as a stable role (Adler et al., 1999; Cao, Simsek, & Zhang, 2010; Jansen et al., 2009; Jansen, George, Van den Bosch, & Volberda, 2008; Lubatkin, Simsek, Ling, & Veiga, 2006; O'Reilly & Tushman, 2008). These authors point to the importance of executive director's transformational leadership (Jansen et al., 2008), as well as network extensiveness (Cao et al., 2010), and top management team behavioral integration (Jansen et al., 2009; Lubatkin et al., 2006), shared vision (Jansen et al., 2008; O'Reilly & Tushman, 2008) and management of interfaces between sub-units (O'Reilly & Tushman, 2008). The facilitation of ambidexterity is thus treated as the achievement of a stable set of leadership outcomes, be they transformational leadership, behavioral integration, or trust and discipline among followers. However, an alternative view is that ambidexterity is a dynamic accomplishment and therefore attention should also be focused on how leaders achieve ambidexterity in a dynamic way (Raisch et al., 2009; Raisch & Birkinshaw, 2008).

This is the view forwarded, for example, by Rosing et al. (2011) who propose that leaders stimulate exploration by using what they label 'opening behaviors' such as stimulating thoughts in a new direction to increase the variance of follower behaviors. They also discuss the use of 'closing behaviors' by leaders, behaviors that stimulate efficiency and decrease the variance of follower behaviors thus fostering exploitation as opposed to exploration (Rosing et al., 2011). This link between exploration/ exploitation and the variance of follower behaviors resonates with the literature on absorbing and reducing complexity (Ashmos et al., 2000; Boisot & Child, 1999). This literature points to the need for a high complexity of responses, in the form of multiple representations of the context and a range of behavioral responses to this perceived context, in order to facilitate exploration. It also points to the need for a low complexity of responses, in the form of a single representation of the context and a single response to it, in order to facilitate exploitation.

In the model proposed by Rosing et al. (2011) leaders have to be able to enact both opening and closing leadership behaviors and should have the flexibility to iteratively switch between these two when the needs of the innovation process move from exploration for creativity to exploitation for efficient implementation. Existing research therefore suggests the importance of starting to empirically explore leadership processes that enable contextual ambidexterity at a more detailed level.

1.1 Exploring leadership processes for contextual ambidexterity

We explore the role of day to day leadership practices in enabling contextual ambidexterity. This fine-grained focus on everyday leadership practices can further our understanding of the divergent aspects of leadership that enable achieving and maintaining contextual ambidexterity. A focus on specific everyday practices highlights the interactions and interpretations through which complex phenomena emerge (Jarzabkowski, 2003). We focus specifically on direct leadership practices, that is those practices that involve social influence in interactions with others, as opposed to indirect leadership in which leadership occurs through intermediate structures, such as developing planning (Yukl, 2009a).

The context of this study is project-based organizations as this is a context commonly characterized by high pressure for contextual ambidexterity (Lee et al., 2007). This enables us to observe leadership that is aimed at achieving and maintaining contextual ambidexterity. The pressures for exploration and exploitation are generally pronounced in project-based organizing (Keegan & Turner, 2002; Sydow et al., 2004). Projects are set up to accomplish new tasks and are thus often explorative in nature, however projects are also usually managed within tight resource and time constraints calling for a simultaneous emphasis on exploitation of current strengths (Lindkvist, 2008). These paradoxical demands in project-based organizations are related to the complexity of project assignments, pushing for exploration, and the finite nature of projects, pushing for exploitation. Project leadership therefore calls for contextual ambidexterity, the simultaneous pursuit of exploration and exploitation within the subsystem of the project. This leads us to the following research question: How do leaders in project-based organizations use direct leadership practices to create and sustain contextual ambidexterity?

2 METHOD

We used qualitative research methods to explore whether leadership practices enabling contextual ambidexterity could be identified in project-based organizations and to examine their uses. We analyzed 42 interviews with team members and line and project managers in project-based organizations (see table 1 for a summary of the interview participants). Participants were asked to focus on a specific project in answering questions, and they discussed 17 different projects in a wide range of project-based organizations in the Netherlands. The focal projects were either recently finished or approaching completion at the time of the interviews. We purposefully sampled for a high variety in project settings in order to explore and identify new aspects of leadership practices in enabling contextual ambidexterity (Corbin & Strauss, 2008).

Table 1 Summary Interview Sample

Project number	Project sector	Frequency of formal project team meetings	Percentage of time interviewed team member spent on project	Project manager works on X number of projects simultaneously	Interviews with project team member (TM), project manager (PM), line manager (LM)
1	IT	Daily	100	3	TM, PM, LM
2	Infrastructure	Every 2 weeks	>50	4	TM, PM, LM
3	Construction	Every 2 weeks	50	2	TM, PM
4	IT	Every 2 weeks	20	2	TM, PM
5	IT	None at lowest level	100	1	TM, PM
6	Consultancy/IT	None (single TM)	100	1	TM, LM
7	IT	Weekly	100	1	TM, PM, LM
8	Construction	Every 2 weeks	5	1	TM, PM, LM
9	Landscaping	Monthly	5	10	TM, PM, LM
10	Consultancy	Monthly	30	-	TM, LM
11	Infrastructure	Weekly	-	1	2 PMs
12	IT	Weekly	75	1	TM, PM, LM
13	Manufacturing	Twice a week	80	40	TM, PM, LM
14	Manufacturing	Twice a week	100	1	TM, PM, LM
15	IT	Monthly	30	40	TM, PM, LM
16	Policy development	Every 2 weeks	-	3	PM, LM
17	Consultancy	Weekly	25	1	TM, PM

As this study focuses on direct leadership that occurs in interaction with others, we analyzed data from projects with differences in interaction opportunities. Our sample includes projects with a wide range of frequencies of formal project team meetings (ranging from daily to no formal meetings with project team members), major differences in the percentage of time project team members spent on the focal project (ranging from 100 to 5 percent), and a wide spread in the amount of projects that project managers simultaneously work on (ranging from 1 to 40 projects). In order to approach the project settings from multiple perspectives individual interviews were held with project team members, project managers and line managers involved with the projects. Striving to include these three perspectives allowed us to triangulate the descriptions of the project context and leadership practices (Miles & Huberman, 1994).

As our focus is on leadership practices, the interviews dealt with the everyday leadership activities in the focal project (see Appendix 2 for the interview protocol). During the interviews open and probing questions were used to elicit responses about leadership in the context of the project. The semi–structured interviews were designed to elicit responses on the background and role of the interviewee, the way in which work in the focal project unfolded, and leadership practices in the project. The interviews lasted an average of 1 hour and 20 minutes, and were all recorded with the consent of the interviewees. Interviews were transcribed verbatim (resulting in 1099 pages of transcript) and imported into NVivo 9 for analysis.

We analyzed the interviews to identify leadership practices in projects. We examined the nature of these practices and whether they enabled contextual ambidexterity. We categorized the leadership practices into the strategies of enabling exploration and enabling exploitation. We identified that the leadership practices enacted to enable exploration stimulated a higher complexity of responses, whereas the leadership practices enacted to enable exploitation stimulated a lower complexity of responses. This led us to a further categorization of the impact of leadership practices on the complexity of stimuli, namely through their impact on either the complexity of beliefs or the complexity of actions (see table 2 for an overview of the leadership strategies and practices identified in the analysis). While we did not confine our analysis to leadership practices enacted by those in a formal management role (line or project managers), the vast majority of the identified leadership practices were enacted by those who are in formal leadership roles and we thus refer to the ones enacting these practices as 'leaders'.

Table 2 Leadership strategies and practices

Leadership strategies	Impact on type of responses	Leadership practices; examples
Enabling exploration by stimulating a higher complexity of responses	Stimulate a higher complexity of beliefs	Involve others
		Stimulate group discussion
		Encourage boundary spanning
		Stimulate personal development
		Be available, listen, and suggest solutions
		Stimulate the adoption of values such as; Transparency Connectedness Valuing diversity
	Stimulate a higher complexity of actions	Give freedom
		Work together
		Accept mistakes
Enabling exploitation by stimulating a lower complexity of responses	Stimulate a lower complexity of beliefs	Stop discussion
		Don't involve others
		Stimulate the adoption of values such as; Wariness (calculated risks) Stick to agreements
	Stimulate a lower complexity of actions	Decide
		Enforce rules
		Redirect effort to fit management expectations

3 RESULTS

The results show a range of leadership practices that were enacted by leaders in project-based organizations to enable contextual ambidexterity. These leadership practices, stimulating either exploration or exploitation, did not enable contextual ambidexterity individually, but they did this in concert with each other. Every leader enacted leadership practices to enable exploration and leadership practices that enabled exploitation.

The analysis also shows that leadership was enacted in an adaptive way to adjust to the complexity of stimuli the leaders face. Specifically, the results show that the higher the complexity of stimuli from the context, the more the leaders did to enable exploration. In the following two quotes a project manager and a line manager explained that projects that were perceived to have a high level of complexity called for a focus on enabling exploration in the form of stimulating interaction:

'And generally they all have that they search for connection, because in the end you are all very dependent upon the other. That is because of the complexity, is almost tied to it one on one, that everything responds to each other, so well, then you also become dependent upon each other.' (Project manager 1, project 11)

'There have to be seven thousand homes and the ambition (…) is to do that as sustainable as possible. And that means that they have become separated from all standard ways of how things usually go. Actually, what they said like "independently from that, we have to sit down with a lot of people, in different forms, different forums, different tiers, just talk like, what do we want in this neighborhood.' (Line manager, project 10)

3.1 Leadership practices to enable exploration

The results show a wide variety of leadership practices used to enable exploration in project-based organizations. These practices directed at enabling exploration by stimulating a higher complexity of responses can be divided into two different pathways, namely stimulating this through their impact on the complexity of beliefs or the complexity of actions (see table 3 for an overview).

Table 3: Leadership practices to enable exploration

Enabling exploration by stimulating a higher complexity of responses through:	Sample quotes
Beliefs	Involve others: 'And that means that the moment we do new things with respect to prognosis or something like that, we involve the people that have to actually receive it, involve them in what we do.' (Project manager 1, project 11)
	Stimulate discussion: 'Sometimes it is just handy if you all engage in that debate and also come to a solution from different point of view.' (Project manager, project 18)
	Encourage boundary spanning: 'You notice that we have to coach some people on it. And you also see some people who just pick it up themselves. Just because they see model behavior. That has happened more often lately, that people say, like "yes, when you did it that way, something clicked with me and from then on I also started looking for some contacts".' (Project manager 2, project 11)
	Stimulate development: 'What I often do when we have setbacks like: "Gosh, look what is happening here, and what can you learn from that and how can you do that differently next time." Much more looking for, so to say, the continuous learning and development.' (Line manager, project 18)
	Be available: 'Keep doors open' (Line manager, project 1)
	Listen: 'Just listen ... and be open to other arguments' (Project manager, project 7)
	Suggest solutions: 'You are expected to come with solutions. And then you can discuss with us about what are we going to do, and maybe you get one extra [solution] from us, but you can't just say "we just throw it all up" [for someone higher up in the hierarchy to solve it].' (Project manager 1, project 11)
	Stimulate shared values - Transparency: 'She is very open (...) about the things that are at play at [employer].' (Team member, project 10)
	Stimulate shared values - Value diversity: 'So those are actually the three pillars of: mutual understanding, appeal to expertise, and also just keep emphasizing, like, try to do it in proper consultation with the process that has to continue.' (Project manager, project 8)
	Stimulate shared values - Connectedness, value diversity & transparency: PM1: 'We believe in the power of connection between parties... and with that comes thinking about what the interest of another is. (..) PM2: So, with that also comes that you are very open about what moves you. Because then the other can also see your interest, also your concerns and see your doubts. In my opinion that is also that openness and transparency that's important there.' (Project managers 1 and 2, project 11)
Actions	Give freedom: 'We just said to those five project leaders, uh, [the project manager] said, like "you have to involve who you need yourself". And said to everyone, well "you go about it in your own way". So those five, those are also five differently running projects.' (Team member, project 10)
	Work together: 'I really steer towards a team effort.' (Project manager, project 12)
	Accept mistakes: 'I think in a project, when you are project leader, there are always things that go wrong. So you have to bear that in mind anyway.' (Project manager, project 17)

A first way in which leaders stimulated the development of a higher complexity of beliefs is by involving others in a task and stimulating discussion (see table 3). By involving more people in a project or the accomplishment of another type of task, especially people with different backgrounds and beliefs than those already involved, leaders aimed to enable the group to take into account a wider variety of beliefs. Stimulating discussion played a major role in this process because discussion could surface conflicting beliefs and enabled people to work through the tension this brings with it. For example, one project team member explained how a more senior member of his project team sensed conflicting beliefs between him and another team member and enabled them to bridge their differences:

> 'She gets up and says "you and you, come with me now!". So we go into that meeting room and start cursing and shouting and emotionally drawing stuff on a whiteboard, (…) but that is our way of working, that's how we work with each other and that takes 10 minutes and then all of a sudden one says like "Oh, right" (…) "That way you kind of have a point".' (Team member, project 5)

Another way in which leaders stimulated the development of a higher complexity of beliefs is by encouraging boundary spanning. They motivated team members to interact with others outside their own team, increasing the chances of picking up new perspectives and developing new solutions to issues. Leaders also stimulated an increase in the complexity of beliefs by encouraging the individual development of others. We find that this individual development stimulated the complexity of beliefs held by that person by making sure they took a step back and reflected on their work to see it in a new light. In addition, leaders stimulated a higher complexity of beliefs by simply being available, listening to others, and suggesting solutions to current issues. This enabled others to share their ideas and problems with the leader, and get new ideas from him or her (see table 3 for sample quotes that illustrate these leadership practices).

The leadership practices discussed above do not, by themselves, guarantee successful exploration. The last type of leadership practice the leaders in our sample used to enable a higher complexity of beliefs is stimulating the adoption of values related to exploration. Stimulating a high complexity of beliefs lead to difficulties bridging these differences. When project team members shared values related to exploration such as embracing diversity, this enabled a process of constructively exploring a high complexity of beliefs, without differences turning into irresolvable conflict and diminishing understanding and respect for each other. Leaders thus

tried to increase the salience of values related to exploration, such as transparency in interaction, connectedness among individuals and valuing the diversity among these individuals. In one of the projects the two project managers explicitly tried to refocus the values of the project they joined halfway to increase the salience of transparency in order to cope with communication and coordination problems within and especially outside their team. In the following quote they explained the advantages of sharing the value of transparency.

> 'We involve them in what we do. So we make it all very transparent, which has a number of advantages. One, they know exactly what's happening. Two, they can influence what we produce. On the other hand that means that if we've produced something they can't say 'yeah but we can't use that at all', so we commit them. Plus, with each other, they see a part of reality and we see a part of reality, if we put those images together we see as much as possible, so it also improves integral quality.' (Project manager, project 11)

A second way in which leaders enabled exploration is by stimulating a higher complexity of actions. A leadership practice used to accomplish this is giving others freedom in the accomplishment of their tasks. This allowed everyone to solve problems in their own way leading to a high complexity of actions taken. One line manager explained he thinks getting freedom in task accomplishment is motivating and leads to unexpected, but generally positive outcomes:

> 'Well, you motivate, that is my opinion, by giving them lots of freedom and because of that let go, because of which things arise spontaneously that you did not expect and neither did they. But in general the experience is that these turn out to be positive.' (Line manager, project 13)

Leaders gave freedom by accepting ways of thinking and acting that were not fully in line with their own, instead of redirecting others when this occurs. In the following quote a team member described that, as his manager follows through with the given freedom by accepting other ways of thinking and doing, he gained confidence that would be lost when his manager would intervene:

'[He] is a manager who can delegate very nicely and dares to give you responsibility for it. (…) That, as I said, you don't have to be continuously afraid that he intervenes or that you don't do the way he wants it. I mean, that will happen regularly, that does happen regularly, that he says "well I would have done it differently, but well this is also a good way". So it gives you a lot of confidence'. (Team member, project 12)

Another leadership practice used to enable exploration through a higher complexity of actions was encouraging people to work together. Motivating people to work together instead of individually helped them to adjust their actions to those of others in an iterative way (see table 3 for further examples of these practices). Accepting mistakes is a last leadership practice used to enable exploration. This practice helped create a sense of safety that enabled people to show initiative and proactively experiment with new actions. A project team member illustrated the leadership practice of accepting mistakes by explaining that his project manager will back team members up in case their initiatives don't turn out to be successful:

'At the moment things go wrong, (…) he will never say (…) "Yeah, but that's not your task", or "you shouldn't have interfered with that", or, so he never goes back on you'. (Team member, project 7)

3.2 Leadership practices to enable exploitation

The analysis of our material also reveals a number of leadership practices used to enable exploitation (see table 4 for an overview). Similar to the leadership practices used to enable exploration, the leadership practices used to enable exploitation can be categorized into two distinct pathways, namely beliefs and actions.

The first pathway through which leaders enabled exploitation is stimulating a lower complexity of beliefs. Our results show that leaders often did this by stopping a discussion or by not involving others in the conversation. Limiting discussion was often done when a leader perceived that the downsides in terms of the time that was spent on discussion outweighed the benefits of further discussion. In our sample it was often the project manager specifically who took the initiative to stop discussions or limit the amount of people involved in such discussions. Formal project leaders often saw it as their responsibility to make sure their team members were not dragged into every discussion, or as one of them put it: 'I actually keep them out of the wind

of that difficult client' (Project manager, project 7). Finally, leaders stimulated a lower complexity of beliefs by stimulating the adoption of values related to exploitation. The values related to exploitation that some leaders in our sample tried to make more salient at times include wariness or taking calculated risks and sticking to agreements (for examples of the quotes that illustrate these leadership practices see table 4).

Table 4: Leadership practices to enable exploitation

Enabling exploitation by stimulating a lower complexity of responses through:	Sample quotes
Beliefs	Stop discussion: 'So during building meetings he can really pound his fist on the table and say "yes alright, but where does this all lead? I mean, a decision has to be taken and I want to get this on the table now".' (Team member, project 3) Don't involve others: 'What I hope is that they realize that I catch things for them and that I only give them those things that really need to get done.' (Project manager, project 1) Stimulate shared values - Stick to agreements: 'And I notice very clearly like: a deal is a deal. And I think that is very strong.' (Team member, project 20) Stimulate shared values - Wariness/taking calculated risks: 'Look, the moment you say that you think wariness is an important value, right? So taking calculated risks. (…) Then that only gets clear the moment a decision has to be taken. "Do we go for it or do we look into one more thing?" Well, at a moment like that it becomes clear, at a moment like that the line is created, also where the dividing line is.' (Project manager 1, project 11)
Actions	Decide: 'But some things you don't want and then you have to push them through, even though he says no.' (Line manager, project 1) Enforce rules: 'Time is time, for example. That mentality I really had to push through at first. (…) So first I just looked [as project team members came late for a meeting]. A second time I said something about it. And a third time it happens again. Then, after sitting still for two minutes, I packed my stuff and went back up [to my office]. Then I gave out tasks in a really directive manner.' (Line manager, project 1) Redirect effort to fit management expectations: 'Then, I read things and at a certain point I say, "no, it has to be different. It has to be like this, you should have asked this." And then you're being a bit corrective.' (Team member, project 1)

A second pathway through which leaders stimulated others to reduce the complexity of responses is by stimulating a lower complexity of actions. These leadership practices included making decisions, enforcing rules, and redirecting effort to fit management expectations. Leaders reduced the complexity of actions by making decisions and enforcing rules as these decisions and rules gave guidance to people's actions. The more detailed the decisions and the rules that were enforced, the lower the complexity of actions that still fitted within the boundaries that were being developed (see table 4).

Another frequently mentioned leadership practice that was directed at reducing the complexity of actions was redirecting effort. This involved either changing the course of someone's actions to fit management expectations or trying to limit the complexity of actions to a smaller bandwidth. Explaining the first route of redirecting effort, one team member described how his project manager tried to change his course of actions: 'We have a certain goal and it can then be the case that I drift a little and that he says like "Hey, back on the track, we have to go straight, that way".' (Team member, project 5). Explaining the second route of redirecting effort a line manager described how he tried to limit the bandwidth of the complexity of actions in his team: 'What I also tried to get across is that you shouldn't endlessly continue with thinking of new possibilities, new variants and that you especially have to look at what is being asked, and deliver that.' (Line manager, project 9).

Summarizing, the results show that leaders in project-based organizations enact a range of leadership practices. These leadership practices either enable exploitation by stimulating a lower complexity of responses, or enable exploration by stimulating a higher complexity of responses. As leaders in project-based organizations enact both leadership practices that stimulate exploitation and leadership practices that stimulate exploration. These leaders are enabling contextual ambidexterity.

The leadership practices identified in this study have an impact on two aspects of the complexity of responses; the complexity of beliefs and the complexity of actions. The leadership practices used to enable exploration by stimulating a higher complexity of beliefs revolve around bringing together a more diverse set of people and ideas and bridging these differences through values related to exploration such as transparency, valuing diversity and connectedness. Stimulating exploration through a higher complexity of actions mainly involves leadership practices that facilitate team members to work together. In contrast, stimulating exploitation through lowering the complexity of beliefs involves leaders' decreasing interaction and limiting the diversity of people involved in the process. It also entails enhancing the salience of values related to exploitation such as sticking to agreements and being wary about taking risks. Leaders reduce the complexity of actions by enforcing tighter constraints on ways of working.

4 DISCUSSION

In this study we shed light on the role of leadership in enabling contextual ambidexterity in project-based organizations. The role of leadership in enabling ambidexterity and the dynamism of this process are not fully reflected in the current literature. In this study we focus on achieving ambidexterity as a dynamic, ongoing accomplishment rooted in day to day practices. The leadership practices identified in this study are not new in and of themselves. However, by showing how these leadership practices are used in concert with each other, our understanding of the role of leadership in enabling contextual ambidexterity in project-based organizations is enhanced.

4.1 Theoretical implications

Our findings concerning the role of leadership in enabling contextual ambidexterity have implications for our understanding of the nature of ambidexterity and may help to address some of the unresolved discussions in the ambidexterity literature. We will discuss the implications of our findings concerning the nature of ambidexterity, the optimum point of balance, the level of balancing, the nature of leadership in enabling contextual ambidexterity, and the direction in which these leadership efforts are actively pointed.

Raisch et al. (2009; 2008) state that while ambidexterity has been shown to be a dynamic accomplishment, it is often studied as if it is a stable characteristic of organizations. The implementation of an ambidextrous strategy is often portrayed as a rational top down process in which the main challenges are for top management to set the right organizational structures in place and provide a fitting organizational context. In the current study, we show how ambidexterity is dynamically accomplished through leadership practices. Our results show how contextual ambidexterity emerges in interaction between people and their interpretations of the environment. Our study highlights the importance of everyday practices that people enact in interaction with each other and in light of their interpretations of the environment. This resonates with recent trends in the organizational literature that focus on how strategy and performance emerge through micro level practices (Eisenhardt et al., 2010; Feldman & Orlikowski, 2011; Jarzabkowski, 2003). More specifically, by exploring the leadership practices that are enacted within organizational subsystems we start to show how contextual ambidexterity emerges in interaction between people.

