Leadership in project-based organizations: Dealing with complex and paradoxical demands

Havermans, L.A.

Publication date
2014

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.