The optimum point in achieving ambidexterity is often seen as equal exploration and exploitation (e.g. He & Wong, 2004). However, as exploitation is more important

in stable environments and exploration is more important in unstable environments (Burns & Stalker, 1961; Hannan & Freeman, 1984), it seems more convincing that this optimum is dependent upon the environment (Davis, Eisenhardt, & Bingham, 2009; Sidhu, Volberda, & Commandeur, 2004). Our results support the perspective that the optimum balance of exploration and exploitation is dependent upon the context. In a context that continuously changes, this optimum level is a moving target. This makes creating and sustaining ambidexterity in its optimal form a dynamic process that requires continuous adaptation, which can be enabled through leadership practices.

In this study, we have focused on project-based organizations, a context in which finiteness and complexity are core characteristics of organizing that create demands for contextual ambidexterity. Our results show that in this context, individuals can enable both exploration and exploitation simultaneously. In the ambidexterity literature, there are some debates about the ability of individuals to enable both exploration and exploitation. Some authors doubt whether individuals are able to do both (Schreyogg & Sydow, 2010), whereas others have indicated individuals are able to do this (Raisch et al., 2009). Highlighting how individual leaders enable both exploration and exploitation, our findings provide support for claims in this latter stream of literature. Beyond showing that individuals are able to stimulate both exploration and exploitation, our examination of this context provides a fine-grained empirical illustration of day to day leadership practices and how these are enacted in concert with each other in an adaptive way to create and sustain contextual ambidexterity.

As noted, in studies that have focused on the role of leadership in enabling ambidexterity, this role is often assumed to be stable over time. In the context of structurally differentiated ambidexterity, the leadership role of the top management team is considered to be of crucial importance in bringing exploration oriented sub-systems and exploitation oriented sub-systems together. This strategic bridging role is portrayed as a stable style. Similar to top management teams in structurally differentiated ambidextrous organizations, leaders in contextually ambidextrous sub-systems also have to combine efforts to stimulate exploration and to stimulate exploitation. At this lower level, leaders are also often assumed to enact a stable style (e.g. transformational leadership) or create a stable culture that accommodates both exploration and exploitation.

An exception is the work by Rosing et al. (2011) who emphasize how leadership is adapted to fulfill the iterative needs for creativity and implementation in the innovation process. Though their model suggests distinct transitions between leadership for exploration and leadership for exploitation, our results go beyond this and suggests that leadership for contextual ambidexterity involves simultaneous leadership efforts for enabling exploration and exploitation in which the focus

shifts in a dynamic manner. In addition, the results of the current study highlight a broader application of adapting leadership practices not only to create contextual ambidexterity, but to sustain it in a dynamic fashion.

Whereas Rosing et al. (2011) concentrate on changing leadership practices to fit the iterative needs of the innovation process, the results of the current study show this process of adaptation is more broadly applicable to efforts to adjust the complexity of responses to the complexity of stimuli from the environment in a continuous manner in organizational subsystems. These findings on how leadership efforts are used to match the complexity of responses to the complexity of stimuli coalesce with the idea of requisite complexity, which explains that organizations have to respond to complexity in the environment with an equal complexity of responses (Boisot & McKelvey, 2010). Our findings provide a fine grained understanding of the ways in which leadership influences the complexity of responses in an organization, by distinguishing between the complexity of beliefs and the complexity of actions.

The role of leaders in enabling exploration and exploitation is contested in the literature. Whereas some authors state that leaders should support both exploration and exploitation (Smith & Lewis, 2011), others argue that leaders should focus on enabling exploration as organizations inherently drift towards exploitation over time (Eisenhardt et al., 2010). Our findings in project-based organizations suggest that leaders in these contexts play an active role not just in stimulating a higher complexity of responses to support exploration but also in stimulating a lower complexity of responses to underpin a more exploitative orientation. These results show that a lower complexity of responses is not purely the result of drift, but also of actively and adaptively stimulating a lower complexity of responses.

4.2 Managerial implications

In order to enable contextual ambidexterity, leaders enact practices that support both exploration and exploitation, and continuously adapt their leadership practices to fit the context. Our results show that leaders in project-based organizations, who explicitly face the dual demands for exploitation and exploration, already do these things intuitively. However, explicitly discussing the role of leadership in enabling ambidexterity can improve awareness of these leadership strategies and practices among leaders along with the effectiveness of these practices.

Leaders can do this by reflecting on whether and in what ways they seek to shape the complexity of beliefs and actions of others, and what other leadership practices they could enact to create ambidexterity. They can also more consciously address how they adapt their leadership practices to the context, and whether this always enables them to more fully adapt to the complexity of the environment in

order to sustain ambidexterity. In addition, discussing this with others can stimulate positive reactions to these leadership strategies and practices by showing them that their leadership strategies are not randomly shifting, but are consistently inconsistent.

Human resource managers and top managers of organizations can also play an important role in this process by helping to create the appropriate context for leadership that enables ambidexterity. They can do this by creating opportunities for discussion about organizing for ambidexterity and encouraging others to see ambidexterity as a leadership challenge that requires continuous attention and adaptation.

4.3 Limitations and future research

In the current study we have shown how leaders in project-based organizations enable contextual ambidexterity through leadership practices that stimulate exploration and exploitation. In order to shed light on the role of leadership in creating and sustaining ambidexterity we have conducted interviews in project-based organizations as the demands for ambidexterity are explicitly pronounced in these organizations. The extent to which people act ambidextrously is expected to depend on their organizational context (Raisch et al., 2009). We have identified how leaders in organizational subsystems can enable contextual ambidexterity in the context of project-based organizations, but in contexts with less explicit demands for both exploration and exploitation within subsystems, leader in these subsystems might not always be involved in stimulating both exploration and exploitation. Thus, future research is needed to test whether our findings hold in other types of organizations, and to explore to what extent patterns might be different.

In addition, we do not claim this list of practices is complete, but rather we suggest that these practices illustrate in what ways the leadership strategies of exploration and exploitation are enacted. Future research might show how leadership practices are used to enact these leadership strategies in contexts with other interaction opportunities, or in other types of organizations.

By distinguishing between leadership practices that are aimed at influencing the complexity of beliefs and those that influence the complexity of actions, we provide a more nuanced view of the ways in which leaders affect the complexity of responses to create and sustain contextual ambidexterity. However, we do not see this distinction as an end point, but rather as a starting point for getting to grips with the complexity of reactions, providing a spring board for more detailed classifications.

In the current study we have attempted to further understanding of how leaders in project-based organizations enable and sustain contextual ambidexterity. We have shed light on the everyday leadership practices through which leaders can play an

important role in enabling contextual ambidexterity. We hope the current study opens up pathways for future explorations into the dynamic nature of ambidexterity and the role of leadership in its emergence.

CHAPTER 4

BALANCING DISINTEGRATIVE
AND INTEGRATIVE TENDENCIES:
LEADERSHIP FOR SHARED
PROJECT IDENTIFICATION

ABSTRACT

Project teams are subject to disintegrative tendencies arising from team diversity and the finite nature of projects. These disintegrative tendencies should not be eliminated, arising as they do from project team characteristics that are essential for effective project working. Rather, they should be balanced with integrative tendencies. We propose that the development of shared identification with the project can act as an important integrative tendency in projects and that leadership plays a crucial role in stimulating this shared project identification. In the current paper we study the role of leadership in enabling shared identification as an integrative tendency in project teams in two studies, one using qualitative and the other using quantitative data. In these studies we explore the integrative and disintegrative tendencies in project teams, the practices project leaders implement to stimulate shared project identification, and how such leadership practices vary in different contexts.

1 INTRODUCTION

1.1 Balancing disintegrative tendencies with integrative tendencies

In project-based organizations most activities are organized in projects that tend to emerge in response to evolving pressures and market and technological demands (Hoegl & Weinkauf, 2005; Keegan & Turner, 2002). These projects enable them to deal with complex problems and adapting to continuously changing conditions (Bresnen et al., 2004; Sydow et al., 2004). In order to effectively deal with the complexity of environmental stimuli, the organization and its sub systems must respond with a similar complexity of responses, or in other words, approach requisite complexity (Boisot & McKelvey, 2010). An important way in which project-based organizations respond to environmental stimuli, in the form of market and technological demands, is by initiating projects (Hoegl & Weinkauf, 2005; Keegan & Turner, 2002). Characteristics of project work that are vital ingredients in allowing organizations to approach requisite complexity are diversity of project team members and the finite nature of projects.

The diversity of project team members typically derives from the combination of team members coming from a variety of professional disciplines, and can derive from multiple employing organizations and multiple work locations (Espinosa, Cummings, Wilson, & Pearce, 2003; Espinosa et al., 2007; Hinds & Mortensen, 2005; Söderlund, 2004; Sydow et al., 2004). This diversity in project team members is accompanied by a high variety of beliefs related to team members' different backgrounds. This variety of beliefs triggers adaptive tension to elaborate and adjust (Uhl-Bien & Marion, 2009), which can enable the project team to more fully understand the situation and identify more solutions (Weick, 1995). Diversity of project team members and the resulting variety of beliefs are vital ingredients in approaching requisite complexity as they enable increasing the complexity of responses (Uhl-Bien et al., 2007).

Though projects vary widely in their duration, all projects are finite by nature (Sydow et al., 2004; Turner, 2006). Project team members are sometimes only involved in the project for a part of its duration or only involved in the project part time, having to spread their attention across a number of different projects and tasks. This finiteness of team members' involvement in each project, and the related time pressure, allows organizations involved not to waste resources as it pushes project team members to work efficiently (Lundin & Söderholm, 1995). They can do this by quickly finding agreement on certain aspects of the work, such as overall goals, division of tasks and planning, in effect reducing the variety of beliefs on these issues. Overall, the finiteness of team members' involvement in projects and the resulting push for efficient use of resources are vital ingredients in approaching requisite

complexity by decreasing the complexity of responses.

However, while the functional, organizational, and geographic diversity that can be embedded in project teams, and the finite nature of projects, are needed to approach requisite complexity, they also constitute strong disintegrative tendencies that can pull these teams apart (Kolb & Putnam, 1992; Morgan, 1981). Disintegrative tendencies are tendencies of a group that inhibit the development of shared understanding and unified group work (Kolb & Putnam, 1992; Morgan, 1981). Diversity based on functional background, organizational affiliation, or geographic work location, is a disintegrative tendency as it reflects differences between project team members that need to be bridged in order to develop a shared understanding and unified way of working (Ospina & Foldy, 2010). Individual differences can lead to negative affective reactions (Jackson, Joshi, & Erhardt, 2003). For example, professional diversity, which is part of functional diversity, is negatively associated with team effectiveness under conditions of high identity threat (Mitchell, Parker, & Giles, 2011). In addition, diversity in the form of geographically distributed project team members can present a disintegrative tendency as their geographical distance from one another can strengthen task and relational conflict and weaken employee attachment (Hinds & Bailey, 2003; Hinds & Mortensen, 2005; Wiesenfeld, Raghuram, & Garud, 1999). Finiteness of the project can form a disintegrative tendency as it limits the amount of time available to bridge these differences. In this way these disintegrative tendencies of diversity and finiteness can lead to a lack of meaningful interaction among team members.

Project teams are often strongly characterized by these disintegrative tendencies. Project teams often consist of team members with a wide range of backgrounds, bringing together people with diverse areas of expertise and conflicting values. In addition, project workers are often employed by different organizations leading to conflicts of interests within the team. These project workers might have never met each other before the start of the project, and even have limited contact during the project as they work from different locations. In addition, the time available to get to know each other and overcome differences is limited by the finite nature of projects, people working on multiple projects at the same time and team members moving in and out of the project team depending on the demand for their expertise within the project and elsewhere. Understandably, these conditions of project work pose significant challenges in developing unified group work and shared understanding. However, Morgan (1981) states that: 'The continued survival of social systems is problematic and hinges upon a balance between disintegrative and integrative tendencies' (p. 40).

As diversity and finiteness are crucial to the project team's ability to approach requisite complexity, disintegrative tendencies should not be countered directly. Instead, they should be balanced with strong integrative tendencies that can

bring the project team together. One important integrative tendency in projects is the development of shared identification among team members. Stimulating the development of shared values is a strategy to preserve and manage differences (Eisenberg, 1984). In a similar vein, Ospina and Foldy (2010) show that by naming and shaping identity, leaders can bridge differences without necessarily reducing them. Hinds and Bailey (2003) argue that shared team identity will serve as a countervailing force to the disintegrative effects of geographical distribution, and Mitchell et al. (2011) show that teams with a strong team identity are able to turn their inter-professional diversity into an effective dynamic.

Identification can relate to specific foci such as the project, the department or the organization as a whole. As the effects of identification are strongest for the specific focus of the identification (Riketta & Van Dick, 2005), and the disintegrative tendencies of diversity and finiteness mainly stem from the nature of projects, we expect these disintegrative tendencies can most effectively be balanced by integrative tendencies resulting from strong project identification as opposed to identification with other organizational foci.

1.2 Benefits of project identification

Shared project identification can be important for the individuals involved in a project, and can contribute to the successful completion of projects and the success of project-based organizations as a whole. Strong identification with organizationally relevant foci provides employees with guidance and enhances psychological safety (Shamir, 1999) as well as helping to fulfill the psychological need for relatedness (Deci & Ryan, 2000). Identification can also increase levels of effort and enable decision making that is more beneficial to the focus of identification (Ashforth, Rogers, & Corley, 2011).

In order for the organization to effectively adapt to complex environments, organizational identity should be dynamic and mutable (Gioia, Schultz, & Corley, 2000). This flexibility of identity should facilitate adaptation to the environment (Ashforth et al., 2011). If identification is not fluid, identities can become core rigidities based around organizational characteristics that are no longer effective in responding to an unfolding environment (Fiol, 2001; Schreyögg & Sydow, 2010). Identities at different levels both enable and constrain each other (Ashforth et al., 2011). Because of this, strong identification with projects is also important for the success of the project-based organization as a whole. Shifting situated identifications tied to projects can make organizational identities more fluid and allow the organization to respond to change (Fiol, 2001). In other words, project identification, which can be fully or partly nested within organizational identification, can

contribute to the overall adaptability of the organizational identity. By stimulating project identification leaders stimulate the development of integrative tendencies in an attempt to balance the disintegrative tendencies in projects, while at the same time increasing the chances of project success, and preventing organizational identity from turning into a core rigidity.

1.3 Challenges to developing shared project identification

Paradoxically, though the disintegrative tendencies embedded in projects increase the need for the development of strong integrative tendencies such as shared project identification, these disintegrative tendencies also inhibit the development of shared project identification. The finite nature of projects can lead to a lack of identification with the project. Due to the finite nature of projects, deep structure identification with the project is less likely to develop as this takes time. Project identification is likely to take the form of situated identification, as opposed to deep structure identification, because situated identification is formed by immediate environmental stimuli that signal shared goals, such as working towards a deadline of a project (Rousseau, 1998). These situational cues influence workers in real time, which can lead to swift trust and transform strangers into an effective team as long as the cues persist (Rousseau, 1998). However, the disintegrative tendencies of functional, organizational and/or geographic diversity, that can be embedded in projects can inhibit the development situated identification with the project.

The potential geographical distribution of project team members can reduce the availability of social cues, needed for the development of identification (George & Chattopadhyay, 2005). The geographical distribution of the project team influences the level and type of interaction between team members. The face-to-face interaction that comes with physical co-location involves rich social and physical cues that shape the development of identification (Fiol & O'Connor, 2005). For example, Millward, Haslam and Postmes (2007) have found hot desking, an externalizing strategy in which no fixed desks are assigned to employees, shifts the primary focus of identification from the team to the organization.

The construction of identity in projects will also be influenced by their potential multi-functional, and often multi-organizational nature, making project identity a multiple and cross-cutting concept (Marshall, 2001). The inter-organizational nature of many projects inhibits spillover effects from deep structure identification with the organization to situated identification with the projects. Meyer, Becker and Van Dick (2006) propose that for interdependent foci (such as the organization and the project) deep structure identification with one can contribute to situated identification with the other. However, many projects are not fully embedded within the organization,

but are entities that cross organizational boundaries (e.g. Clegg, Pitsis, Rura-Polley, & Marosszeky, 2002; Söderlund, 2004). The client of the project can be external to the employing organization of a project member and the project team can be composed of employees from a number of different organizations. Their inter-organizational nature makes them less dependent upon one organization than projects that are fully embedded in one organization. For these inter-organizational projects, the interpretative schemes of project team members are likely to be divergent and conflicting (Bresnen et al., 2004). This can lead to low levels of belonging or conflicts between organizational and project identification (Alvesson, 2000), which can come with less helping behaviors in the group (Den Hartog, De Hoogh, & Keegan, 2007). This reduced interdependence between project and organization could lead to reduced spillover effects from organizational identification to project identification.

Because situated identification needs ongoing situational cues to develop and persist, and the disintegrative tendencies embedded in projects inhibit the development of shared project identification, shared project identification cannot be expected to develop automatically. Leadership is expected to play a major role in the development of shared project identification.

1.4 Leadership to stimulate project identification

As projects with strong disintegrative tendencies do not only increase the need for shared identification as a balancing integrative tendency, but also come with additional challenges to developing shared identification, it is important to enable the development of strong shared identification. Some authors hold that leadership is needed to bring the project team together in the midst of forces that can pull them apart (Alvesson, 1992; Shamir, 1999). This is why authors such as Shamir (1999) and Alvesson (1992; 2000) have argued that leadership in organizations facing complex environments should mainly focus on stimulating identification. Organizational members have considerable influence on the development of their own organizationally relevant identifications (e.g. by processes of distancing (Kosmala & Herrbach, 2006)). However, leaders, and especially officially appointed leaders, can also have a substantial impact on the development of these identifications because of their central role in interaction in the organization and the tendency to idealize leaders (Brown, 2006; Chreim, 2002; Stacey, 2010).

Leaders can stimulate identification in multiple ways. They can do this by naming and shaping identity (Ospina & Foldy, 2010) and by stimulating identification through unifying leadership that aims to maintain a collective identity and shape efforts for both exploration and exploitation (Hazy, 2007). In addition, research suggests that leadership practices likely have to be adjusted to the level of identification already

in place (van Knippenberg, van Knippenberg, De Cremer, & Hogg, 2004). Leaders should enable a process of identity construction that also takes into account flexibility, in order to prevent identity from turning into a rigidity (Schreyogg & Sydow, 2010).

An important path through which project identification can develop is through interaction. Identities can be seen as 'complexes of in-progress stories' (Brown, 2006, p 732) or a pattern of interaction (Humphreys & Brown, 2002). Identities are shared when rules of interaction are shared (Hazy, 2012). Organizational identification has been shown to be actively shaped by interaction (Jones & Volpe, 2011; Wiesenfeld et al., 1999). Enabling the development of identification can be done through the development of a strong communication climate (Bartels, Pruyn, de Jong, & Joustra, 2007), contact of high intensity and duration (Dutton, Dukerich, & Harquail, 1994), effective informal discussions (Alvesson, 1992), and spontaneous communication (Hinds & Mortensen, 2005). As identification is shaped through processes of interacting (George & Chattopadhyay, 2005), Jones and Volpe (2011) propose that leaders can stimulate identification by enabling social interaction and relationship development among members. More specifically, as efforts to strengthen identification have the strongest positive effect on identification with the focus to which these effort pertain (Reade, 2001), we expect the development of project identification will especially be enabled by interaction on, during, and through projects.

1.5 The current study

Previous research from a range of perspectives has highlighted two things. The first is the tension that can emerge in project work from the potential functional, organizational, and geographic diversity and the finite nature of projects. The second is the importance of identification for individual, group and organizational outcomes. In this paper we are specifically interested in how shared project identification provides a way of bridging differences in project teams without eliminating these, as such differences are not only essential for effective project work but also a source of difficulty in developing identification with the project. We aim to answer the following research question: How do leaders in project-based organizations use leadership practices to balance the disintegrative tendencies of diversity and finiteness with the integrative tendency of project identification? We examine empirically how leaders manage this balancing act. By studying leadership in light of the disintegrative tendencies embedded in the context we respond to calls to take context into account in examining leadership practices (Liden & Antonakis, 2009; Porter & McLaughlin, 2006).

The two studies presented in this paper explore how leaders balance the disintegrative tendencies in projects with integrative tendencies, and specifically

whether and how they stimulate identification with projects in order to achieve this. The studies focus on the officially appointed leaders responsible for the project (project managers), as such officially appointed leaders are proposed to have a major influence on the development of shared identification related to a focus (Brown, 2006; Chreim, 2002; Stacey, 2010). In Study 1 we conducted interviews to explore the disintegrative and integrative tendencies operating in the context of projects and the leadership practices with which project managers stimulate project identification. Subsequently, in Study 2 we conducted a survey study to address the generalizability of the leadership practices identified in Study 1. In Study 2 we also explore the extent to which project managers perceive project identification as an important issue, and how the leadership practices to stimulate identification vary in different project contexts.

2 METHOD STUDY 1

In order to explore leadership practices to stimulate project identification as a way to balance disintegrative and integrative tendencies in project team work, we analyzed data from 33 interviews drawn from a larger dataset (see table 1 for a summary of the interview sample). These individual semi-structured interviews were conducted with team members and their project managers in project-based organizations in the Netherlands (see Appendix 2 for the interview protocol). The interviews were grouped into 18 sets, each set including individual interviews with interviewees clustered around the same focal project. These focal projects were nearing completion or recently completed at the time of the interviews. Interviews focused on these focal projects. The interviews lasted an average of one hour and 17 minutes. We recorded all interviews with the consent of the interviewees and transcribed the interviews verbatim resulting in 807 pages of single spaced text.

Interviews were conducted in a variety of settings, including projects from multiple sectors (IT, organizational change and technology and construction) which allowed us to explore overarching rather than potential sector specific patterns in leadership in project-based organizations. The interviews were conducted in a relatively high number of projects with the disintegrative tendencies of diversity in the form of geographical spread of team members (12 out of 18 projects), and external clients (11 out of 18 projects), and prominent pressures from finiteness by selecting projects in which project team members simultaneously work on other tasks and projects beyond the focal project (10 out of 16 interviewed team members). This allowed us to uncover the ways in which project managers stimulate integrative tendencies to balance disintegrative tendencies.

Table 1 Summary of Interview Sample

Project number	Sector	Interviews with project manager (PM), project team member (TM)	Client is internal or external to the employer of the project manager	Project team is co-located or spread across multiple locations	Interviewed team member spends all time on the focal project or simultaneously works on other projects and tasks
1	IT	PM, TM	External	Co-located	Single
2	Technology and construction	PM, TM	External	Co-located	Multiple
3	Technology and construction	PM, TM	External	Spread	Multiple
4	IT	PM, TM	External	Spread	Multiple
5	IT	PM, TM	External	Spread	Single
6	Organizational change /IT	TM	External	Single team member	Single
7	IT	PM, TM	External	Spread	Single
8	Technology and construction	PM, TM	Internal	Co-located	Multiple
9	Technology and construction	PM, TM	Internal	Spread	Multiple
10	Technology and construction	PM	External	Spread	-
11	IT	PM, TM	External	Spread	Multiple
12	Technology and construction	PM, TM	External	Spread	Multiple
13	Technology and construction	PM, TM	Internal	Spread	Single
14	Organizational change	PM, TM	Internal	Co-located	Single
15	Organizational change	PM, TM	Internal	Spread	Multiple
16	IT	PM, TM	Internal	Co-located	Multiple
17	Organizational change	PM	Internal	Spread	-
18	Organizational change	PM, TM	External	Spread	Multiple

We uploaded our transcripts in NVivo 9 for analysis. We analyzed the qualitative material inductively to develop an understanding of disintegrative and integrative tendencies in project-based organizations and the role of leadership practices in

stimulating integrative tendencies through efforts to stimulate project identification. The results of this analysis are presented in the next section. They also provide the basis for the development of the survey for Study 2.

3 RESULTS STUDY 1

3.1 Integrative and disintegrative tendencies in projects

The results of the qualitative study show specific integrative and disintegrative tendencies in projects. These tendencies respectively enable and hinder the development of strong identification with the project.

The projects in our sample had one important integrative tendency in common, and that was the strong focus leaders placed on shared goals with clear deadlines. These shared goals and clear deadlines provided a metaphorical glue for the project team, attaching them to the goals and needs of the project. A project team member stated that after a certain period of time he felt more connected to the project he was working on than to his department, which was a few meters away and partially consisted of the same people. His attachment to the project increased because of a combination of 'putting more hours into it and that the end goal keeps getting closer and that you just work towards that even more.' (Team Member, Project 12)

However, without appropriate leadership, these integrative tendencies in project teams did not always lead to shared project identification. One interviewee illustrated this by explaining that within one project 'there was no feedback' and 'no form of communication' (Project Manager, Project 4). The project manager of this project only involved project team members individually to accomplish their own tasks. This interviewee stated 'there might have been a shared goal, but there was no shared bond.' (Project Manager, Project 4).

This leadership challenge to bring the project team together and stimulate shared project identification arose from the disintegrative tendencies of functional, organizational, and geographic diversity and finiteness. For example, a project manager stated that the combination of team members working only part time on the project and working from a diversity of locations hindered the development of shared project identification.

'From consulting they are all assigned to the project full time. Then it is easier to keep the team spirit. And here you are with a lot of different teams and everyone has his daily tasks next to it. And that is difficult, also to get them

together, because they are spread.' (Project Manager, Project 18)

The diversity in project work was seen by our interviewees as a strong disintegrative tendency as it came with conflicting perspectives and values which hindered the development of shared project identification. One form of diversity that was present in all projects in our sample is functional diversity. A project team member explained that people with different functional backgrounds in the project team can have very conflicting perspectives hindering the development of shared identification with the whole project.

'Programmers can really discuss something for days and that is wonderful. As long as there is no deadline and stuff, but yeah, then you have project managers who then, they come every once in a while to spoil everything and then you have to do all kinds of weird things.' (Team Member, Project 1)

Diversity in projects also arose from having multiple organizations involved, and hindered identification with the project. A project manager explained that he identified less with the project than with his employer because the project was done for an external client which made him an outsider:

'You enter there, you are also just seen as an external there, external expert who comes to help (…) so you have a different relationship with that.' (Project Manager, Project 5)

The finite nature of projects suggests that identification with projects forms a situated identification that needs ongoing cues to be developed and maintained. Our results show that even for projects with relatively low disintegrative tendencies, project identification could not be taken for granted. For example, a project manager who spent most of his hours of the week on a project for which he co-located the project team, explained how his identification with the project diminished immediately when situational cues diminished: 'I feel connected at the moment I'm there, but when I am working on something else for a day, then that connectedness is surely a lot less strong.' (Project Manager, Project 2)

In addition, the finite nature of projects and the continuous movement of project workers from project to project made people cautious not to identify too much

with the project. Or, as a project manager said: 'You know something is finite.' She explained that because of the finite nature of projects and on top of that the possibility that you will be pulled of the project before it ends, 'we have to be very flexible and not attach ourselves too much to a project and certain people.' (Project Manager, Project 18)

We can conclude that, leadership practices are needed to stimulate the development of shared identification as an integrative tendency that can balance out the disintegrative tendencies in projects. We continue to describe the specific leadership practices employed by project managers to stimulate shared project identification.

3.2 Leadership practices to stimulate project identification

The analysis of the data revealed how leaders in the sample overcame the challenges posed by the disintegrative tendencies in project work. The analysis of the qualitative material led to the identification of a number of leadership practices project managers used to stimulate shared project identification (see table 2). The most important leadership practices used by project managers to stimulate such shared project identification were aimed at stimulating interaction. Some tried to stimulate work related interaction by organizing meetings in which information about the project was shared by the project manager or in which discussion about the project among all project team members was stimulated. Another way in which project managers tried to stimulate work related interaction was by organizing excursions or inviting speakers. Project managers also aimed to stimulate project identification by stimulating non work related interaction by organizing events such as lunch, dinner, drinks, or other fun activities. They also aimed to stimulate identification by informing project team members about aspects of the project that were directly relevant to them to fulfill their tasks, or by also sharing other project related information that was not directly relevant for each project team member's tasks. For example, when asked what her project manager did to stimulate identification with the project a project team member answered: 'I think by being very open about what's going on, about what's going well and what's not going well. And… yes…surely also sociability. That's the most beautiful way to connect people to each other.' (Team Member, Project 16)

Table 2. Leadership practices used to stimulate project identification

Leadership practices	Sample quotes
Informing team members of developments regarding the project	'They are often highly educated people, often professionals, and if you just provide them with information, engage them, you very often get that back.' (Project Member, Project 4) 'It's about taking people with you the moment you do something of which you think the other can benefit from that.' (Project Manager, Project 11)
Organizing meetings at which project team members are informed of project progression	'As a project we often organize meetings to inform them. So every month there is such an information meeting in which everyone is informed about the goings of the project.' (Project Manager, Project 5) 'Then we just rent a restaurant and we just sit and get a business update like "guys, this is what we accomplished and this is how it went" and then it's just applauding for yourself and for each other in an American way and then we move on.' (Team Member, Project 5)
Organizing meetings at which the project is discussed by all project team members	'By sitting together at every meeting. (…) And because of that you create a connectedness, because we all talk about everyone's subject.' (Project Manager, Project 2) 'Or maybe it's getting time to just, uh, while enjoying a coffee and an almond cake, as a matter of speaking, just have the meeting.' (Team Member, Project 3)
Organizing excursion or speaker	'We've been saying for a year now we're going to [a park] because they have somewhat similar problems.' (Project Manager, Project 9)
Organizing lunch, dinner or drinks	'So we decided to have a sort of Christmas breakfast. Well, then everyone takes a lot of stuff with them. Really sociable!' (Team Member, Project 15) 'And especially for the big projects, then, after the first results, there is cake or a "beer-moment".' (Team Member, Project 14) 'A festive kick-off (…) Also with a sort of cooking workshop and drinks with everyone. So there you are already trying to get to know each other better.' (Project Manager, Project 20)
Organizing other non-work related activities	'We already celebrated Sinterklaas together twice. With a poem and a gift.' (Project Manager, Project 2)

The results of Study 1 highlight how the integrative and disintegrative tendencies in projects enable and inhibit the development of shared project identification. Most importantly the results show how project managers address the challenge of balancing disintegrative tendencies with integrative tendencies. The results indicate a number of leadership practices project managers use in their efforts to stimulate shared project identification. In Study 2 we further explore these leadership practices of project managers among a wider sample to assess how broadly used these practices are, what other practices are implemented, and how these leadership practices vary in different contexts. In addition, we explore how project managers perceive the strength and importance of shared project identification.

4 METHOD STUDY 2

In order to explore in a much wider sample whether leadership practices identified in Study 1 were generalizable, and further explore the extent to which project managers perceived shared project identification to be important for project success we administered an exploratory survey among project managers in the Netherlands (see Appendix 3 for the survey). We pretested our questionnaire by soliciting feedback on a preliminary version of the questionnaire from three experienced project managers who participated in Study 1. Based on their feedback we reworded some items.

Data collection for Study 2 started at a countrywide conference for project managers organized by the International Project Management Association the Netherlands. 132 paper questionnaires were handed out, of which 56 were returned. The response rate for the paper questionnaire was 42 percent. We continued data collection by distributing the same questionnaire online. With our online questionnaire we targeted a wide range of project managers through two routes. In the first online route the questionnaire was emailed and forwarded to 493 project managers, out of which 126 filled out the questionnaire. For this group the response rate was 25 percent. For the second online route we targeted project managers through web newsletters, at social network groups or other websites. Through this route 69 project managers responded to our questionnaire. As we cannot assess how many people have seen the link to our online questionnaire through these media we cannot assess the response rate for this second online route. Taken both online routes together, 195 people started filling out the questionnaire online, from which we excluded 35 in our analysis as these questionnaires were not filled out past the descriptive statistics. In total, including the paper and online questionnaire, we received 251 questionnaires, from which we used the 216 surveys that were completely filled out in our analysis.

Similar to the interviews, respondents of the survey were asked to keep one focal project in mind when answering the questions, because project managers often work on multiple projects at the same time. At the time the questionnaires were completed respondents were either still working on the project, or the project had been completed a maximum of 6 months before. The project managers in our sample represent projects from multiple application areas. The majority of the project managers filled out the questionnaire focusing on a project in the application area of information technology (68.1 %), while the, sometimes overlapping, application areas organizational change (36.6 %) and technology and construction (27.3 %) were also represented.

The focal projects in our sample had an average duration of 58 weeks, and the project managers were involved with the focal projects for an average of 41 weeks. On

average, the project managers in our sample worked on 3.4 projects simultaneously, spending an average of 26 hours a week on the focal project. The focal projects, on average, consisted of 19 project team members, all working an average of 0.7 FTE on the project. The project team members of one focal project on average represented employees of three different employers. Most project managers (89.3 %) did not have line authority over any of the project team members. The focal projects represented for 48.8 % projects in which the employer of the project manager was also the client of the project, and for 51.2 % projects in which the client of the project was external to the employer of the project manager is. The majority of these project teams were not co-located; only 13.1 % worked at one project location, 16.7 % worked in the same building, 38.9 % worked in a few sub groups on a few locations, and in 30.6 % of the focal projects team members worked individually spread in multiple locations.

4.1 Measures

Contextual measures   We included a number of measures to take into account the project context. We measured geographical spread of the project team by asking: 'Where do the team members work on the project?: Everyone works at one project location / everyone works in the same building / a few sub groups work on a few locations / the team members work individually spread on multiple locations'. We measured the diversity of professional disciplines of the project team by asking: 'How many professions are represented by the project team members? … disciplines' We measure the time spent on the project by project managers by asking: 'How much time did you on average spend on this project? … hours per week'. We assessed whether project managers had responsibility for team building activities by asking 'Does your employer require you to organize team building activities? Yes / No'.

Perceived strength of identification   Perceived strength of identification was measured with seven items, one item per organizationally relevant focus of identification: 'Estimate how strongly your project team members feel connected to: The project / their employer / their department / their professional group / you as project manager / their line manager / colleagues on the project.' Responses were given on a scale ranging from 1 (hardly) to 5 (very strongly).

Importance of identification with the project   The perceived importance of identification with the project for project success was measured with one item: 'How important is it for the success of project A that all team members feel connected to the project?'. Responses were given on a scale ranging from 1 (unimportant) to 5 (crucial).

Importance of other success factors   In order to assess the relative importance of identification with the project we also measured the perceived importance of other success factors. To stimulate project managers to distinguish between crucial and less

important success factors we probed them to think about their priorities under time pressure. We measured these additional success factors with one item per success factor: 'How important is it for the success of project A that all team members: Know what is expected of them in the project / can focus primarily on their core tasks in the project / can be involved in more than just their core tasks / can personally develop themselves during the project / discuss different views?'.

Leadership practices to stimulate identification   After being asked about their perceived importance of project identification respondents were asked the following questions: 'Do you undertake something to stimulate this?' and 'If so, what do you undertake as project manager to stimulate this in project A?'. From the analysis of the qualitative material we developed an inventory of leadership practices used by project managers to stimulate identification with the project (see table 4). This inventory included specific leadership practices aimed to inform project team members or increase their interaction through different types of meetings, including formal and informal gatherings. In addition, respondents were asked in an open question to write down any other leadership practices they implemented in the focal project to stimulate project identification. These open answers were analyzed in NVivo 9.

5 RESULTS STUDY 2

Building on the exploratory results of Study 1, Study 2 continues to explore project managers' perceptions of, and leadership practices to stimulate shared project identification using a different method of data collection. This second step in the exploration aims to provide more insight into the perceived importance of project identification and the use of leadership practices by a broader group of project managers, and to shed some light on how the use of these leadership practices varied across contexts.

5.1 Strength and importance of project identification

First, we assessed how strongly project managers perceived their project team members to identify with a number of organizationally relevant foci. Results show that project managers perceived their project team members to identify most strongly with the project, compared to a wide range of other organizationally relevant groups or persons (see table 3).

In addition, we assessed how important project managers perceived shared identification with the project to be for the success of the project, and compared this to scores on the perceived importance of five other possible success factors of

the project. The results show that project managers perceived identification with the project as one of the most important success factors of the project. Overall, they ranked it as the second most important success factor of the project, only surpassed by the importance of all team members knowing what is expected of them in the project. Factors they perceived to be less important for the success of the project were team members being able to concentrate on their core tasks in the project, being involved with more than just their core tasks, personally developing themselves during the project, discussing differing perspectives and not discussing differing perspectives.

Table 3: Project team members' strength of identification as perceived by project manager

Focus of Identification	Perceived strength of identification
Project	4.02
Colleagues on the project	3.87
Department	3.59
Project manager	3.55
Employer	3.50
Profession	3.42
Line manager	3.21

5.2 Leadership practices to stimulate project identification

In line with the perceived importance of project identification, the survey results show that project managers used a variety of leadership practices to stimulate identification, most of which are used by a substantial group of project managers (see table 4).

In addition to the 7 categories developed on the basis of Study 1 (see table 4), free text responses show that 13 % of the respondents additionally implemented other leadership practices to stimulate project identification. These free text responses were categorized to identify four additional leadership practices implemented by project managers to stimulate identification: increasing interaction, developing an open and/or positive atmosphere, keeping project team members informed or increasing project team member responsibilities (see table 5).

Table 4. Implementation of leadership practices aimed at stimulating project identification

Leadership practices for project identification	Percentage of project managers that implement the practice
Informing team members of developments regarding the project directly relevant to their ability to fulfill their tasks	73.1
Organizing meetings at which project team members are informed of project progression	71.8
Informing team members of developments regarding the project not directly relevant to their ability to fulfill their tasks	68.1
Organizing lunch, dinner or drinks	45.8
Organizing meetings at which the project is discussed by all project team members	38.4
Organizing other non-work related activities	22.7
Organizing excursion or speaker	8.3

Table 5. Additional leadership practices aimed at stimulating project identification

Additional leadership practices for project identification	Examples of free text responses on 'other activities' to stimulate project identification from questionnaire
Increasing interaction	'Daily stand up meetings' 'Weekly meetings' 'Online meetings'
Developing an open and/or positive atmosphere	'Talking about goals and expectations and frictions' 'Try to create a "dream team" experience' 'Take care of good, positive, informal atmosphere at the work floor, in which the project and context can be discussed openly'
Keeping project team members informed	'Newsletter' 'Offering clarity about status of the project'
Increasing project team member responsibilities	'I give a lot of responsibility and power to the team members' 'Giving team members the space to suggest improvements'

We assessed whether the implementation of leadership practices by project managers that were used to stimulate project identification was related to the extent to which project managers perceived their project team members to identify with organizationally relevant foci. We performed this initial exploration by reporting significant correlations that can provide input for future studies. The results show that project managers organizing informal meetings with the project team members in the form of lunch, dinner or drinks correlates with the strength with which they

perceive the team members to identify with them as project manager (0.14★)[1], the project (0.17★), their colleagues on the project (0.25★★), and their professional group (0.16★).

As the literature suggests leaders should adapt their leadership practices to stimulate identification to the environment, we explored to what extent the leadership practices implemented by project managers varied across contexts. The results show that the leadership practices project managers enacted, and specifically the amount of leadership practices they used to stimulate identification, varied in different contexts.

First, we explored whether project managers did more to stimulate shared project identification when faced with stronger disintegrative tendencies. We find that project managers did significantly more to stimulate identification with the project when the project team represented more professional disciplines, or in other words, when the functional diversity in the project team was higher (that is, the correlation between the number of leadership practices enacted by project managers to stimulate shared project identification and the number of professional disciplines represented by the project team is 0.26★★★). This illustrates that project managers invested more effort in strengthening the integrative tendencies in the project when the project represented strong disintegrative tendencies.

However, when faced with stronger disintegrative tendencies of diversity from geographical spread of the team and finiteness from the limited time spent on the project by the project manager, project managers did less to stimulate shared project identification. Project managers who spent less of their time on the project, compared to the average time project managers spent on the focal projects, also implemented fewer leadership practices to stimulate identification (that is, the correlation between time spent on focal project and the number of leadership practices enacted by project managers to stimulate shared project identification is -0.17★). Project workers working individually spread over a number of locations was negatively correlated with stimulating informal interaction by organizing lunch, dinner or drinks (-0.14★). These strong disintegrative tendencies from geographical spread in combination with fewer practices aimed at stimulating identification were reflected in perceived weaker integrative tendencies of shared project identification. Specifically, project workers working individually spread over a number of locations was negatively correlated with perceived identification of team members with the project is (-0.16★).

Second, we explored whether project managers that are stimulated by their organizations to spend time on the development of their project teams, did more to stimulate shared project identification. We find that project managers having official

[1] Numbers mentioned in brackets in the text of the results section represent Pearson correlation coefficients, with stars representing significance levels (★=0,05, ★★=0,01, ★★★=0,001).

responsibility to organize team building activities for the project was positively correlated with the number of leadership practices used to stimulate identification (0.21★★). These same project managers also rated the importance of project identification higher (that is, the correlation between project managers having official responsibility to organize team building activities for the project and the perceived importance of project identification is 0.21★★). These project managers perceived themselves as successful in their efforts to stimulate identification with the project, shown by the fact that they perceived their project team members to identify more strongly with the project than project managers who were not officially responsible for organizing teambuilding activities (that is, the correlation between project managers having official responsibility to organize team building activities for the project and the extent to which they perceive their project team members to identify with the project is 0.21★★).

Finally, as the literature suggests leaders adapt their efforts to stimulate identification to the strength of identification (van Knippenberg, et al., 2004), we explored whether the use of leadership practices by project managers varied for the levels of the perceived identification of their project team members with other foci. We find that project managers did significantly less to stimulate identification with the project when they perceived their project team members to identify strongly with their department (that is, the correlation between the number of leadership practices used to stimulate shared identification with the project and the perceived identification of project team members with their department is -0.14★) and line manager (-0.15★). This relationship was not moderated by the intra-organizational or inter-organizational nature of the project.

To summarize, Study 1 highlights the integrative and disintegrative tendencies projects. In addition, the identification of leadership practices used by project managers to stimulate shared project identification in Study 1 provided the basis for further exploration in Study 2. The results of Study 2 start to shed some light on the perceptions and leadership practices of project managers regarding shared project identification of project team members. The survey results show that project managers perceived shared project identification to be high compared to other organizational foci and relatively important compared to other success factors of the project. In addition, the results show that project managers invested effort to stimulate identification and that most of the leadership practices identified in Study 1 were used by a relatively wide group of project managers. Last of all, the results illustrate that leadership practices varied for differences in team diversity, geographical distribution, time spent on the project, official responsibilities, and strength of identification with other foci.

6 DISCUSSION

In the current study we use both qualitative interviews and a survey to explore how leaders in project-based organizations can overcome the challenges arising from the disintegrative tendencies embedded in project-based work. Leaders in these organizations are often faced with the disintegrative tendencies of functional, organizational and geographical diversity of team members and the finiteness of projects also created by the potential part-time assignment of people to the project for only part of the project duration. As these disintegrative tendencies are crucial ingredients in approaching requisite complexity, they should not be eradicated, but balanced by integrative tendencies. This balancing act to bring the project team together within limited time and without discrediting their differences is an important leadership challenge in project work.

The development of shared project identification can represent such an integrative tendency by enabling the development of shared understanding and unified group work. Shared project identification can have positive implications at multiple levels. On the one hand, high levels of project identification can serve to enable the project and its team members to benefit from strong identification in the form of increased psychological safety, guidance in decision-making and improved project success. On the other hand, identification with the project can enable the project-based organization to effectively adapt to the environment by making organizational identity more fluid.

In Study 1 we have identified the integrative tendency of shared goals with clear deadlines in projects, and the disintegrative tendencies of functional, organizational and geographic diversity and finiteness. These disintegrative tendencies inhibit the development the integrative tendency of shared project identification, and we find evidence of a number of leadership practices to stimulate the development of shared project identification.

The results of Study 2 illustrate that most project managers perceive team members' project identification to be higher than identification with any other organizationally relevant focus. If the perception of the project managers in our sample is correct that project team members identify strongly with both the organization, including the department, and the project, this could provide a fitting basis for a balanced adaptive identity for project-based organizations. As the literature indicates, leadership practices that stimulate project identification can enable the development of strong project identification, which in turn can lead to more effective projects and an organizational identity adaptable enough to respond to changes in the environment (Alvesson, 1992; Ashforth, Harrison, & Corley, 2008; Fiol, 2001; Shamir, 1999).

However, this high identification with the project does not automatically occur

and almost all project managers in our sample implement leadership practices to stimulate identification of project team members with the project. As most of these practices involve interaction, it seems that project managers indeed implement the proposition by Jones and Volpe (2011) that leaders can stimulate identification by encouraging social interaction. However, we also find that the presence of disintegrative tendencies from geographical diversity and finiteness from limited time spent on the project by the project manager is linked with a lower level of leadership practices to stimulate shared project identification.

6.1 Varied implementation of leadership practices across contexts

Our results also begin to show the ways in which leadership practices vary across contexts. Researchers and practitioners are called upon to take into account the effects of the fragmented nature of identification in project-based organizations. Project team members often identify with multiple foci that are not always fully nested and create conflicts of interest. In line with suggestions in the literature that leaders adapt their leadership practices to the strength of identification (van Knippenberg et al., 2004), we find that project managers do less to stimulate identification when they perceive their project team members to already identify strongly with their department or line manager, and that this relationship is not moderated by the project being either intra-organizational or inter-organizational. Although stimulating identification might be less important in this context because psychological safety of team members is already stimulated elsewhere, this lower effort to stimulate identification could be problematic for the success of the project, especially in inter-organizational projects, where the goals of the project will not always be fully in line with those of the line managers and departments of the project team members.

The results are mixed when it comes to the ways in which the implementation of leadership practices to stimulate identification vary in contexts with different levels of disintegrative tendencies from diversity and finiteness. We find that, depending on the type of disintegrative tendency, project managers take either more or less effort to strengthen the integrative tendencies in projects when confronted with stronger disintegrative in the project.

Project managers implement more leadership practices to stimulate project identification when the project team represents more professional disciplines, and thus exhibits a higher functional diversity. However, we also find that project managers do less to stimulate shared project identification when confronted with a low amount of time spent on the project by the project manager, and are significantly less likely to stimulate informal interaction by organizing lunch, dinner or drinks

when confronted with higher geographical diversity. On top of this, and contrary to findings of Millward and colleagues (2007), we do not find a perceived shift in focus of identification in geographically dispersed projects. We do find project managers perceive their team members to identify significantly weaker with the project for the most geographically dispersed teams compared to less dispersed teams. However, we do not find an opposite effect for organizational identity.

These results seem to imply that though disintegrative tendencies in projects call for leadership to balance these with equally strong integrative tendencies, some of these disintegrative tendencies inhibit leaders from enacting leadership practices that can stimulate these integrative tendencies. However, the results also indicate that efforts to stimulate project managers to enact leadership practices aimed at strengthening integrative tendencies can have significant effects. Specifically, we find that project managers that have official responsibility to organize team building activities for the project, perceive project identification to be a more important success factor, and implement more leadership practices to stimulate identification, than those project managers that do not officially have these responsibilities. A possible explanation for these relationships is that making project managers responsible for the organization of teambuilding activities sends a signal from the employer that identification with the project is important and leads those project managers to value identification with the project more highly and invest more effort in stimulating it.

6.2 Limitations and future research

Our study begins to explore the role of leadership in balancing disintegrative tendencies in project-based organizations with integrative tendencies, and specifically leadership practices to stimulate project identification, and as a result we have only scratched the surface of these processes. As much is still unknown about identification and leadership in the context of project-based organizations we adopted an exploratory rather than hypothesis testing approach to the analysis of both the qualitative interviews and the survey data.

The current study has a number of limitations and highlights some areas of interest for future research. Though the interviews of Study 1 offer opportunities for triangulation by analyzing both intended and perceived leadership practices, the questionnaires of Study 2 only focused on the intended leadership practices of project managers and their perceptions of the extent to which their team members identify with organizational foci. The quantitative study is a single source and cross-sectional survey that we used in an exploratory manner. The scales used in this survey have been developed on the basis of the emergent results from Study 1, and as such are not validated measures. Future research can give more insight into the strength

of identifications with a number of different foci in project-based organizations from the perspective of the project team members themselves and their perception of leadership practices aimed at stimulating identification.

As both studies in the current research focus on one project per interviewee or respondent, future research can analyze the role of leaders in dealing with disintegrative and integrative tendencies in project-based organizations by investigating the full spectrum of tasks and roles people fulfill within a specific period. In addition, our cross-sectional set up does not allow us to examine the temporal patterns of strengthening and weakening disintegrative tendencies, the development of shared identification, and the results of leadership practices on this development. Taking a longitudinal approach, future research can substantially increase our understanding of these temporal patterns.

In addition, in our quantitative study we have chosen to focus specifically on the leadership role of the project manager. Although officially appointed leaders have a somewhat privileged leadership role, in order to get a better understanding of leadership in and around the project, leadership practices of all people involved should be taken into account. In line with the results of Jones and Volpe (2011) taking the social relationships that already existed among project team members prior to the project into account could provide a clearer picture of the context in which leadership is enacted. This line of research can provide more insight into the leadership practices in project-based organizations and show how they enable the development of integrative tendencies to balance disintegrative tendencies.

With the current qualitative and quantitative exploration we draw attention to the importance of shared project identification in project-based organizations, and shed light on the leadership practices implemented to stimulate shared project identification. We build on relevant perspectives in the literature to make the case for the importance of these integrative tendencies to balance the disintegrative tendencies in this context. Not only can this enable project team members to bridge their differences, it can also set the stage for project success and adaptively balanced organizational identities.

CHAPTER 5

CHOOSING YOUR WORDS CAREFULLY:
LEADERS' NARRATIVES OF COMPLEX
EMERGENT PROBLEM RESOLUTION

ABSTRACT

In their leadership role, project and program managers use language as a vital tool in shaping their projects and programs. Especially in more novel projects and programs, the ways in which leaders frame issues through their use of language will have an important impact on how these issues are approached and resolved by members of the project team. In this study we explore the narratives of project and program managers in complex emergent problem resolution. We analyze interview based data to show the storylines leaders construct regarding which groups are more or less important and the tensions between these groups, whether they frame the impact of outsiders as positive or negative, and how they portray the role of conflicting perspectives in complex emergent problem resolution. We discuss the practical implications arising from our analysis of leadership narratives in the management of projects. Finally, we describe the limitations of the current study and opportunities for future research.

1 INTRODUCTION

The project management literature has its roots in the engineering sector and is frequently characterized as having a strong functionalist and instrumental perspective (Blomquist, Hällgren, Nilsson, & Söderholm, 2010;Turner & Keegan, 2001).This has resulted in a focus on functional tools, the importance of defining sequential project phases, and an emphasis on the efficient achievement of predetermined goals within clearly defined time, budget and quality constraints (Cicmil et al., 2009). Despite great efforts to understand and determine how projects can best be managed, many projects do not finish on time and within budget, do not always end up where their initiators thought they would. Even when they achieve their predetermined goals, they are not always considered a success by the people involved (Bartis & Mitev, 2008; Boddy & Paton, 2004; Flyvbjerg, 2006).

Projects can generally be characterized as unique, novel and transient (Turner & Keegan, 1999). Novel projects often involve the development of customized, complex products consisting of interrelated sub-systems that require new knowledge (Hobday, 2000).The challenges of communication in an uncertain and ambiguous situation are especially apparent in more novel projects in which the goals and methods to attain them are not well defined (Turner & Cochrane, 1993).A major challenge in projects, especially more novel ones, is solving complex emergent problems, as they do not involve working towards a fixed point with proven methods, but require project leaders and participants in the project to constantly try to develop an understanding of the situation and the methods that are needed to reach a moving target. For example, Mintzberg (1979) stresses the importance of informal communication to underpin processes of mutual adjustment among team members in uncertain organizational situations.

In ambiguous situations, language has a particularly important role in shaping the emergent reality through collective processes of meaning making which are underpinned by communication (Alvesson & Kärreman, 2000; Boje et al., 2004; Dutton & Jackson, 1987; Phillips & Oswick, 2012). How projects are perceived and the way in which leaders and participants deal with emergent problems is thus heavily influenced by the language use of leaders. For example, whether a leader categorizes an event as an opportunity or a threat influences how others respond (Dutton & Jackson, 1987). Whether projects are described by the leader as routine or ground-breaking, and whether others with an opinion about the project are described as a nuisance or as an important source of new ideas, depends upon how leaders frame the project and the role of others. These narratives are likely to be especially important and powerful in projects where methods for attaining goals, and goals themselves are unclear, as the project manager and the rest of the project team will be confronted by an ongoing stream of emergent issues that have to be dealt with throughout the

duration of the project. The narrative that emerges in collective meaning making is more flexible in unclear complex situations as the narrative proposed by the project manager is likely to be more fluid and negotiable than might be expected when project goals and methods are clear.

In this study we aim to develop a better understanding of the role of leaders' use of language, and in particular the narratives leaders create on how projects and programs are carried out. Firstly, we highlight the so-called linguistic turn in management and organizational theory (Alvesson & Kärreman, 2000) and its implications for leadership in projects and programs. Secondly, we draw attention to the important role of leaders' use of language in projects by empirically exploring the narratives project managers and program managers draw on when dealing with complex emergent problems. Finally, we discuss the implications of leaders' language use generally, and creation of narratives specifically, for the ways in which projects and programs are carried out.

1.1 The linguistic turn in management and organizational theory

One of the most influential developments in organizational studies of the last few decades is the linguistic turn (Alvesson & Kärreman, 2000). This perspective on organizing places the role of language in action and organizing center stage in understanding organizing processes (Boden, 1994; Weick, 2004). Instead of merely seeing language as a mirror of reality, language is viewed as a force shaping how processes occur and events emerge (Alvesson & Kärreman, 2000; Boje et al., 2004; Phillips & Oswick, 2012). The constitutive effects of language for organizing processes takes precedence over a focus on organizational structures in this perspective (Chia, 1996). When seen as a mirror of reality, language can be regarded as true when it correctly reflects reality and false when it incorrectly reflects reality. However, the linguistic turn moves away from the idea of a pre-existing reality of stable organizations, and draws our attention to the way in which organizational members construct events through interaction (Phillips & Oswick, 2012). From this perspective, the communication of organizational members about the ongoing stream of evolving issues they are confronted with in their work does not merely represent facts. People in workplaces interpret what is going on and test these interpretations on others (Weick, 1979). And through these collective processes of meaning making they enact organizational realities and actively shape the problems they are trying to deal with, language therefore creates opportunities for action that in turn constitute processes of organizing which we then recognize as self-evident (Cunliffe, 2001).

Though studies of organizations increasingly focus on language to shed light on complex organizational phenomena (Alvesson & Kärreman, 2000; Oswick et al.,

2000), this perspective is still relatively new to the project management literature. Many have pointed to the importance of good communication for project success (Henderson, 2004; Hyvari, 2006; Loosemore & Muslmani, 1999; Pinto & Pinto, 1990; Reed & Knight, 2010; Turner & Müller, 2004), but a view of language as constructing (instead of merely representing) project events is a more recent development in the project management literature.

Some authors, who emphasize the importance of language as shaping projects, propose an alternative perspective in project management research that revolves around the actuality of projects by focusing on the lived experience of practitioners (Cicmil et al., 2006; Cooke-Davies et al., 2007; Packendorff, 1995). This entails a shift in focus from the development of normative, prescriptive theories and studying what should happen, to a focus on the development of descriptive theories on the basis of studying what is actually happening and focusing on leadership practices, including linguistic practices, as an important part of creating everyday project realities (Packendorff, 1995). Project actuality research takes seriously that what people do in projects is embedded in, and shaped by, social processes of interaction and communication (Cicmil et al., 2006). Thus, the project is seen as co-constructed in everyday communicative interactions (Lindgren & Packendorff, 2007), and can be studied from a perspective informed by the complexity sciences by focusing on complex responsive processes of interaction in projects (Cooke-Davies et al., 2007).

This view of project management includes an appreciation of the ongoing emergence of events, through processes of social interaction, and the linguistic framing of events and projects (Winter et al., 2006). For example, Lindgren and Packendorff (2007) explore the narratives that co-construct projects and individual identities in theatres. Another project actuality study by Hodgson (2002) highlights the central role of language in shaping identity by exploring the disciplinary effects of project management as a professional discipline. Focusing on more tangible outcomes of the development of narratives Fincham (2002) shows how evolving narratives of success and failure in IT development in financial service firms are reflexive mechanisms that shape projects, for example by facilitating the mobilization of resources.

1.2 The importance of narrative processes in projects

Narratives are defined as any spoken or written account of connected events (Oxford English Dictionary Online Definition of Narrative). The processes of collective meaning making in organizational life shape, and are shaped by, the narratives that prevail within organizations. In a study of managerial communication during strategic change processes in a retail organization, Sonenshein (2010) adopts a perspective on narrative as 'a discursive construction that actors use as a tool to shape

their own understanding (sensemaking), as a tool to influence others' understandings (sensegiving), and as an outcome of the collective construction of meaning'. His study demonstrates how narratives can be a 'means by which we organize and make sense of our experience' (Cunliffe & Coupland, 2012), and narrating can provide a context for meaning making (Tsoukas & Hatch, 2001), while narratives are also outcomes of collective meaning making processes. For example, if a leader describes a project stakeholder as a helpful partner, followers may respond to this narrative by contributing ideas to develop further cooperation with this stakeholder. The relationship is seen in a more positive light by all parties and a narrative of effective collaboration is further constructed that can actively shape how the project unfolds over time.

The development of narratives in projects is, however, not a straightforward process. Work in projects and their overarching programs involves solving complex emergent problems. The program in itself is usually instigated to solve an overarching complex emergent problem, and throughout the process of dealing with this problem multiple unexpected issues are likely to arise. Because of this, projects and programs, and especially those that are characterized by high levels of uncertainty, involve ongoing struggles over meaning in which meaning making processes involve the development of competing narratives that can take projects and programs in different directions (Alderman, Ivory, McLoughlin, & Vaughan, 2005; Boddy & Paton, 2004; Veenswijk & Berendse, 2008).

The active and reflexive co-construction of narratives framing a project or program can focus all participants on how they understand the project and the actions and priorities that are agreed upon as necessary and desirable. For example, working together to construct a coherent narrative helps project participants collectively reflect on the nature of the problem and solve problems identified as a result of that collective reflection process (Ochs, 1997). Project teams can reflectively reframe problems and on that basis develop potential solutions (Hargadon & Bechky, 2006). In this process the frame proposed by one participant, for example the project manager, can, on the one hand, open up possibilities for others to see new frames, view the relevance of their past experiences in a different light, and combine it in new ways thus producing novel solutions (Hargadon & Bechky, 2006). On the other hand, frames can also encourage convergence towards a solution that is familiar to project members based on past collective experiences. The point is that the framing of project problems, based on shared narratives, influences how projects proceed and events take shape over the course of the process of solving complex emergent problems. The way that leaders use language and develop narratives is therefore of potential importance to understanding how projects and programs unfold and are conducted in everyday project based organizing.

1.3 Language and leadership

A focus on the constructive function of language generally, and narrative specifically, has significant implications for the study of leadership by making visible how people shape problems together through language and highlighting the role of leaders in this process. Leaders can influence how others perceive the situation and how they respond to it by framing the situation in a specific way (Levin et al., 1998; Shamir et al., 1993). For example, leaders draw attention to specific emergent patterns and in doing so shape wider participation (Plowman et al., 2007), shape employees work experiences by connecting espoused values to enacted values (Smith et al., 2010), and enact leadership practices, such as prompting cognitive shifts and naming and shaping identity, that bridge different perspectives (Ospina & Foldy, 2010).

Framing problems through language can be seen as a dynamic process through which people construct these problems in interaction (Dewulf et al., 2009). In this process of mutual influence, managers have an important role in shaping frames and narratives. Due to their formal leadership role, project and program managers are in a privileged position to influence the meaning making processes of their teams, for example by introducing new narratives that can enable others to see issues in a new and different light (Tsoukas & Chia, 2002). However, though their central position in collective meaning making enables them to significantly influence collective meaning making, they don't independently determine what narrative is constructed, as narratives are constructed in interaction with others and in turn shape the actions of all those involved (Deuten & Rip, 2000).

In the context of project work, Lindgren and Packendorff (2009) point to the importance of studying leadership in terms of how it is practiced in everyday interaction. By doing so, the role of project managers can be re-imagined as consisting of more than the implementation of project plans, and can be seen from a broader perspective that incorporates consideration of their social, political and ethical roles (Cicmil et al., 2009). For example, in an empirical study of megaprojects, Hatcher, Chang and Kim (2012) explore the metaphors project and program managers use to describe their contemporary leadership role, ranging from master and commander in battle field to a dysfunctional family in chaos and from boundary protector in an entrepreneurial environment to time broker in multi-temporal organizations. If project managers can use such different ways of describing their leadership role, it is plausible that this has an impact on the framing of complex emergent problems they are confronted with in different ways. These narratives are an important research focus as they help to construct the reality of project participants and the progress of projects and programs.

Complex problems call for leaders to organize for the development of answers by project team members in day to day interactions (Fairhurst, 2009). For example,

leaders frame and enrich organizational interpretation of unusual events by encouraging both divergence and synthesis of interpretations among members of their teams (Beck & Plowman, 2009). In this sense leadership can be viewed as the management of meaning (Fairhurst, 2009; Maitlis & Sonenshein, 2010). Leaders need to understand that people continuously make sense of their situation in both formal and informal interaction, leading to multiple, often contesting, narrations (Cunliffe & Coupland, 2012). Contested narrations can be seen as a challenge for project leaders attempting to steer projects in a certain direction. A strategic understanding of language and narratives and their role is useful for project and program managers as it opens opportunities for shaping emergent narratives and in so doing shaping the progress of projects. Exploring narratives of emerging problems invoked by project and program leaders can therefore shed more light on the ways in which the language of leaders can shape projects and programs generally, and complex emergent problems specifically.

1.4 The current study

In order to further develop our understanding of the constructive role of the language of leaders in projects, and especially in complex emergent problems, we carry out an exploratory analysis of the narratives of project managers and program managers in novel projects and programs in which the methods and/or goals were not well defined. In this study we explore the ways in which leaders frame complex emergent problem resolution when the need for collective meaning making processes arise. We focus on the narratives of project and program managers because of their central position in constructing meaning throughout projects.

In the current study we address the following research question: How do leaders in project-based organizations construct complex emergent problems through language, what is the nature of their constructions, and what are the possible implications of their constructions for the resolution of complex emergent problems? Our aim is to analyze how leaders' language use and leaders' narratives frame emergent problem resolution. We show that leaders construct different storylines regarding which groups should benefit from the project or program, the role of outsiders, and the role of conflicting perspectives in complex emergent problem resolution. We discuss how the different storylines underpin the narratives and shape the progress of projects and programs.

2 METHOD

We conducted 11 semi–structured interviews with managers at different hierarchical levels of five projects and programs. We purposefully selected these interviewees on the basis that they work in novel projects and programs in which they are frequently faced with complex emergent issues. The interviews were conducted using an interview protocol focused on drawing out narratives of dealing with complex emergent issues in the current project or program (see Appendix 4 for the interview protocol). All projects and programs were ongoing at the time of the interviews to facilitate recollection of events as interviewees were still involved in the process of dealing with some of these complex emergent issues and were still actively developing narratives around them. On average, the interviews lasted one hour and 20 minutes. All interviews were transcribed verbatim, resulting in 232 pages of transcript.

Just as language constructs reality in projects, the interviews themselves can also be seen as construction work as our interviewees construct a version of the project (Alvesson, 2003). This construction of the project might be biased as interviewees emphasize what they perceive as socially desirable. We attempted to deal with the presence of social desirability bias (Nederhof, 1985) in the interview accounts, emerging from respondents constructing the projects to reflect their role in a particular desirable way, by asking interviewees to give concrete examples and specific illustrations so we could develop an open rapport with the respondents about the specifics of the narratives they used to manage complex emergent problems and to go beyond surface accounts and jargon (Alvesson, 2003).

Table 1. Sample description

Program number	Type of project	Interviewees: Project manager (PM), Program manager (PgM), Portfolio manager (PfM)	Gender interviewees: F (female)/ M (male)
1	Infrastructure	PM & PgM	M, M
2	Infrastructure	PM & PgM	M, M
3	Organizational change	PM, PgM & PfM	M, M, F
4	Organizational change	PM & PgM	M, F
5	IT	PM & PgM	M, M

After importing all transcripts into NVivo 9 we first coded all interviews to identify any utterances relating to narratives used to manage complex emergent projects. This can be seen as a first order analysis in which we coded the interviews

for narratives using the language of the interviewees and identified descriptive codes on the basis of the words, expressions and terms used by the interviewees (Miles & Huberman, 1994). Second, we developed pattern codes based on the similarities and differences between interviewees in terms of their words used to frame aspects of dealing with complex emergent problems. This helped us to identify both common narratives and distinctions between different narratives. We continued with this coding process, gradually refining the narratives by identifying different storylines which provided a finer level of detail in terms of separate and distinct facets of the broader narratives. We refer to these as storylines within the broader narratives. In a recursive and iterative process of moving between interview data and the emergent codes we identified three core narratives and their related finer storylines presented here below. In this process of coding we also analyzed numerical patterns in order to examine how much data each separate narrative and storyline attracted. This process helped us to detect patterns of salience of the narratives and the associated storylines across the data set as a whole, and allowed us to focus on those narratives and storylines that were discussed most across the interviews and per respondent.

3 RESULTS

Through the process of analysis described above, we identified three core narratives drawn on by each and every interviewee when discussing how they dealt with complex emergent problems in their projects and programs. Each of these narratives comprises three or four finer storylines that represent different aspects of how to frame complex emergent problem resolution (see table 2 for an overview of the narratives and storylines and the pattern of references across all interviewees). As can be seen in table 2, interviewees largely drew on more than one storyline for each narrative.

In this section we describe the narratives and their underpinning storylines and show how they were used by respondents to frame complex emergent problems and how to solve them. First, we discuss how leaders framed different groups as important foci for complex problem resolution and highlight how they discussed the tensions between the interests of these groups. Second, we illustrate the ways in which leaders framed the impact of outsiders as positive or negative. And finally, we show how leaders framed the role of conflicting perspectives in the resolution of evolving issues.

Table 2. Pattern of references for narratives and storylines across all interviewees

	PM1	PgM1	PM2	PgM2	PM3	PgM3	PfM3	PM4	PgM4	PM5	PgM5	Total references
1 Importance of different groups												**46**
Client	0	0	0	1	3	0	0	0	3	0	0	**7**
Employer	1	0	0	0	2	4	0	3	5	0	0	**15**
Program	4	4	0	1	1	1	3	0	1	1	1	**17**
Project	0	0	3	0	0	0	0	0	1	2	1	**7**
2 Impact of outsiders												**81**
Delay and complicate	10	4	3	4	4	10	1	3	5	2	0	**46**
Inform and support	6	1	2	0	5	2	2	2	2	0	0	**22**
Co-create CEP solution	3	0	1	0	1	1	1	2	1	2	1	**13**
3 Management of conflicting perspectives												**73**
Align perspectives	2	5	3	0	3	3	1	1	1	2	1	**22**
Nurture conflicting perspectives	6	5	2	2	0	2	3	2	3	1	4	**30**
Iterate between aligning and nurturing conflicting perspectives	4	4	4	2	0	3	1	0	0	3	0	**21**

Note: The numbers in brackets represent the total number of references for each narrative, i.e. the sum of references for all storylines that make up the narrative.

3.1 Narrative 1: Importance of different groups

The first narrative pertains to the importance of different groups. Complex emergent problems can be dealt with in multiple ways that are more or less beneficial for different groups. Through their language use our interviewees framed some groups as more important than others. We identified four storylines, each framing another group as most important. Groups that were framed as an important focus by the project and program managers included the project, the program, the employing organization and the client (for illustrative quotes see table 3).

Table 3. Storylines of narrative 1: Groups framed by leaders as important focus in complex problem resolution

Focus	Illustrative quotes
Client	'But I do say, "in the end we are in service of society and we form an organization that, ultimately is not for ourselves, for our personal interests".' (Project manager 3)
Employer	'So we also think in us-them in this organization. "It's their problem, it's their question". (…) While we should actually say "no there are problems of [this organization]".' (Project manager 4)
Program	'Those meetings off course serve to put forth that greater shared interest.' (Portfolio manager 3)
Project	It's possible that in the team one is busier than the other for a while, but then you just help your friends. (…) We understand each other and they compensate for each other.' (Program manager 5)

The interests of the different groups were perceived to be at times nested and conflicting. When these interests seemed to conflict, project and program managers often explicitly framed one group as more important than the other group in resolving complex problems. For example, they would specifically favor the program over the project (see table 4 for more illustrations). In these project-based contexts, tensions between the interests of different groups are perceived at different levels. First of all, and similar to what can be expected in line organizations, tension was perceived between the interests of sub-units and the interests of the whole organization. For example, a project manager framed the whole organization as more important than its sub-units:

'It's important to take a look at the [organization] level: "What do we need as [this organization]?" And that's difficult, because of what I said, we are all divided, on the basis of those budgets, into expertise, and tempted to approach all issues from that perspective.' (Project manager 4)

However, in these project-based organizations multiple other tensions were experienced that went beyond the tensions that could be expected in traditional line organizations. These included tensions between the interests of the project and the program, between the program and the employer(s) and line managers of team members involved, between the program and it's client or contractor, and specifically for organizational change programs between the program that represented the new employer and the current employer (see table 4 for illustrative quotes of how leaders frame these tensions).

Table 4. Tensions between groups framed by leaders as important focus in complex problem resolution specific for project-based organizations

Tensions	Illustrative quotes
Program versus project	'I'm more the ambassador of that team. (…) The other day we had an issue that needed to be fought over with the directors and then I do that.' (Project manager 2) 'Ultimately it's best for project, that's what we're aiming at. Not best for contract [i.e. sub-project]. So, everything that's in favor of the total project has to come before what is best for each contract. And off course that's difficult, because a contract manager is responsible for the contract.' (Program manager 2)
Program versus Employer(s)/Line	[The program manager wanted to re-assign a number of people from the program to another program he was involved with.] 'But those were not all available, because he wanted to get that out of my team, and no, I got in the way of that.' (Project manager 2)
Program versus contractor/ client	'And we talked about this with the contractor. From the shared interest, like "guys, you have to be able to work together in a good way at all levels and we have to try to prevent these types of hiccups".' (Project manager 1)
Organizational change program (representing new employer) versus current employer	'You're dealing with directors that want to defend their own [organization] (…), but you have to look at the bigger interests of the [new organization] that is going come.' (Portfolio manager 3)

3.2 Narrative 2: Impact of outsiders

Through their language, project and program managers create insiders and outsiders by highlighting their membership of the project, the program or their employer. This created changing in-group compositions and at the same time changed the way outsiders were framed and who was designated an outsider. The way in which project and program managers subsequently discussed the impact of other groups had an impact on the involvement of those groups in the resolution of complex emergent problems.

To illustrate, our results demonstrate that leaders constructed positive and negative storylines when talking about the impact of 'other groups' on complex emergent problem resolution. In a first storyline, leaders framed outsiders as having a negative impact on complex emergent problem resolution by delaying and complicating the process (see table 5 for illustrative quotes of this storyline). In this storyline others were, for example, incoming project team members, other functional sub groups in the program, the other organization in a merger, the client, or the contractor. This negative way of framing others ranged from pointing out some small issues to constructing seemingly irreconcilable differences. For example, some leaders pointed out that the involvement of more people, though useful, takes up more time than handling an issue with less people.

'People on the work floor know it and like to participate in such a project. So we really chose the development approach. With as most important advantage a good design that is supported, and with the disadvantage that it takes long, it costs more time.' (Program manager 4)

The analysis revealed how project leaders framed the impact of others more negatively than done in the previous example by highlighting the need to constantly make sure the other group doesn't act in unwanted ways.

'I don't give fines because I like it, or because I need the money, I give you fines or address you because ultimately I want you to show a certain kind of behavior. (…) And that means continuously thinking, talking, and choosing.' (Project manager 1)

Another way in which leaders framed the negative impact of others on complex emergent problem resolution was by highlighting the underlying tensions between groups that emerged whenever a difficult situation arose.

'And then you see that the gap becomes bigger again under pressure'. (Program manager 3)

In the second and third storylines, leaders constructed the positive impact of others on complex emergent problem resolution by providing information and support or co-creating solutions (see table 5 for illustrative quotes). As an illustration of the second storyline, a portfolio manager aimed to bring together people from different programs to share their ideas:

'How do you keep [this profession] moving, or how do you get movement where necessary, or how do you (…) connect people with each other, how do they know the good things they have thought of and how do others know about it.' (Portfolio manager 3)

A quote from a project manager who explained how people from different groups can work together to create better solutions illustrates the third storyline of the positive role of others in co-creating solutions to difficult issues:

'I see a strong commitment from employees when they see the total picture and know that we are all working toward the same goals instead of it being sub-islands. That also makes the work more fun, I believe. I think I also see that you get better solutions together, because it just works. (…) And I also see that people find each other more easily.' (Project manager 1)

Table 5 Storylines of narrative 2: Constructing the impact of others on complex emergent problem resolution

Storylines about the impact of outsiders	Illustrative quotes
Delay/Complicate	'Then, everyone digs themselves deeper into their foxholes, so you can't find a way out anymore. And those are things you have to pay close attention to as management; "what is going on now?".' (Program manager 1) 'And when something stupid happens you notice really quickly (…), people talk very negatively about it, and that's immediately along the lines of "they are all crazy in [the one location], or along the lines of (…)"you see? You can't trust those [people from the one location]".' (Program manager 3) 'What you notice in particular is that it is not strange that during every phase that new people joined they wanted to re-do the definition phase.' (Project manager 4)
Inform/Support	'Looking back, that was a moment where we made a turn, with which we got stuck and needed help from outside to get it together again for ourselves.' (Program manager 3) 'We did go and take a look at other organizations: How do they do these types of trajectories?' (Program manager 4)
Co-create	'So there are all kinds of incentives in it to get people to look ahead and to let them talk about "what are you going to do in the future". And they have to do that together, so the contractor and the client together. Well, that's unique, that never happens. But it forces them to talk to each other, and that is what I want.' (Project manager 2) 'Look, you are a big organization, but you have to organize small. So, bring people together. If people know each other and know the problems they run into, they are usually willing to solve that together. There's no one here who's like "I'm going to disrupt matters and I'm going to work against a solution". (…) But it's all from not communicating, communicating badly, misunderstanding of each other's interests or situation.' (Program manager 4)

3.3 Narrative 3: Management of conflicting perspectives

When faced with new issues, leaders framed the role of conflicting perspectives in the process of resolution in different ways. They framed the role of conflicting perspectives as positive, negative or both. Each way of framing the role of conflicting perspectives in complex emergent problem resolution came with a different storyline about the management of these conflicting perspectives. The storylines that emerged from our interviews were aligning perspectives, nurturing conflicting perspectives and iterating between nurturing and aligning conflicting perspectives (see table 6 for illustrative quotes of these storylines).

First, conflicting perspectives were framed as having a negative influence on the resolution of emergent issues. This storyline suggested the importance of aligning

perspectives by having clear, transparent structures for the project and how it should be run. For example, one program manager framed conflicting perspectives as potentially leading to project teams members diverging from the course of the project as intended and the need for clear structure to guide project team members perspectives on priorities, actions and project direction so they avoid 'going off course':

'Have clear structures. In complicated structures people don't have something to hold on to, don't know how things run, are going to sail on their own compass. And that's often not the course you want as a project manager. So be really clear, and really transparent.' (Program manager 1)

For this program manager, clear project structures reduce the dangers inherent in conflicting perspectives emerging regarding the course and direction of a project that a project manager wants, whilst when structures are too complicated and not transparent this danger is higher.

Conflicting perspectives were also framed as having a positive influence on the process of resolving evolving issues. In this second storyline leaders constructed the importance of nurturing conflicting perspectives. For example, one project manager framed the perspectives of others as important for reflection upon each other's actions:

'Just discuss what the possibilities are and look at are there new possibilities, are there other possibilities? Who can do that? Who has another idea? So it's more… by searching for possibilities and by listening to each other and trying to look for alternatives, instead of saying "this is how it has to be done".' (Project manager 1)

A third storyline was distinguished in which conflicting perspectives were framed as both positive and negative for the resolution of complex problems, constructing the importance of iterating between nurturing and aligning conflicting perspectives. For example, a portfolio manager stressed the importance of both nurturing and aligning conflicting perspectives. On the one hand, she explained about the importance of nurturing conflicting perspectives by stressing that different stakeholder groups 'have to constantly be in consultation with each other', and that her role was to 'broaden the conversation' by involving more people. On the other hand, she also stressed the

importance of aligning perspectives by explaining she also saw her role as 'letting unity emerge' by organizing meetings to bring people involved in different programs of the portfolio together.

> 'Because then you discuss a topic together, a topic you are all working on, and you hear from each other how you think about it and then you also see that unity is important. Everybody agrees that you can't arrange something in 10 different ways because then that isn't clear for anyone, so how do we do it then.' (Portfolio manager 3)

Table 6 Storylines of narrative 3: Constructing the role of conflicting perspectives on complex emergent problem resolution

Storylines about resolution strategies	Illustrative quotes
Align perspectives	'What we said was "Let's get closer to that contract again". Not to keep each other accountable, but to get clarity about who has to do what. And at a certain moment someone said like "Yes, but the contract is not clear about this". Well, then we have to decide about that now, because then how do we interpret it? Well, then we agree about that and do it that way.' (Project manager 1) For example, a project manager explains how he organizes 'meetings to search for, confirm, and sometimes create connection, and mail rounds in between to keep each other informed'. (Project manager 3) 'We steer on planning, on budget and on scope of the project. (...) Planning is on orange, because we are running out of schedule. (...) Green is nothing to worry about, orange is beware, red is it's on fire.' (Program manager 4)
Nurture conflicting perspectives	'Well, then we tell each other "guys, we have to hold a mirror in front of each other at moments like that, and dare to confront each other and to reflect like 'gosh, are you doing that in the right way, or do we have to become a bit more loose, or a bit more tight'".' (Project manager 1). 'The other day we discussed such a reorganization plan. That just has so much more value, that we look at it all together, because everyone looks from another perspective.' (Portfolio manager 3) 'Then you discuss something with each other in a workshop-like thing. And that doesn't mean that our way is brought forward like "you have to do it that way", but we present our way and they mirror that to their own way of working and see whether that is applicable for them or not. And then you notice that with certain topics they are further than us, and in other topics we are further than them. Then you can learn a little from each other.' (Project manager 5)

Iterate between aligning and nurturing conflicting perspectives	'One week we have the risk meeting, so that's mainly about what type of risks have occurred, and then you talk about "who is going to solve this? And how do you expect to solve this? And (…) what do you need in order to do this?" Then a proposal is made. We have put that together as a team, and then, the other week, we have project team meeting, and that's much more a decision-making meeting. (…) And with that you separate decision-making from problem exploration.' (Program manager 1)
	'Then they explain everything, give answers to the questions, and well, we have a discussion for an hour and a half. Actions emerge from that and those actions are written down, those are quickly sent back and forth: "Is this alright, are these the actions?" And the next time it is checked whether those actions are being performed.' (Program manager 2)
	'We went to sit on the moor together for a day, and two things happened there. The quality of the plans got better (…). And parallel, because we discuss so much it also directly created alignment between those project groups.' (Project manager 4)

4 DISCUSSION

In the current study we draw attention to the constructive role of language, and the pivotal role of leaders' narratives, in leading projects and programs. We describe three salient narratives project and program managers draw upon when faced with complex emergent problems and illustrate the different storylines they construct that frame these problems in different ways. These different ways of framing the issue and process of resolution shape the project in different ways in processes of collective meaning making. As leader's narratives play an important role in the development of collective meaning making, the storylines that are developed by leaders can have a major impact on the ways in which complex emergent problems are constructed and resolved, and thus potentially the success of the project and program.

In this section we discuss the possible implications of these narratives and storylines by theorizing the ways in which these different narratives and storylines can shape reality. The first narrative we identified shows that determining the goals of the project, and specifically determining which groups should benefit from the project is not a straightforward process. Leaders highlight different groups as important foci in complex emergent problem resolution and frame the tensions between groups. Our results support the idea that complex problem resolution is not just a matter of finding the best solution, but also involves the question; best for whom (Keegan & Boselie, 2006)? As the issues that arise can be dealt with in a number of different ways, the way in which leaders construct their narrative can affect collective meaning making and the decisions and actions that flow from this process (Bartel & Garud, 2009; Deuten & Rip, 2000).

By framing a specific group as most important leaders shape the solutions to the

problems in ways that are favorable for that group. They focus attention, resources and energies on one particular solution at the expense of potential other solutions and in so doing give guidance to project members about how to tackle potentially conflicting demands. This resonates with the literature on organizational culture that outlines how the culture of a group emerges around the way members respond to critical incidents and the role of leaders in shaping these responses (Schein, 1990; Schein, 2004). Leaders can, for example, shape responses to complex emergent problems by focusing attention to specific threats, articulating a new direction, and seducing others to adopt new behaviors (Schein, 1990).

Whether leaders frame the project, program, employer or client as most important and the way in which they construct tensions between the interests of different groups can have a significant impact on outcomes, especially since many groups in project-based contexts are not fully nested in one organization, but cross organizational boundaries. This can lead to unevenly distributed outcomes across the organizations involved. This relates to issues of social and intergroup relational identity. To which group do people belong, and how does that group relate to other relevant groups? Studies of social identification show that a sense of belongingness to a group has important consequences for attitudes and behaviors towards the in-group and out-groups (Tajfel, 1974). Intergroup relational identity has been identified as a group's relationship with other groups (Hogg, van Knippenberg, & Rast, 2012). It is expected that collaboration between different groups is enabled by the development of an intergroup relational identity (Hogg et al., 2012).

The second narrative shows that project and program managers frame the impact of other groups on complex emergent problem resolution in different ways. In this narrative other groups are framed as delaying or complicating the process, providing information and support, or co-creating the solution. The way in which leaders talk about other groups can have an important impact on the way in which these groups are framed by project team members and whether their perspectives are taken seriously in the resolution of complex emergent problems. In most projects and programs success depends upon collaborative efforts of different groups, both within and across organizations. In this context, a major leadership challenge is to prevent disruptive conflicts between groups (Hogg et al., 2012). By portraying other groups as delaying or complicating the process, leaders set the tone and might influence project team members to develop a negative attitude towards other groups. This can be explained by processes of in-group out-group dynamics through identification and stereotyping.

The positive storylines of this narrative in which other groups are framed as providing information and support, or co-creating the solution resonates with the literature on intergroup collaboration and the role of leadership in co-creating identity. To achieve effective collaboration, leaders have an active role in shaping

social identities, so in order to mobilize all groups involved they can aim to create a category that includes all of them (Reicher, Haslam, & Hopkins, 2005). However, as the development of a new superordinate social identity can easily be perceived as a threat the current social identities, leadership can also aim to develop an intergroup relational identity that acknowledges differences between groups but brings them together around their mutual relationships (Hogg et al., 2012). This last leadership strategy can be seen as a way to bridge differences without reducing them (Ospina & Foldy, 2010). By framing other groups in a positive way leaders can stimulate the development of a positive relational identity between groups that can foster collaboration.

Whether others are framed by leaders as outsiders or group members, their narratives can portray the role of conflicting perspectives in complex emergent problem resolution in different ways. The third narrative we identified relates to the way in which leaders frame the role of conflicting perspectives in the process of resolving issues. One way of framing conflicting views is to emphasize their negative implications and to stress the importance of aligning perspectives for complex emergent problem resolution. Conflicting perspectives can be described as disintegrative tendencies that pull the group apart, by looking at the literature that focusses on the negative aspects of conflict, such as decreased satisfaction, liking of other group members and intention to stay in the group (Jehn, 1995). Leaders in project-based organizations face the challenge of overcoming disintegrative tendencies by combining different perspectives from team members with different backgrounds and the different groups that have a stake in the project (Hobday, 2000).

Consensus can enable smooth implementation (Jehn & Mannix, 2001) and aligning conflicting perspectives could help prevent disruptive forms of conflict such as relational conflict. A potential problem with aligning perspectives is that although shared understanding provides a valuable base for concerted action, changes in the environment call for continuous adaptive sensemaking (Bogner & Barr, 2000). If this alignment goes so far as to create a fully shared mental model, it can inhibit this adaptability and complexity of understanding as they can lead people to focus on similar environmental stimuli, interpret them in similar ways, and create blind spots for other stimuli (Uitdewilligen, Waller, & Zijlstra, 2010).

Leaders can also emphasize the value of conflicting perspectives. This can enable a flexible process of resolution in which team members describe tension as a source for adaptation and improvement. The work by Boddy and Patton (2004) suggests that project leaders can deal with competing narratives in a productive way by valuing them as a potential source of strength. The potential positive effects of conflicting perspectives are supported by research on the positive effects of moderate levels of task conflict on creativity, innovation, and performance (De Dreu, 2006; Farh, Lee, & Farh, 2010; Jehn & Mannix, 2001), and on the role of leadership in stimulating

tension between different perspectives to enable movement of thought and adaptive outcomes (Stacey, 2010; Uhl-Bien et al., 2007).

A third storyline in this last narrative relates to the importance of both conflicting and aligned perspectives. This way of framing effective complex emergent problem resolution involves iterating between enabling different perspectives and aligning perspectives, which can make it possible for the team to work both flexibly and efficiently. This is similar to the model developed by Beck and Plowman (2009) that highlights both nurturing conflicting perspectives and aligning perspectives as important in guiding interpretation of events. Leaders can, for example, use language to stimulate and surface conflict, or provide meaning through sensemaking (Plowman et al., 2007). More generally, this is in line with the literature on opposing action strategies, which shows that dissent and consensus can strengthen each other by promoting both knowledge generation and integration (Gebert et al., 2010).

The language use of leaders and narratives and related storylines that we found when we interviewed project and program leaders go beyond 'merely words' and have, as we argue here, theoretically important effects on how project teams function and approach complex emergent problems. Narratives function to structure responses to complex problems, and the recognition of the work they do is an important issue when it comes to understanding project and program leadership. The results of the current study draw attention to the different ways in which leaders frame the resolution of complex issues and the different ways in which these can shape the project and program. It is therefore important that project and program managers are aware of their central role in shaping projects through language. This awareness can lead to a better understanding of the consequences their language has for the success of projects or programs.

Further studies of why, when and with what effects narratives are used will bring further insight into the practical implications of language and narratives in project leadership. Future studies may examine what narratives and storylines have the most positive effects on the resolution of complex problems. Such insights can help project and program managers to choose their words carefully. In addition, they can analyze the effectiveness of narratives in different contexts, and also in terms of different time based aspects of project and program management. This could help leaders to assess their situation and shape emergent narratives in specific ways and effectively time the use of specific storylines.

4.1 Limitations and future research

In this study we have identified leaders' narratives for resolving emergent issues in projects and programs and discussed what these narratives can do from a language

constitutive perspective on organizing processes. We can see from the results that leaders often draw on more than one storyline underpinning a narrative, but the results don't allow for a distinction of what type of leaders are most likely to draw on what type of storylines, how this differs for different contexts they work in, in what ways different storylines are combined, how these narratives develop over time, how this is influenced by collective meaning making, and how leaders' narratives shape reality through collective meaning making. This raises new questions of why these narratives are used, when they are used, and with what effects. These are important issues to further explore in future studies.

The generalizability of our results is limited by the number of interviewees. However, the goal of this study, as in similar studies on narratives and projects (Lindgren & Packendorff, 2007; Thomas & Buckle-Henning, 2007), is to generate internally valid findings through a rich exploratory analysis. In the current study we have explored the role of language in leadership of novel projects and programs through interviews with project and program managers. Though this has allowed us to shed light on their narratives of how they frame complex emergent problem resolution, we have to keep in mind that the perspective of the manager is only one of many that shape meaning together, and that the language these leaders use in the interviews can differ from the language they use when they interact with others in and around the project and program. Future research is required to further build on these insights and develop more knowledge on the existence, extent and implications of such differences.

Future research can also build upon our current exploratory study by including people with a wider range of roles in projects, programs, and line organizations through interviews or observation of evolving processes of meaning making around upcoming project management issues. First of all, future research could further examine how leaders' narratives are perceived and responded to by others. Secondly, studying these collective meaning making processes through observation while they are ongoing can be an important route to finding out more about the intricacies, temporal aspects, and interactive elements of these processes, and their effects. Overall, this can lead to more insight into the role of leaders' language in projects and programs.

Finally, the project management field has much to gain from further development of a language perspective on the construction of project reality. Taking a further linguistic turn in project management can help us move beyond aims to reflect that reality, and towards more insight into the ways in which this reality is constructed in processes of project–based interaction. We hope that the current study further encourages researchers and practitioners of project management to explore and reflect upon the role of language in the construction of project realities.

CHAPTER 6

DISCUSSION

Leaders enable project-based organizations to deal with complex and paradoxical demands. They do this through adaptive and paradoxical strategies, practices and narratives. Though leadership has been extensively studied, most leadership theories have not been developed for the complex and diverse contexts, and the more flexible forms of organizing leaders increasingly work in (Osborn et al., 2002; Shamir, 1999; Uhl-Bien et al., 2007). Responding to the call for contextualized organizational research, and specifically leadership (Keegan & Den Hartog, 2004; Kempster & Parry, 2011; Rousseau & Fried, 2001), we have focused on the context of project-based organizations in which the challenges of dealing with complex and paradoxical demands are especially visible.

Project-based organizations 'involve the creation of temporary systems for the performance of project tasks' (Sydow et al., 2004). Projects create a 'new' setting for action through which organizations accomplish change (Keegan & Turner, 2001; Keegan & Turner, 2002; Lindkvist, 2008; Lundin & Söderholm, 1995). However, the finite nature of projects can lead to highly organized ways of dealing with time problems, and accordingly projects are often managed in a mechanistic manner which focuses mainly on efficient use of resources (Cicmil & Hodgson, 2006; Keegan & Turner, 2002; Lindkvist, 2008; Lundin & Söderholm, 1995). In order to be sustainably successful, project based organizations need to be both adaptable and efficient, both explore new possibilities and exploit current strengths (Eisenhardt et al., 2010; Farjoun, 2010; March, 1991; Raisch et al., 2009; Schreyogg & Sydow, 2010).

In projects, the disintegrative tendencies of team members being drawn from a diversity of functional and organizational backgrounds, and having to work together for a finite period of time, can potentially pull the project apart and reduce the effectiveness of the project team (Kolb & Putnam, 1992; Morgan, 1981). These disintegrative tendencies must be balanced with sufficiently strong integrative tendencies, such as shared project identification to allow project teams to meet the paradoxical demands placed on them (Rousseau, 1998). Another challenge faced by projects and programs is solving complex emergent problems (Turner & Keegan, 1999). How people construct and deal with these issues is shaped through language (Alvesson & Kärreman, 2000; Boje et al., 2004; Phillips & Oswick, 2012).

In this dissertation we have shown the role that leaders play in resolving central paradoxes of organizing, such as enabling efficiency and adaptability, creating and sustaining contextual ambidexterity, balancing disintegrative tendencies with integrative tendencies and constructing the value of aligned and conflicting perspectives. We have studied the impact of leaders on others from multiple angles by exploring how leaders can have an influence on the complexity of organizational responses (specifically of the complexity of beliefs and actions), identification with organizational foci (and specifically shared project identification), and collective meaning making processes in and around projects and programs (specifically in the

face of complex emergent issues).

We have identified the opposing leadership strategies of complexity absorption and complexity reduction as playing a central role in project-based organizations by harnessing the paradoxical aspects of respectively efficiency and adaptability in chapter 2, and exploitation and exploration in chapter 3. Exploring a more fine-grained level of leadership processes, the results indicated a range of leadership practices that are enacted by leaders to continuously aim to enable a complexity of responses that matches the complexity of stimuli from the environment, or in other words approach requisite complexity. Some of these leadership practices are direct practices that are enacted in interaction with others, whereas others are indirect practices in the form of semistructures.

In light of the paradox of disintegrative tendencies, which can pull the project team apart, and integrative tendencies, which can bring the project team together, examined in chapter 4, our results have indicated project managers use a range of leadership practices that promote interaction among team members to stimulate shared project identification. They enact these leadership practices to develop shared project identification as an integrative tendency to bridge differences and enable effective collaboration.

We have also identified a number of leadership practices in the form of storylines leaders draw on when they develop narratives of complex emergent issues. Through these storylines leaders have an important role in co-constructing the issues they and others are faced with, and the ways in which they are dealt with.

In this final chapter we discuss the implications of this collection of studies for theory and practice. As the studies in this thesis were conducted in project-based organizations, but address challenges that are increasingly important for other organizations too, we discuss the extent to which our results can be generalized to other organizational contexts. We address the general limitations of the dissertation and the opportunities these open up for future research and end with a conclusion.

1 IMPLICATIONS FOR THEORY

In this thesis we shed light on the role of leadership in project-based organizations. Both a paradox perspective (Lewis, 2000; Lüscher & Lewis, 2008; Smith & Lewis, 2011) and a perspective informed by the complexity sciences (Boisot & McKelvey, 2010; Plowman et al., 2007; Stacey, 2010; Uhl-Bien et al., 2007; Uhl-Bien & Marion, 2009) enabled us to analyze the role of leadership through a focus on four paradoxes of organizing, namely that of efficiency and adaptability, simultaneous exploitation and exploration (contextual ambidexterity), disintegrative and integrative tendencies, and aligned and conflicting perspectives.

Our results show different ways in which leaders deal with paradoxical demands emerging from managing people on projects. First of all, in chapters 2 and 3, we identified two important leadership strategies leaders used to harness both aspects of the paradoxes of efficiency–adaptability, and exploitation–exploration: reducing and absorbing complexity. Complexity reduction promotes efficiency and exploitation of current strengths by developing a single representation of the complexity of stimuli followed by a single response (Ashmos et al., 2000; Boisot & Child, 1999; Boisot & McKelvey, 2010). Complexity absorption promotes adaptability and exploration of new possibilities by developing multiple, possibly conflicting, representations of the complexity of environmental stimuli and developing a range of responses (Ashmos et al., 2000; Boisot & Child, 1999; Boisot & McKelvey, 2010).

Complexity absorption can be enacted through direct and indirect practices that increase the complexity of responses (which can be divided into the complexity of beliefs and the complexity of actions) through higher levels of interaction, tension and interdependence. Discussed in chapter 4, the disintegrative tendency of diversity is an important ingredient in the process of absorbing complexity. The use of storylines emphasizing the importance of conflicting perspectives, by leaders, while managing projects, identified in chapter 5, can support the successful implementation of a strategy of complexity absorption as people involved will see the value of absorbing complexity.

Complexity reduction can be enacted through direct and indirect practices that decrease the complexity of responses through lower levels of interaction, tension and interdependence. The disintegrative tendency of time pressure from the finite nature of projects discussed in chapter 4, provides a clear push for the process of reducing complexity. In chapter 5 we identified a related storyline regarding the importance of aligned perspectives. This storyline can support the successful implementation of a strategy of complexity reduction.

Though in the literature on dealing with paradoxical demands, agreement seems to emerge around the importance of harnessing both seemingly opposite aspects of the paradoxes of efficiency–adaptability, and exploration–exploitation (Eisenhardt et al., 2010; March, 1991; Smith & Lewis, 2011), not much is known about the extent to which both aspects should be stimulated in order to be sustainably successful as an organization. Through our abductive analysis, iterating between expectations from a wide range of literatures, and surprises in the data, we identified the important role of requisite complexity in finding out to what extent each paradoxical aspect should be enabled. In order to approach requisite complexity the complexity of responses of a system should match the complexity of stimuli (Boisot & McKelvey, 2010). In light of the paradoxical demands for efficiency and adaptability, and exploration and exploitation, this means that the higher the complexity of stimuli the greater the need for adaptability and exploration, and the lower the complexity of stimuli the

lower the need for adaptability and exploration.

The results showed how leaders enact the identified leadership strategies and practices in an adaptive way to approach requisite complexity. We demonstrated how approaching requisite complexity entailed an overall development from complexity absorption to complexity reduction, and that this involved continuous iteration between the two strategies.

The combination of a paradox perspective and a perspective informed by the complexity sciences has implications for both literatures. On the one hand, a paradox perspective has implications for Complexity Leadership Theory (Uhl-Bien et al., 2007; Uhl-Bien & Marion, 2009). In chapter 2, we proposed a move from a focus on enabling leadership to enable adaptability, to a focus on complexity leadership to stimulate both efficiency and adaptability. We defined complexity leadership as 'dealing with complexity by harnessing both efficiency and adaptability to approach requisite complexity through the opposing actions strategies of complexity absorption and complexity reduction' (p38). This reorientation shifted the focus from stimulating a high complexity of responses to approaching requisite complexity.

On the other hand, the complexity sciences have important implications for the literature on ambidexterity, which is already strongly rooted in a paradox perspective. The literature on contextual ambidexterity has already clearly indicated the need for leaders to harness both seemingly opposing aspects, however what leaders have to do in order to continuously create and maintain ambidexterity in a changing environment has not fully been addressed (Rosing et al., 2011; Yukl, 2009b). Our results showed that the concept of requisite complexity provided more insight into the role of leadership in achieving contextual ambidexterity as a dynamic accomplishment by showing that, though leaders continuously enact both opposing leadership strategies of complexity absorption and reduction, the extent to which one is emphasized over the other depends on the gap between the current complexity of responses and the complexity of stimuli.

In chapters 2, 3, and 4 we explored leadership strategies and practices, and in chapter 5 we focused on leaders' narratives. We chose to focus on strategies, practices, and narratives instead of the popular focus on stable leadership styles to develop a more rich understanding of leadership. Using a practice perspective (Feldman & Orlikowski, 2011) of leadership we unearthed a number of leadership practices to enact the leadership strategies of complexity absorption and complexity reduction, to stimulate the integrative tendency of project identification, and to frame complex emergent problems. We shed light on direct leadership practices in interaction (chapter 3 and 4), indirect leadership practices in the form of semistructures (chapter 2 and 4), and narrative practices in the form of storylines (chapter 5). This focus on practices allowed us to show the complex and paradoxical nature of leadership practices. Specifically, we identified some opposing leadership practices that can be

simultaneously enacted by one leader, showed that this enactment depends upon the context, and found that this enactment continuously changes according to overall patterns and iterative moves.

2 GENERALIZABILITY TO OTHER CONTEXTS

Organizations are generally facing a more diverse and complex context in which the role of leadership needs to be reconsidered (Osborn et al., 2002; Shamir, 1999; Uhl-Bien et al., 2007). As projects are new and temporary systems in which paradoxical demands are clearly observable, project-based organizations are arguably more suitable for dealing with complex and paradoxical demands than traditional line organizations. It is therefore interesting to explore to what extent our results might be generalizable to other contexts.

The importance of approaching requisite complexity through complexity leadership can be expected to be relevant for any organization facing complex emergent demands. However, the specific temporal patterns of moving iteratively from absorbing complexity to reducing complexity might be less pronounced in other forms of organizing where emergent issues are dealt with in stable hierarchies instead of newly assembled temporary groups. This could be explained by the temporal nature of projects, often leading to a perception of time as linear, and pushing for a more organized way of dealing with time (Lundin & Söderholm, 1995).

Enabling efficiency and adaptability and creating and sustaining ambidexterity are mostly studied at the organizational or top management team level (Eisenhardt et al., 2010; Rosing et al., 2011). Contextual ambidexterity is increasingly recognized as important for sustainable success (Gibson & Birkinshaw, 2004; Lavie et al., 2010; Simsek et al., 2009), however exploration of the role of leadership in simultaneous exploration and exploitation at levels of organizing lower than top management teams is still in its infancy (Rosing et al., 2011). As we can't expect top management teams to appropriately deal with all emergent issues in the organization (Uhl-Bien et al., 2007), the ability to be both efficient and adaptable, and to be contextually ambidextrous, will require the efforts of a wider group of people in the organization.

In project-based organizations these demands for efficacy and adaptability, and for exploration and exploitation, are especially apparent, not just at the top, but also within each project (Cicmil & Hodgson, 2006; Keegan & Turner, 2002; Lee et al., 2007; Lewis et al., 2002; Sydow et al., 2004). In chapter 2 and 3 we have shown how these paradoxical demands are dealt with at lower levels, specifically within the project. The relative autonomy of projects (Lundin & Söderholm, 1995) might make project-based organizations an extreme case in which to clearly observe the role of leaders in enabling efficiency and adaptability, and creating and sustaining contextual

ambidexterity at lower levels of organizing which can inform theorizing for other organizational contexts.

Though the disintegrative tendencies of finiteness and functional and inter-organizational diversity are especially pronounced in project-based organizations (Söderlund, 2004; Sydow et al., 2004), other forms of organizing deal with similar disintegrative tendencies of time pressure and functional diversity. Developing strong integrative tendencies will then also be important in other types of organizations. Many organizations are facing increasingly stronger disintegrative tendencies from new ways of working that involve more flexible contracts, changing work locations and diminishing face to face contact (Connelly & Gallagher, 2004; Houseman, 2001; Purvanova & Bono, 2009; Wiesenfeld et al., 1999). These organizations will be confronted with the question of how to balance these growing disintegrative tendencies with sufficiently strong integrative tendencies. Stimulating identification as a way to balance disintegrative tendencies can be important for any type of organization. The importance of project identification though, and the opportunities this creates for the adaptability of the organizational identity is quite specific for project-based organizations. In other forms of organizing, identification will be tied to more stable groups. This might facilitate identification with the group, but is likely to increase the difficulty of creating adaptability in the organizational identity.

In any organization, narratives and the ways in which they are shaped by leaders have an important impact on how situations are perceived and issues are dealt with (Cunliffe & Coupland, 2012; Sonenshein, 2010; Tsoukas & Hatch, 2001). However, the development of narratives might be more open in newly set up projects that are initiated to deal with emergent demands, than in stable groups dealing with ongoing operations, making the role of leaders in co-constructing these narratives even more crucial in shaping the situation in projects. Project-based organizations are not the only types of organizations in which people have to deal with complex emergent problems. Projects are simply one context in which the resolution of complex emergent problems is especially frequent and important, and as such our findings in this thesis have potential value in showing how these are framed in other types of organizations.

3 IMPLICATIONS FOR PRACTICE

The insights presented in this dissertation can help practitioners reflect on their own leadership strategies and practices. This can open up new perspectives to interpret their situation, inspire new leadership actions, and draw out other responses from the people they work with.

First of all, our results regarding the role of leadership in dealing with paradoxical

demands can guide practitioners in dealing with these forces. When confronted with demands for efficiency and adaptability, exploitation and exploration, integrative and disintegrative tendencies, aligned and conflicting perspectives, practitioners can orient to them as paradoxical aspects of organizing, instead of viewing them as purely opposing forces. This dissertation offers a number of insights practitioners can use when trying to resolve paradox. First of all, leaders can stimulate the development of both paradoxical aspects. Secondly, leaders can continuously iterate between these paradoxical aspects and adapt their leadership practices in such a way as to approach requisite complexity. The findings from this dissertation show a whole range of leadership strategies and practices they can use to accomplish this. This process of resolving paradox is an ongoing processes that requires continuous adaptations to changes in the environment.

Most project managers have learned in their training and certification processes how to work efficiently through methods of planning and control (Cicmil & Hodgson, 2006; Keegan & Turner, 2002). Though efficiency and exploitation of current knowledge are important for the success of projects, the seemingly opposing demands for adaptability and exploration to develop new knowledge are just as important for the success of the project and the sustainable success of the project-based organization (Eisenhardt et al., 2010; Smith & Lewis, 2011). In order to redress the emphasis on efficiency in traditional project management thinking, it is important to stress the need to encourage discussion, explore different perspectives, and experiment with multiple courses of action. In other words, leadership in project-based organizations is both about simultaneously reducing the complexity of responses and increasing the complexity of responses.

Another practical implication of our results is recognition of the role of disintegrative tendencies in projects and the leadership practices leaders can use to balance these with sufficiently strong integrative tendencies. Projects tend to bring together a diverse set of people, often coming from different functional backgrounds, working for different organizations and from different locations, for a limited period of time. This diversity and finiteness help to accomplish adaptability and efficiency respectively, but can also pull the project team apart as different perspectives have to be bridged in a limited period of time. In order to be able to capitalize on the potential advantages of diversity and finiteness, project managers can stimulate the development of shared identification with the project as an integrative tendency that can bring the project team together. Again this does not involve trying to get everyone to think the same things, but learning from each other's perspectives.

Finally, it is important to acknowledge the pivotal role of language in leadership in project-based organizations. Through their language, leaders construct problems and their resolution. A focus on language can enable leaders to reflect on their impact on collective processes of meaning making that shape how people view the situation,

how they act upon that situation and thus the success of the project, program and organization.

4 LIMITATIONS AND FUTURE RESEARCH

Our results show the need for more research that explicitly addresses the role of leadership in dealing with complex and paradoxical demands, specifically in project-based organizations. We have explored how leadership is enacted in this context, but it would also be very interesting to examine how other perceptions, behaviors and expectations develop in these contexts. For example, do people have different expectations of their leaders and employing organizations in project-based organizations, i.e. do they develop different types of psychological contracts? Work on psychological contracts and careers in more flexible forms of organizing can provide guidance in exploring these issues (e.g. De Cuyper et al., 2008; Sullivan, 1999; Sullivan & Baruch, 2009).

In this collection of studies we empirically examine leadership in project-based organizations. The main focus of our studies was on leadership enacted by leaders in managerial positions. As leadership can be enacted by all individuals in the organization (e.g. Pearce & Sims, 2002; Pearce, 2004; Stacey, 2010; Uhl-Bien & Marion, 2009), more research is needed to assess the extent to which our results are generalizable to leaders in non-managerial roles. Do they have the same portfolio of leadership strategies, practices and narratives they can draw on, and do they have the same impact? Building on the work of Keegan and Den Hartog (2004) and Turner, Muller, and Dulewicz (2009), it would also be interesting to further unpack the differences in the ways in which leadership is enacted by people in different types of managerial roles, such as line and project management, and the effects of these leadership behaviors.

Though we started to address temporal patterns of leadership in this dissertation, none of our studies are longitudinal and we therefore only build upon theory and descriptions of process from interviewees to address developments over time. In order to test our findings and build a more empirically grounded understanding of temporal patterns in leadership, longitudinal studies are required. At this early stage, in depth qualitative studies involving interviews and observation are expected to be of most value. This could help answer a number of questions that flow from this thesis. For example, how can project identification enable an adaptive organizational identity (Ashforth et al., 2011; Fiol, 2001; Gioia et al., 2000; Schreyogg & Sydow, 2010)? What differences can be distinguished between different types of people and the way in which their leadership strategies, practices, and narratives develop over time? How do leaders in project-based organizations develop to become effective

at dealing with complex and paradoxical demands (Day, 2001; McCauley, Drath, Palus, O'Connor, & Baker, 2006)? What learning experiences trigger which ways of constructing the context and what leadership patterns?

In addition, we analyzed the leadership strategies, practices and narratives used, and theoretically underpin their impact. In order to improve our understanding of the impact of these leadership strategies, practices, and narratives on personal, interpersonal, group, organization, and inter-organizational outcomes, further research that specifically addresses these outcomes is called for. Another important aspect of this would be to explore how leadership is shaped by the context in which it is enacted. We address this to some extent by showing how practices are adapted to paradoxical demands and the need for requisite complexity, but future work can shed more light on how complexity and leadership are constructed in interaction in these contexts (see for example Uhl-Bien and Ospina (2012) on relational leadership, and Stacey (2010) on complex responsive processes). So, not purely how does leadership shape the context, but also how does the context shape leadership? For example, to what extent do current conceptions of leadership and project management hinder the effectiveness of leaders aiming for adaptability?

We applied theories from the complexity sciences to explain leadership in project-based organizations (Boisot & McKelvey, 2010; Uhl-Bien et al., 2007; Uhl-Bien & Marion, 2009), for example how leadership can create and sustain contextual ambidexterity (Gibson & Birkinshaw, 2004; Lavie et al., 2010; Simsek et al., 2009). To what extent can theories based on the complexity sciences be directly applied in organizational settings, and to what extent will they have to be adapted to adequately capture the human nature of these complex adaptive systems of complex processes of interaction? For example, can we distinguish different levels of the complexity of responses that emerges in projects and organizations? And to what extent can the complexity sciences inform further theorizing on ambidexterity and other paradoxes of organizing, for example at the organizational level.

5 CONCLUSION

We have shown how leaders in project-based organizations deal with complex and paradoxical demands. Building on a range of literatures, most notably a paradox perspective and a perspective informed by the complexity sciences, and drawing on qualitative and quantitative data of project managers, program managers, project team members and line managers in project based organizations, we have examined leadership in project-based organizations. We have identified a number of leadership strategies, practices, and narratives used to deal with complex and paradoxical demands. We have shown general patterns of how leadership is enacted to harness

paradoxical aspects of organizing, and adaptations over time to approach requisite complexity. We hope that this dissertation will inspire further efforts to continue advancing our understanding of leadership in project-based organizations, and other contexts rife with complex and paradoxical demands.

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APPENDICES

APPENDIX 1

DATA ARCHITECTURE DISSERTATION

Table. Data sources used in each chapter of the dissertation

	Chapter 2	Chapter 3	Chapter 4 Study 1	Chapter 4 Study 2	Chapter 5
Interview set A 48 interviews with project managers, line managers, team members in 20 project	X All interviews	X 42 PMs, TMs & LMs in 17 projects	X 33 PMs & TMs in 18 projects		
Day of observation 1 project manager	X				
Group interview 6 project managers	X				
Survey 216 project managers				X	
Interview set B 11 interviews with project managers and program managers in 5 programs					X

Note. In chapter 3 and Study 1 of chapter 4 we report data drawn from a sub set of interviews/projects that form Interview Set A. We selected the interviews/projects from the overall dataset based on their containing data of relevance to the themes handled in those chapters (respectively contextual ambidexterity in chapter 3, and project identification in chapter 4). Please see the method sections of each chapter for more information about each data source and how it was used in that chapter.

APPENDIX 2

INTERVIEW PROTOCOLS INTERVIEW SET A

(USED IN CHAPTERS 2, 3, AND 4)

Leidraad interviews projecttrekkers
1. Achtergrond en huidige rol
    o   Korte omschrijving van werkgever (omvang, type opdrachtgevers, type en duur projecten)
    o   Functie titel – Wat houdt uw rol in?
    o   Teken een diagram waarin u uw positie weergeeft (binnen organisatie)
    o   Wie zijn uw leidinggevenden?
    o   Wat is uw achtergrond? Opleiding, certificering, banen
2. Algemene betrokkenheid bij projecten en focaal project
    o   Bij hoeveel projecten bent u momenteel betrokken?
    o   Denk bij de volgende vragen aan één project. Dit is uw huidige of meest recente project, of in het geval van meerdere projecten diegene waaraan u de meeste tijd besteed.
    o   Welk percentage van uw werktijd besteedt u gemiddeld aan dit project?
    o   Omschrijf het project
        Controleer of het volgende wordt behandeld, anders doorvragen.
        ▪   Branche
        ▪   Inhoud
        ▪   Duur
        ▪   Budget
        ▪   Belang voor het bedrijf (werkgever)
        ▪   Waar wordt het werk uitgevoerd (werkgever, cliënt, anders)
3. Uw rol als leider
    o   Hoe zou u uw rol in dit project omschrijven?
    o   Wat is uw formele titel in dit project?
    o   Aan wie geeft u leiding? (werkgever teamleden)
    o   Hoe vaak heeft u contact met uw project medewerkers
    o   Hoe krijgt u van je medewerkers gedaan wat u wilt?
        ▪   Hoe beïnvloedt u ze?
        ▪   Waardoor luisteren ze naar u?

- o Pakt u dit altijd op de zelfde manier aan of is dit afhankelijk van de situatie?
    - ▪ Waarvan is dit afhankelijk?
    - ▪ Verandert u uw stijl bewust of gaat dit vanzelf?
- o Werken uw project medewerkers gelijktijdig aan meerdere project/opdrachten?
- o Hoe verdelen zij hun tijd tussen deze projecten?
- o Hoe komen zij tot deze indeling? / Waardoor wordt dit beïnvloed?
    - ▪ U beslist
    - ▪ Andere projectmanagers beslissen?
    - ▪ Lijn manager
    - ▪ Anderen beslissen (b.v. cliënten? HR?)
    - ▪ Eigen inzicht; belang / voorkeur
- o Wat zijn uw belangrijkste taken? Controleer of het volgende wordt behandeld, anders doorvragen.
    - ▪ Keuze project medewerkers
    - ▪ Beoordeling project medewerkers
    - ▪ Training en ontwikkeling van project medewerkers
- o Door wie wordt uw prestatie beoordeeld?
- o Waarop wordt u beoordeeld?
4. Identiteit
    - o Met welke groep voelt u zich het meest verbonden?
        - ▪ Project, organisatie, beroep
    - o Wat doet u om uw medewerkers het gevoel te geven dat ze tot de groep behoren? Welke groep?
5. Volgend interview medewerker

Leidraad interviews projectmedewerkers
De vragen betreffen het project dat met de projectmanager besproken is.
1. Achtergrond en huidige rol
    - o Korte omschrijving van werkgever (omvang, type opdrachtgevers, type en duur projecten)
    - o Functie titel – Wat houdt uw rol in?
    - o Teken een diagram waarin u uw positie weergeeft (binnen organisatie)
    - o Wie zijn uw leidinggevenden?
    - o Wat is uw achtergrond? Opleiding, certificering, banen

2. Algemene betrokkenheid bij projecten en focaal project
   o Bij hoeveel projecten bent u momenteel betrokken?
   o Denk bij de volgende vragen aan één project. Dit is uw huidige of meest recente project, of in het geval van meerdere projecten diegene waaraan u de meeste tijd besteed.
   o Welk percentage van uw werktijd besteedt u gemiddeld aan dit project?
   o Omschrijf het project
     Controleer of het volgende wordt behandeld, anders doorvragen.
     ▪ Branche
     ▪ Inhoud
     ▪ Duur
     ▪ Budget
     ▪ Belang voor het bedrijf (werkgever)
     ▪ Waar wordt het werk uitgevoerd (werkgever, cliënt, anders)
3. Uw rol als projectteamlid en de rol van de projectmanager
   o Hoe zou u uw rol in dit project omschrijven?
   o Wat is uw formele titel in dit project?
   o Wie is uw leidinggevende binnen het project?
   o Waar voert u uw werk binnen dit project uit?
   o Hoeveel contact heeft u met uw leidinggevenden? (lijn/dit project)
   o Hoe vraagt uw project manager u om iets te doen? Hoe geeft hij/zij leiding aan u?
   o Doet hij of zij dit altijd op dezelfde manier? Of is het afhankelijk van de situatie hoe uw projectmanager u aanstuurt?
     ▪ Waarvan is dit afhankelijk?
   o Wat voor een effect heeft de manier waarop uw projectmanager u aanstuurt op u?
     ▪ Is het een effectieve manier van aansturen?
     ▪ Vindt u het een prettige manier om aangestuurd te worden?
   o Hoe verdeelt u uw tijd tussen de projecten waaraan u werkt?
   o Hoe komt u tot deze indeling? / Waardoor wordt dit beïnvloed?
     ▪ Project managers
     ▪ Lijn manager
     ▪ Eigen inzicht; belang / voorkeur
     ▪ Anderen (b.v. cliënten? HR?)
   o Wie heeft invloed op:
     ▪ Uw plaatsing in dit project?
     ▪ Uw beoordeling?

- ▪ Training en ontwikkelingsbeslissingen?
4. Ervaringen met andere leidinggevenden
    - o Hoeveel leidinggevenden heeft u tot nu toe gehad?
    - o Wie heeft u op de meest plezierige manier aangestuurd? Hoe?
    - o Wie heeft u op de meest effectieve manier aangestuurd? Hoe?
5. Identiteit
    - o Met welke groep voelt u zich het meeste verbonden?
        - ▪ Werkgever, opdrachtgever, project, beroepsgroep
    - o Hebben uw leidinggevenden hier invloed op?
    - o Hoe hebben zij hier invloed op? Wat ondernemen zij om u een sterker gevoel van verbondenheid te geven?

Leidraad interviews lijnmanagers
1. Achtergrond en huidige rol
    - o Korte omschrijving van werkgever (omvang, type opdrachtgevers, type en duur projecten)
    - o Functie titel – Wat houdt uw rol in?
    - o Teken een diagram waarin u uw positie weergeeft (binnen organisatie)
    - o Wie zijn uw leidinggevenden?
    - o Wat is uw achtergrond? Opleiding, certificering, banen
2. Uw rol als leider
    - o Aan wie geeft u leiding? (aantal, functiegroep)
    - o Hoeveel procent van hun tijd zijn zij werkzaam in projecten?
    - o Bij hoeveel projecten zijn uw medewerkers momenteel betrokken?
    - o Hoe vaak heeft u contact met uw medewerkers?
    - o Hoe blijft u op de hoogte van hun werkzaamheden?
    - o Hoe krijgt u van uw medewerkers gedaan wat u wilt?
        - ▪ Hoe beïnvloedt u ze?
        - ▪ Waardoor luisteren ze naar u?
    - o Werken uw project medewerkers gelijktijdig aan meerdere project/opdrachten?
    - o Hoe verdelen zij hun tijd tussen deze projecten?
    - o Hoe komen zij tot deze indeling? / Waardoor wordt dit beïnvloed?
        - ▪ U beslist
        - ▪ projectmanagers beslissen
        - ▪ Anderen beslissen (b.v. opdrachtgever? HR?)
        - ▪ Eigen inzicht; belang / voorkeur

- o Wat zijn uw belangrijkste taken? Controleer of het volgende wordt behandeld, anders doorvragen.
    - ▪ Keuze project medewerkers
    - ▪ Beoordeling project medewerkers
    - ▪ Training en ontwikkeling van project medewerkers
3. Algemene betrokkenheid bij projecten en focaal project
    - o Werkt u in projecten?
        - ▪ Bij hoeveel projecten bent u momenteel betrokken?
        - ▪ In welke rol? (PM, teamlid)
        - ▪ Werkt u hierbij samen met medewerkers waar u lijnverantwoordelijkheid over heeft?
        - ▪ Welke rol hebben zij in deze projecten? (PM, teamlid)
        - ▪ Heeft uw samenwerking in projecten invloed op de manier waarop u met elkaar om gaat?
        - ▪ Heeft de rolverdeling in projecten invloed op de manier waarop u leiding geeft?
    - o Denk bij de volgende vragen aan één project. Dit is het project dat met uw medewerker besproken is.
    - o Hoe zou u dit project omschrijven?
    - o Hoe zou u uw rol in dit project omschrijven?
    - o Welk percentage van uw werktijd besteedt u gemiddeld aan dit project?
4. Beoordeling
    - o Wie is verantwoordelijk voor de beoordeling van de medewerkers waar u lijnverantwoordelijkheid over heeft? (gedeeld?)
    - o Hoe komt u tot een beoordeling van uw medewerkers?
        - ▪ Waarop beoordeelt u uw medewerkers? (inhoudelijk)
        - ▪ Gebruikt u hierbij informatie van anderen? Wie?
        - ▪ Bent u hiertoe verplicht?
    - o Door wie wordt uw prestatie beoordeeld?
    - o Waarop wordt u beoordeeld?
5. Identiteit
    - o Met welke groep voelt u zich het meest verbonden?
        - ▪ Project, organisatie, beroep
    - o Wat doet u om uw medewerkers het gevoel te geven dat ze tot de groep behoren? Welke groep?

APPENDIX 3

SURVEY CHAPTER 4 STUDY 2

Amsterdam Business School

Vragenlijst Leiderschap in Projecten

In dit onderzoek proberen we meer te weten te komen over welke aspecten cruciaal zijn en welke minder belangrijk zijn bij het leiden van een projectteam. Hierbij zijn we ook geïnteresseerd in hoe dit per project en projectmanager verschillend is. Hiervoor hebben we uw inzichten als projectmanager nodig!

Hieronder zullen wij u vragen naar de karakteristieken van één van uw projecten, uw rol als projectmanager en de succesfactoren en interventies in het door u gekozen project. Houdt bij het beantwoorden van de vragen rekening met de tijdsdruk op uw project. Deze tijdsdruk zal er vaak toe leiden dat u niet alles kunt doen wat u zou willen. Mogelijk vindt u alle aspecten die we omschrijven belangrijk. Maak dan toch een duidelijk onderscheid tussen cruciale en minder belangrijke aspecten door uw prioriteiten onder tijdsdruk in gedachten te nemen.

Dit onderzoek is onderdeel van het promotieonderzoek van Liselore Havermans aan de Universiteit van Amsterdam dat zij uitvoert met Deanne Den Hartog en Anne Keegan. Wij zullen uw gegevens anoniem verwerken en de resultaten van het onderzoek wetenschappelijk publiceren. Wij houden u graag op de hoogte van de resultaten en mogelijkheden om deel te nemen in vervolg onderzoek.

Karakteristieken van het gekozen project

In de volgende delen van de vragenlijst willen we graag in gaan op één project. Kies een project wat u leidt of recent (maximaal een half jaar geleden) geleid heeft waaraan u het meeste van uw tijd (heeft) besteed. Dit project noemen we hierna **Project A**.

1. Wat is de gehele (verwachtte) duur van project A? ….. Weken

2. Hoe lang bent u betrokken (geweest) bij project A? ….. Weken

3. Hoeveel tijd heeft u gemiddeld aan project A besteed? ….. Uur per week

4. Welke fasen van project A heeft u geleid? (meerdere antwoorden mogelijk)
☐ Planning
☐ Uitvoering
☐ Overdracht / nazorg
☐ Anders, namelijk….

5. Aan hoeveel projecten werkt u op dit moment in totaal? ….. Projecten

De volgende vragen gaan over het (sub)projectteam van project A waaraan u leidinggeeft
6. Uit hoeveel FTE bestaat het (sub)projectteam van project A waaraan u leiding geeft? ….. FTE

7. Uit hoeveel personen bestaat het (sub)projectteam van project A waaraan u leiding geeft?
… personen

8. Uit hoeveel verschillende disciplines zijn de teamleden van project A? ….. Discipline(s)

9. Bent u, naast projectmanager, tevens de lijnmanager van de projectteamleden van project A?
☐ Ja, van het gehele (sub)projectteam dat ik leid
☐ Ja, van een deel van het (sub)projectteam dat ik leid
☐ Nee

10. Wie is de opdrachtgever van project A?
☐ Mijn werkgever
☐ Een externe organisatie

11. Zijn alle projectteamleden van project A waaraan u leiding geeft in dienst van dezelfde werkgever?
☐ Ja
☐ Nee, namelijk ….. verschillende organisaties.

12. Applicatiegebied van project A
☐ Informatie systemen
☐ Organisatie verandering
☐ Techniek en constructie
☐ Anders, namelijk……………………………………………

13. Waar werken de teamleden van project A aan het project?
☐ Iedereen werkt op één projectlocatie
☐ Iedereen werkt in het zelfde gebouw
☐ Een aantal deelgroepjes werken op een aantal locaties
☐ De teamleden werken individueel verspreid over een aantal locaties

14. Geef aan wie officieel verantwoordelijk is voor de volgende taken met betrekking tot de projectteammedewerkers van project A (meerdere antwoorden mogelijk):
Persoonlijke ontwikkeling van projectteamleden
☐ Ik als PM
☐ Lijnmanager
☐ Human Resources
☐ Anders, namelijk……………………………………………
☐ Niemand
☐ Weet ik niet
Er voor zorgen dat teamleden zich identificeren met hun werkgever
☐ Ik als PM
☐ Lijnmanager
☐ Human Resources
☐ Anders, namelijk……………………………………………
☐ Niemand
☐ Weet ik niet

15. Heeft u als projectmanager van project A formeel verantwoordelijkheid voor de jaarevaluatie van teamleden van project A?
☐ Ja
☐ Nee
☐ Anders, namelijk ……………………………………………………………………………………………
………………………………………………………………………………………………………...

16. Heeft u formeel de verantwoordelijkheid om teambuildingactiviteiten te organiseren voor project A?
☐ Ja
☐ Nee

Projectmanagement Rol

Dit is een lijst met stellingen over werk in het algemeen. We willen graag uw mening weten over deze vraagstukken. Geef alstublieft aan of u het eens of oneens bent.

		Oneens				Eens
1.	Op de lange termijn is projectwerk efficiënter als mensen doen wat ze al kunnen in plaats van nieuwe dingen leren.	①	②	③	④	⑤
2.	Efficiënte werkers doen wat ze wordt verteld in plaats van dingen in twijfel te trekken.	①	②	③	④	⑤
3.	Problemen oplossen als ze opkomen is efficiënter dan proberen ze te voorkomen.	①	②	③	④	⑤
4.	Als alles in een organisatie soepel verloopt, is er geen reden om na te denken over dingen veranderen.	①	②	③	④	⑤
5.	Ik zou mijn baan prima kunnen doen zonder te weten wat de algemene doelen van de organisatie zijn.	①	②	③	④	⑤
6.	Er kan niet van mij verwacht worden dat ik me druk maak om fouten die andere mensen maken.	①	②	③	④	⑤
7.	Als ik weet wat te doen en hoe het te doen maak ik me geen zorgen over waarom.	①	②	③	④	⑤

Hoe belangrijk zijn de volgende vaardigheden en kennis voor u om uw werk als projectmanager van project A effectief uit te voeren? Probeer een duidelijk onderscheid te maken tussen cruciale en minder belangrijke aspecten door uw prioriteiten onder tijdsdruk in gedachten te nemen.

		ONBELANGRIJK	BEETJE BELANGRIJK	VRIJ BELANGRIJK	HEEL BELANGRIJK	CRUCIAAL
1.	Weten hoe technische problemen aan te pakken	①	②	③	④	⑤
2.	Weten hoe onenigheid tussen teamleden aan te pakken	①	②	③	④	⑤
3.	Weten wat de prioriteiten van werk zijn in het project	①	②	③	④	⑤
4.	In staat zijn om mensen te motiveren	①	②	③	④	⑤
5.	Weten wat de kernoorzaken zijn van voorkomende problemen	①	②	③	④	⑤
6.	In staat zijn om mensen te betrekken bij het project	①	②	③	④	⑤
7.	In staat zijn om zienswijzen van anderen te begrijpen	①	②	③	④	⑤
8.	In staat zijn technische problemen te anticiperen en te voorkomen	①	②	③	④	⑤
9.	Weten hoe anderen te overtuigen	①	②	③	④	⑤
10.	Weten wat de eisen van uw opdrachtgever zijn	①	②	③	④	⑤

Welke hieronder genoemde aspecten zijn cruciaal voor uw functioneren als projectmanager van project A en welke aspecten zijn minder belangrijk? Probeer een duidelijk onderscheid te maken tussen cruciale en minder belangrijke aspecten door uw prioriteiten onder tijdsdruk in gedachten te nemen.

	ONBELANGRIJK	BEETJE BELANGRIJK	VRIJ BELANGRIJK	HEEL BELANGRIJK	CRUCIAAL
1. Bovenhalen van verschillende zienswijzen van projectteamleden	①	②	③	④	⑤
2. Zorgen dat iedereen weet wat hun taken en verantwoordelijkheden zijn	①	②	③	④	⑤
3. Belonen van prestaties van projectteamleden	①	②	③	④	⑤
4. Inspireren van projectteamleden door een aantrekkelijke projectvisie	①	②	③	④	⑤
5. Ruimte geven aan projectteamleden om hun eigen problemen op te lossen	①	②	③	④	⑤
6. Coachen van projectteamleden	①	②	③	④	⑤
7. Geïndividualiseerde aandacht geven aan alle projectteamleden	①	②	③	④	⑤
8. Corrigeren van fouten van projectteamleden	①	②	③	④	⑤
9. Het bewust maken van projectteamleden van belangrijke vraagstukken	①	②	③	④	⑤
10. Suggereren van nieuwe manieren om problemen op te lossen	①	②	③	④	⑤
11. Praten over waarden zodat iedereen vanuit dezelfde kernwaarden aan het project werkt	①	②	③	④	⑤
12. Mensen in beweging brengen met mijn positieve houding	①	②	③	④	⑤
13. Leren van nieuwe kennis en vaardigheden aan projectteamleden	①	②	③	④	⑤
14. Erkennen van goede resultaten van projectteamleden	①	②	③	④	⑤

Succesfactoren en interventies in het gekozen project

Als projectmanager probeert u project A tot een succesvol einde te brengen. De manier waarop u dit doet zal waarschijnlijk afhankelijk zijn van uzelf en de context van project A. Probeer een duidelijk onderscheid te maken tussen cruciale en minder belangrijke aspecten door uw prioriteiten onder tijdsdruk in gedachten te nemen.

	Onbelangrijk				Cruciaal
1a. Hoe belangrijk is het voor het succes van project A dat alle teamleden **weten wat er van hun verwacht wordt in het project?**	①	②	③	④	⑤

1b. Onderneemt u iets om dit te stimuleren?
☐ Ja
☐ Nee

1c. Zo ja, wat onderneemt u als projectmanager om dit te stimuleren binnen project A?
☐ ik leg de doelen duidelijk uit aan de teamleden
☐ ik verdeel alle taken binnen het project
☐ ik praat met teamleden over de waarden die ik van belang acht in het project
☐ ik laat mijn teamleden zien dat ik mijn beslissingen neem op basis van een aantal kernwaarden
☐ ik denk met teamleden mee als ze niet weten hoe ze hun werk aan moeten pakken
☐ ik vertel mensen exact hoe ze hun werk aan moeten pakken
☐ **ik onderneem (ook) andere activiteiten om dit te stimuleren namelijk;**
☐ …………………………………………………………………………..
☐ …………………………………………………………………………..
☐ …………………………………………………………………………..

	Onbelangrijk				Cruciaal
2a. Hoe belangrijk is het voor het succes van project A dat alle teamleden **zich verbonden voelen met het project?**	①	②	③	④	⑤

2b. Onderneemt u iets om dit te stimuleren?
☐ Ja
☐ Nee

2c. Zo ja, wat onderneemt u als projectmanager om dit te stimuleren binnen project A?
☐ ik houdt teamleden op de hoogte van ontwikkelingen rondom het project
    ☐ als deze direct van invloed zijn op hun werkzaamheden
    ☐ ook als deze niet direct van invloed zijn op hun werkzaamheden
☐ ik organiseer groepsactiviteiten, namelijk;
    ☐ bijeenkomst waarbij teamleden op de hoogte worden gebracht van de voortgang van het project
    ☐ bijeenkomst waarbij het project door alle teamleden wordt bediscussieerd
    ☐ excursie of spreker
    ☐ lunch, diner of borrel
    ☐ andere niet werkgerelateerde leuke activiteit
☐ **ik onderneem (ook) andere activiteiten om dit te stimuleren namelijk;**
☐ …………………………………………………………………………..
☐ …………………………………………………………………………..
☐ …………………………………………………………………………..

		Onbelangrijk				Cruciaal
3a.	Hoe belangrijk is het voor het succes van project A dat alle teamleden **zich primair kunnen concentreren op hun kerntaken in het project?**	①	②	③	④	⑤

3b. Onderneemt u iets om dit te stimuleren?
☐ Ja
☐ Nee

3c. Zo ja, wat onderneemt u als projectmanager om dit te stimuleren binnen project A?
☐ ik scherm teamleden af van direct contact met de opdrachtgever
☐ ik filter informatie uit de omgeving en vertel teamleden alleen wat ze moeten weten om hun taak uit te kunnen voeren
☐ **ik onderneem (ook) andere activiteiten om dit te stimuleren namelijk;**
☐ ……………………………………………………………………………..
☐ ……………………………………………………………………………..
☐ ……………………………………………………………………………..

		Onbelangrijk				Cruciaal
4a.	Hoe belangrijk is het voor het succes van project A dat alle teamleden **zich bezig houden met meer dan alleen hun kerntaken?**	①	②	③	④	⑤

4b. Onderneemt u iets om dit te stimuleren?
☐ Ja
☐ Nee

4c. Zo ja, wat onderneemt u als projectmanager om dit te stimuleren binnen project A?
☐ ik stimuleer teamleden om in contact te komen met de opdrachtgever
☐ ik geef teamleden toegang tot alle informatie die betrekking heeft op de opdracht in een brede zin
☐ **ik onderneem (ook) andere activiteiten om dit te stimuleren namelijk;**
☐ ……………………………………………………………………………..
☐ ……………………………………………………………………………..
☐ ……………………………………………………………………………..

		Onbelangrijk				Cruciaal
5a.	Hoe belangrijk is het voor het succes van project A dat alle teamleden **zich persoonlijk ontwikkelen tijdens het project?**	①	②	③	④	⑤

5b. Onderneemt u iets om dit te stimuleren?
☐ Ja
☐ Nee

5c. Zo ja, wat onderneemt u als projectmanager om dit te stimuleren binnen project A?
☐ ik geef teamleden feedback tijdens het project
☐ ik geef teamleden feedback na afloop van het project
☐ ik geef input voor de jaarevaluatie van projectteamleden
☐ ik stimuleer teamleden om taken op zich te nemen waar zij zich in kunnen ontwikkelen
  ☐ ik doe dit als dit het succes van het project ten goede komt
  ☐ ik doe dit ook als dit <u>niet</u> direct het succes van het project ten goede komt
☐ ik stimuleer teamleden om cursussen te volgen
  ☐ ik doe dit als dit het succes van het project ten goede komt
  ☐ ik doe dit ook als dit <u>niet</u> direct het succes van het project ten goede komt
☐ **ik onderneem (ook) andere activiteiten om dit te stimuleren namelijk;**
☐ ……………………………………………………………………………..
☐ ……………………………………………………………………………..
☐ ……………………………………………………………………………..

		Onbelangrijk				Cruciaal
6a.	Hoe belangrijk is het voor het succes van project A dat alle teamleden **discussiëren over verschillende zienswijzen?**	①	②	③	④	⑤

6b. Onderneemt u iets om dit te stimuleren?
- ☐ Ja
- ☐ Nee

6c. Zo ja, wat onderneemt u als projectmanager om dit te stimuleren binnen project A?
- ☐ ik stimuleer teamleden om met elkaar in discussie te gaan over de uitvoering van het project
- ☐ ik stimuleer teamleden om met anderen buiten het project in discussie te gaan over de uitvoering van het project
- ☐ ik probeer er achter te komen wat de verschillende zienswijzen in het team zijn
  Dit doe ik met betrekking tot;
  - ☐ manieren om een probleem in het project op te lossen
  - ☐ de doelen die teamleden nastreven in het project
  - ☐ de waarden waar teamleden belang aan hechten
- ☐ Na discussies met teamleden pas ik zo nodig dingen aan. Namelijk,
  - ☐ de geplande manieren om een probleem op te lossen
  - ☐ de doelen van het project
  - ☐ de kernwaarden van het project
- ☐ ik leg niet van te voren vast op welke manieren het werk aangepakt moet worden
- ☐ **ik onderneem (ook) andere activiteiten om dit te stimuleren namelijk;**
  - ☐ ……………………………………………………………………………………..
  - ☐ ……………………………………………………………………………………..
  - ☐ ……………………………………………………………………………………..

		Onbelangrijk				Cruciaal
7a.	Hoe belangrijk is het voor het succes van project A dat alle teamleden **niet discussiëren over verschillende zienswijzen?**	①	②	③	④	⑤

7b. Onderneemt u iets om dit te stimuleren?
- ☐ Ja
- ☐ Nee

7c. Zo ja, wat onderneemt u als projectmanager om dit te stimuleren binnen project A ?
- ☐ ik voorkom dat teamleden met elkaar in discussie te gaan over de uitvoering van het project
- ☐ ik voorkom dat teamleden met anderen buiten het project in discussie te gaan over de uitvoering van het project
- ☐ ik doe geen poging om achter te komen wat de verschillende zienswijzen in het team zijn
- ☐ Ik vermijd discussies met teamleden
- ☐ ik leg van te voren vast op welke manieren het werk aangepakt moet worden
- ☐ **ik onderneem (ook) andere activiteiten om dit te voorkomen namelijk;**
  - ☐ ……………………………………………………………………………………..
  - ☐ ……………………………………………………………………………………..
  - ☐ ……………………………………………………………………………………..

Schat in hoe sterk uw projectteamleden zich verbonden voelen met:	Nauwelijks				Heel sterk
1. Het project	①	②	③	④	⑤
2. Hun werkgever	①	②	③	④	⑤
3. Hun afdeling	①	②	③	④	⑤
4. Hun beroepsgroep	①	②	③	④	⑤
5. U als projectmanager	①	②	③	④	⑤
6. Hun lijnmanager	①	②	③	④	⑤
7. Collega's op het project	①	②	③	④	⑤

Heeft u nog aanvullende opmerkingen naar aanleiding van deze vragenlijst over leiderschap in projecten?

………
………
………
………
……

Resultaten en vervolgonderzoek

Wilt u op de hoogte gehouden worden over de resultaten van dit onderzoek en bent u eventueel geïnteresseerd om deel te nemen in vervolg onderzoek over succesvol leiderschap van projecten? Geef dan hier uw naam en email adres zodat we u op de hoogte kunnen houden van de resultaten en mogelijkheden om deel te nemen in vervolg onderzoek. We zullen vertrouwelijk met uw contact gegevens omgaan en deze niet koppelen aan de data uit dit onderzoek.

Naam ……………………………………………………………..

Emailadres ……………………………………………………

Hartelijk bedankt voor uw deelname aan dit onderzoek!

Liselore Havermans, MSc, PhD Candidate Leadership in Project-Based Organizations
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APPENDIX 4

INTERVIEW PROTOCOL CHAPTER 5

Interview leidraad – programmamanagers en projectmanagers

Introductie
- Achtergrond
- Huidige rol
- Huidig project/programma; korte omschrijving
    o Hoe is dit project/programma ontstaan? Vanuit welke vraag?
- Wat is de taakverdeling tussen jou en de project/programma manager?

Leiderschap in dit project/programma
- Tegen wat voor soort vraagstukken ben je aangelopen in dit project met betrekking tot het leiden van het project en de mensen op het project?
- Tegen wat voor soort vraagstukken ben je aangelopen in dit project met betrekking tot het managen van complexiteit rondom het project?
- Op welke manier zijn deze vraagstukken opgelost? (per vraagstuk behandelen)
    o Wie speelde hierbij een rol?
    o Hoe verliep het proces?
    o Wat was jouw rol in dit proces?
    o Wat was de uiteindelijke oplossing?
    o Zijn er vraagstukken onopgelost gebleven? Weet je wat hier mee gaat gebeuren?
- Hoe probeer je er voor te zorgen dat iedereen in het project goed om kan gaan met de complexiteit waar ze mee geconfronteerd worden in het project?
- Wat voor soort vraagstukken worden niet binnen het project, maar juist op het niveau van het programma opgelost?

Overig
- Heeft u nog iets toe te voegen?

ENGLISH
SUMMARY

Despite the overwhelming amount of attention given by scientists and practitioners to leadership, most theories of leadership have been developed to explain the role of leadership in traditional line organizations, not to explain how leaders deal with complex and paradoxical demands in project-based organizations contexts (Hunt, Osborn, & Boal, 2009; Keegan & Den Hartog, 2004; Shamir, 1999; Uhl-Bien, Marion, & McKelvey, 2007). In this thesis we explored leadership in project-based organizations. We showed how leaders enable project-based organizations to deal with complex and paradoxical demands through adaptive and paradoxical strategies, practices and narratives.

In project-based organizations most work is organized in projects in which people from different functional backgrounds, and often different organizations and geographical locations, tend to come together for a limited period of time to accomplish a shared goal (Keegan & Turner, 2002; Lindkvist, 2008; Lundin & Söderholm, 1995; Sydow, Lindkvist, & DeFillippi, 2004; Turner, 2006). As these projects are instigated to deal with an emergent demand they are well positioned to enable the organization to deal with complex and paradoxical demands.

In this thesis we have focused on the role of leadership in dealing with four paradoxes of organizing in four separate studies. These paradoxes are efficiency-adaptability, exploitation-exploration, integrative-disintegrative tendencies, and aligned-conflicting perspectives. We have identified a number of leadership strategies, practices and narratives leaders enact and construct in order to deal with these paradoxes.

SUMMARY OF THE FOUR PAPERS

Both efficiency and adaptability are crucial for the sustainable success of organizations (Smith & Lewis, 2011). In chapter 2 we explored the role of leadership in stimulating both efficiency and adaptability. An emergent theory of leadership developed to explain how people deal with the complexity of modern day organizing, is complexity leadership theory (Uhl-Bien et al., 2007; Uhl-Bien & Marion, 2009). This theory takes into account administrative leadership in the formal hierarchy of the organization which is mainly focused on efficiency, and adaptive leadership in the informal networks that emerge within and across organizations which is mainly focused on adaptability. Enabling leadership has been theorized to intertwine administrative and adaptive leadership by enabling adaptive leadership through stimulating interaction, tension and interdependence. This role of enabling leadership in bringing together efficiency focused and adaptability focused aspects of the organization is well positioned to shed more light on the role of leadership in enabling efficiency and adaptability. However, the way in which enabling leaders

have been theorized to do this is by enabling adaptability, not efficiency.

In chapter 2 we purposefully sampled 48 project managers, team members, and line managers centered around 20 projects in varied contexts to identify new aspects of leadership in project-based organizations through semi-structured interviews. In one of the first empirical examinations of complexity leadership theory we examined the role of indirect leadership practices in stimulating both efficiency and adaptability in project-based organizations. We informed complexity leadership theory by proposing a shift from enabling leadership, which is focused on stimulating adaptability, to a focus on complexity leadership, which is focused on balancing efficiency and flexibility by harnessing both. We show that complexity leaders continuously aim to approach requisite complexity through the paradoxical leadership strategies of complexity absorption and complexity reduction. We identify indirect leadership practices through which these strategies are enacted and show that these take the form of semistructures. These semistructures affect the complexity of responses through their impact on interaction, tension and interdependence.

In chapter 3 we shifted the focus from the paradox of efficiency and adaptability to the related paradox of simultaneous exploration of new possibilities and exploitation of current strengths in a sub-system, or in other words, the demands for creating and sustaining contextual ambidexterity (Gibson & Birkinshaw, 2004; Lavie, Stettner, & Tushman, 2010; Simsek, Heavey, Veiga, & Souder, 2009). The context of project-based organizations, with its distinct push for both exploration and exploitation at the project level (Keegan & Turner, 2002), has allowed us to show the role of leadership in dynamically achieving contextual ambidexterity at this lower organizational level of subsystems.

We explored the role of leadership in creating and sustaining contextual ambidexterity through 42 interviews with project managers, team members and line managers involved in 17 projects with differences in interaction opportunities. We have shown the direct leadership practices used in interaction to achieve contextual ambidexterity. Building on chapter 2 these results shed more light on the opposing leadership strategies of complexity reduction and absorption. We show that these direct leadership practices affect the complexity of responses through their impact on the complexity of beliefs and the complexity of actions.

Chapter 4 addresses the role of leadership in dealing with the paradox of integrative and disintegrative tendencies through a mixed method study. The disintegrative tendencies of diversity and finiteness inherent in project-based work can pull the project apart, but are also crucial ingredients in approaching requisite complexity. Because of this, leaders should not aim to limit disintegrative tendencies in projects, but balance them with integrative tendencies. In chapter 4 we have shown the leadership practices project managers use to stimulate the integrative tendency of project identification in a mixed method study.

Study 1 of chapter 4 involved 33 interviews with 18 sets of project managers and their project team members from projects with relatively high disintegrative tendencies. In this study we show the integrative and disintegrative tendencies in projects and the leadership practices used to stimulate project identification. The identified leadership practices are mainly aimed at stimulating interaction. In study 2, a survey was conducted among 216 project managers to examine to what extent the leadership practices identified in study 1 are generalizable and explore when these are enacted and to what extent they perceive project identification to be important for the success of the project. The results showed the project managers in our sample see project identification as important for project success. They also perceive identification of their team members to be higher than any other organizational focus of identification, and work hard keep it that way as almost all project managers in our sample enact multiple leadership practices to stimulate project identification. However, the context of the projects emerges as a factor in to what extent they do this.

After this focus on leadership strategies and practices, chapter 5 examines the constructive role of language by focusing on leaders' narratives of complex emergent problem resolution. In this chapter, we explore the role of leadership in the fourth paradox focused on in this thesis, namely that of aligned and conflicting perspectives. Projects are instigated to solve complex emergent issues, and leaders have to deal with many embedded emergent issues throughout the duration of the project. When dealing with these evolving issues many different narratives can be constructed around them.

To analyze the constructive role of leaders' narratives in projects, and specifically complex emergent problems, we conducted 11 interviews with project managers and program managers working on 5 different programs in the Netherlands in which they are often faced with complex emergent problems. We show the storylines leaders construct regarding which groups are more or less important and the tensions between these groups, whether they frame the impact of outsiders as positive or negative, and how they portray the role of conflicting perspectives in complex emergent problem resolution. As the issues these leaders are faced with can be dealt with in different ways, the ways in which they construct their narratives can have a significant impact on the construction and resolution of emergent issues and potentially the success of the project and program.

CONCLUSION

These four studies show the role of leadership in a complex context rife with complexity and paradoxical demands by shedding light on the conflicting and

adaptive leadership strategies, practices and narratives that are used in this context. We show the value of a perspective informed by the complexity sciences and a paradox perspective in explaining how leaders deal with complex and paradoxical demands. Our studies show how leaders accept and resolve paradox by harnessing both paradoxical aspects and iterating between them. We also show the ways in which leaders continuously approach requisite complexity through the paradoxical leadership strategies of complexity reduction and absorption.

Though the temporal patterns of leadership in project-based will be more pronounced because of the finite nature of projects, than in line organizations, the challenges of complexity and paradox inherent in project-based organizing are becoming increasingly important in other forms of organizing. Project-based organizations can be seen as an extreme case regarding challenges such as simultaneously achieving efficiency and adaptability, becoming and remaining contextually ambidextrous, balancing disintegrative tendencies with integrative tendencies and dealing with complex emergent problems. As these challenges are becoming more apparent in other forms of organizing, the results emerging from this dissertation can provide a firm basis for exploring these challenges in other contexts. We hope this dissertation inspires further exploration of the complex, paradoxical and fascinating nature of leadership.

NEDERLANDSE
SAMENVATTING

Ondanks de overweldigende hoeveelheid aandacht die wetenschappers en mensen uit de praktijk aan leiderschap geven, zijn de meeste leiderschapstheorieën ontwikkeld om de rol van leiderschap in traditionele lijnorganisaties te verklaren, niet om te verklaren hoe leiders omgaan met complexe en paradoxale eisen in project-gebaseerde omgevingen (Hunt, Osborn, & Boal, 2009; Keegan & Den Hartog, 2004; Shamir, 1999; Uhl-Bien, Marion, & McKelvey, 2007). In dit proefschrift verkenden we leiderschap in project-gebaseerde organisaties. We toonden aan dat leiders project-gebaseerde organisaties in staat stellen met complexe en paradoxale eisen om te gaan door middel van adaptieve en paradoxale leiderschapsstrategieën, praktijken en vertellingen.

In project-gebaseerde organisaties is het meeste werk georganiseerd in projecten waarin mensen met verschillende professionele achtergronden en vaak van verschillende organisaties en werkzaam op verschillende locaties, samen komen om binnen een bepaald tijdsbestek een gezamenlijk doel te bereiken (Keegan & Turner, 2002; Lindkvist, 2008; Lundin & Söderholm, 1995; Sydow, Lindkvist, & DeFillippi, 2004; Turner, 2006). Aangezien deze projecten geïnitieerd worden om met een opkomend probleem om te gaan, zijn ze goed gepositioneerd om het de organisatie mogelijk te maken met complexe en paradoxale eisen om te gaan.

In dit proefschrift hebben we ons gericht op de rol van leiderschap in het omgaan met vier verschillende paradoxen van het organiseren middels vier separate studies. Deze vier paradoxen zijn efficiëntie-aanpassingsvermogen, exploitatie-exploratie, integratieve-dis-integratieve tendensen en overeenstemmende-conflicterende perspectieven. We hebben een aantal leiderschapsstrategieën, -praktijken en -vertellingen geïdentificeerd die leiders uitvoeren en creëren om met deze paradoxen om te gaan.

SAMENVATTING VAN DE VIER ARTIKELEN

Zowel efficiëntie als aanpassingsvermogen zijn cruciaal voor de duurzaamheid van het succes van organisaties (Smith & Lewis, 2011). In hoofdstuk 2 verkenden we de rol van leiderschap in het stimuleren van zowel efficiëntie als aanpassingsvermogen. Een opkomende leiderschapstheorie, ontwikkeld om te verklaren hoe mensen met de complexiteit van hedendaags organiseren omgaan, is *complexity leadership theory* (Uhl-Bien et al., 2007; Uhl-Bien & Marion, 2009). Deze theorie neemt administratief leiderschap in de formele hiërarchie van de organisatie, dat vooral gericht is op efficiëntie, in acht. Daarnaast neemt deze theorie adaptief leiderschap in de informele netwerken die binnen en over de grenzen van organisaties ontstaan, voornamelijk gericht op aanpassingsvermogen, in acht. In *complexity leaderhship theory* is de rol van *enabling leadership* om administratief en adaptief leiderschap te

verweven door adaptief leiderschap mogelijk te maken met behulp van interactie, spanning en interdependentie te stimuleren. Door deze rol in het bijeenbrengen van efficiëntiegerichte en aanpassingsvermogen-gerichte aspecten van de organisatie is *enabling leadership* goed gepositioneerd om meer licht te werpen op de rol van leiderschap in het mogelijk maken van zowel efficiëntie als aanpassingsvermogen. Desondanks is *enabling leadership* tot op heden getheoretiseerd om dit te doen middels het mogelijk maken van aanpassingsvermogen, niet middels het mogelijk maken van efficiëntie.

In hoofdstuk 2 hebben we doelgericht 48 projectmanagers, teamleden en lijnmanagers rondom 20 projecten in gevarieerde contexten geselecteerd, om nieuwe aspecten van leiderschap in project-gebaseerde organisaties te identificeren door middel van semigestructureerde interviews. In één van de eerste empirische studies naar *complexity leadership theory* onderzochten we de rol van indirecte leiderschapspraktijken in het stimuleren van zowel efficiëntie als aanpassingsvermogen in project-gebaseerde organisaties. We bouwden voort op *complexity leadership theory* door een verschuiving voor te stellen van *enabling leadership*, gericht op het stimuleren van aanpassingsvermogen, naar *complexity leadership*, gericht op het balanceren van efficiëntie en aanpassingsvermogen door beide te versterken. We tonen aan dat *complexity leaders* zich continu richten op het bereiken van voldoende complexiteit door de paradoxale leiderschapsstrategieën van complexiteitsabsorptie en complexiteitsvermindering. We identificeren indirecte leiderschapspraktijken waardoor deze strategieën uitgevoerd worden en laten zien dat deze de vorm van semistructuren aannemen. Deze semistructuren beïnvloeden de complexiteit van reacties door hun gevolgen voor interactie, spanning en interdependentie.

In hoofdstuk 3 verschoven we de aandacht van de paradox van efficiëntie en aanpassingsvermogen naar de gerelateerde paradox van gelijktijdige exploratie van nieuwe mogelijkheden en exploitatie van huidige sterktes in een subsysteem, of in andere woorden, de druk om *contextual ambidexterity* te creëren en behouden (Gibson & Birkinshaw, 2004; Lavie et al., 2010; Simsek et al., 2009). De context van project-gebaseerde organisaties, met zijn uitgesproken duw voor zowel exploratie en exploitatie op het projectniveau (Keegan & Turner, 2002), heeft het mogelijk gemaakt om de dynamische rol van leiderschap te tonen in het behalen van *contextual ambidexterity* op dit lagere organisatieniveau van subsystemen.

We verkenden de rol van leiderschap in het creëren en behouden van contextual ambidexterity doormiddel van 42 interviews met projectmanagers, teamleden en lijnmanagers betrokken bij 17 projecten met verschillende interactiemogelijkheden. We hebben de directe leiderschapspraktijken getoond die gebruikt worden om *contextual ambidexterity* te bereiken. Voortbouwend op hoofdstuk 2 werpen deze resultaten meer licht op the tegenovergestelde strategieën van complexiteitsreductie en -absorptie. We laten zien dat deze directe leiderschapspraktijken de complexiteit

van reacties beïnvloeden door hun gevolgen voor de complexiteit aan overtuigingen en acties.

Hoofdstuk 4 richt zich op de rol van leiderschap in het omgaan met de paradox van integratieve en disintegratieve tendensen door middel van zowel kwalitatief als kwantitatief onderzoek. De dis-integratieve tendensen diversiteit en eindigheid, die veel voorkomen in project-gebaseerd werk, kunnen het project uit elkaar trekken, maar spelen ook een belangrijke rol in het benaderen van *requisite complexity*. Hierdoor moeten leiders deze dis-integratieve tendensen niet begrenzen, maar ze balanceren met integratieve tendensen. In hoofdstuk 4 toonden we de leiderschapspraktijken die projectmanagers gebruiken om de integratieve tendens 'project identificatie' te stimuleren.

Studie 1 van hoofdstuk 4 bestond uit 33 interviews met 18 sets van projectmanagers en hun projectteamleden uit projecten met relatief sterke dis-integratieve tendensen. In deze studie tonen we de integratieve en dis-integratieve tendensen in projecten en de leiderschapspraktijken die gebruikt worden om gedeelde identificatie met het project te stimuleren. De gevonden leiderschapspraktijken zijn voornamelijk gericht op het stimuleren van interactie. In studie 2 is een vragenlijst ingevuld door 216 projectmanagers om te onderzoeken in hoeverre de leiderschapspraktijken gevonden in studie 1 generaliseerbaar zijn, te exploreren wanneer deze uitgevoerd worden en om na te gaan in hoeverre identificatie met het project als belangrijk wordt gezien voor het succes van het project. De resultaten tonen aan dat de projectmanagers in onze steekproef identificatie met het project zien als een belangrijk aspect voor het succes van het project. Ze ervaren ook een sterkere identificatie van teamleden met het project dan elke andere organisatiegerelateerde focus van identificatie en werken hard om dit zo te houden aangezien bijna alle projectmanagers in onze steekproef meerdere leiderschapspraktijken gebruiken om gedeelde projectidentificatie te stimuleren. De mate waarin zij dit doen is echter wel afhankelijk van de projectcontext.

Na deze nadruk op leiderschapsstrategieën en praktijken analyseren we in hoofdstuk 5 de vormgevende rol van taal door ons te richten op de vertellingen van leiders over het oplossen van complexe opkomende problemen. In dit hoofdstuk exploreren we de rol van leiderschap in de vierde paradox, namelijk die van overeenstemmende en conflicterende perspectieven. Projecten worden geïnitieerd om complexe opkomende problemen op te lossen. Leiders moeten gedurende het project omgaan met menig ingebed opkomend probleem. Tijdens het omgaan met deze ontwikkelende problemen kunnen vele verschillende vertellingen om deze problemen heen worden gecreëerd.

Om de vormgevende rol van de vertellingen van leiders in projecten en programma's te analyseren, specifiek rondom complexe opkomende problemen, hebben we 11 interviews afgenomen met projectmanagers en programmamanagers werkzaam in 5 verschillende programma's in Nederland, waarin ze vaak geconfronteerd worden

met complexe opkomende problemen. We tonen de verhaallijnen die leiders creëren rondom welke groepen meer of minder belangrijk zijn en de spanningen tussen deze groepen, of ze de invloed van buitenstaanders als positief of negatief portretteren en hoe ze de rol van conflicterende perspectieven schetsen in het omgaan met complexe opkomende problemen. Aangezien de problemen waarmee deze leiders geconfronteerd worden op verschillende manieren aangepakt kunnen worden, kunnen de manieren waarop zij hun vertellingen vormgeven een belangrijke invloed hebben op het oplossen van complexe opkomende problemen en potentieel invloed hebben op het succes van het project en programma.

CONCLUSIE

Deze vier studies tonen de rol van leiderschap in een context vol complexe en paradoxale eisen door de conflicterende en adaptieve leiderschapsstrategieën, -praktijken en -vertellingen die gebruikt worden in deze context te exploreren. We tonen de waarde van een door de complexiteitswetenschappen geïnformeerd perspectief en een paradoxperspectief in het verklaren hoe leiders omgaan met complexe en paradoxale eisen. Onze studies laten zien hoe leiders paradox accepteren en oplossen door beide paradoxale aspecten te versterken en tussen beide te itereren. We tonen ook de manieren waarop leiders continu *requisite complexity* benaderen door de paradoxale leiderschapsstrategieën, complexiteitsreductie en -absorptie.

Ondanks dat de temporale patronen van leiderschap door de eindige natuur van projecten meer uitgesproken zullen zijn in project-gebaseerde organisaties dan in lijnorganisaties, worden de uitdagingen van complexe en paradoxale eisen die inherent zijn aan project-gebaseerd organiseren belangrijker in andere vormen van organiseren. Project-gebaseerde organisaties kunnen gezien worden als een extreem geval waar het gaat om uitdagingen zoals het gelijktijdig bereiken van efficiëntie en aanpassingsvermogen, *contextually ambidextrous* worden en blijven, disintegratieve tendensen balanceren met integratieve tendensen en omgaan met complexe opkomende problemen. Aangezien deze uitdagingen zichtbaarder worden in andere vormen van organiseren, kunnen de resultaten van dit proefschrift een stevige basis vormen voor het verkennen van deze uitdagingen in andere omgevingen. We hopen dat dit proefschrift verdere verkenning van de complexe, paradoxale en fascinerende aard van leiderschap inspireert.

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